

# DIODE (ISOLATED MOLD TYPE)

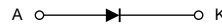
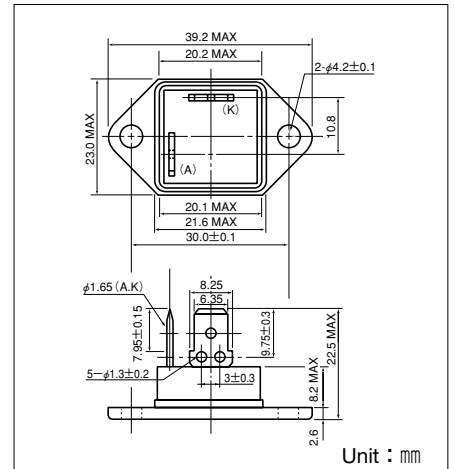
# DG20AA



UL;E76102 (M)

DG20AA is a medium power isolated module diode suitable for wide range of industrial and home electronics use. DG20AA is highly reliable by glass passivation.

- $I_{F(AV)} = 20A$ ,  $V_{RRM} = 1600V$
- Tab terminals for easy wiring.



## Maximum Ratings

( $T_j = 25^\circ C$  unless otherwise specified)

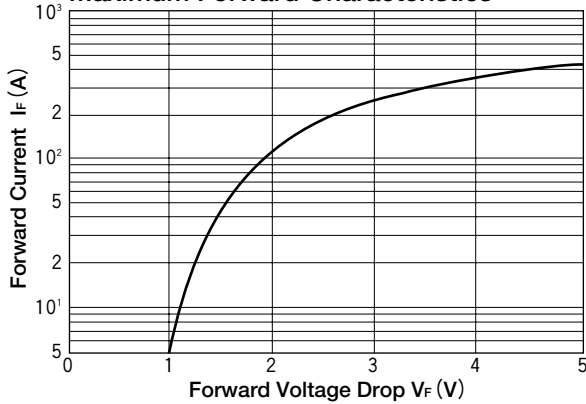
Symbol	Item	Ratings				Unit
		DG20AA40	DG20AA80	DG20AA120	DG20AA160	
$V_{RRM}$	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 101^\circ C$	20	A
$I_{F(RMS)}$	R.M.S. Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 101^\circ C$	31	A
$I_{FSM}$	Surge Forward Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	410/450	A
$I^2t$	$I^2t$	Value for one cycle of surge current	840	A <sup>2</sup> S
$T_j$	Junction Temperature		-40 to +150	$^\circ C$
$T_{stg}$	Storage Temperature		-40 to +125	$^\circ C$
$V_{ISO}$	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	$^\circ C$
	Mounting Torque (M4)	Recommended Value 1.0-1.4 (10-14)	1.5 (15)	N·m (kgf·cm)
	Mass		23	g

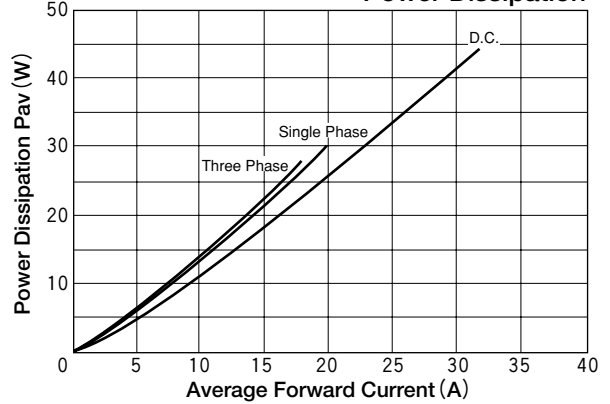
## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j = 125^\circ C$	8	mA
$V_{FM}$	Forward Voltage Drop, max.	Forward current 65A, $T_j = 25^\circ C$ , Inst. measurement	1.65	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	1.60	$^\circ C/W$

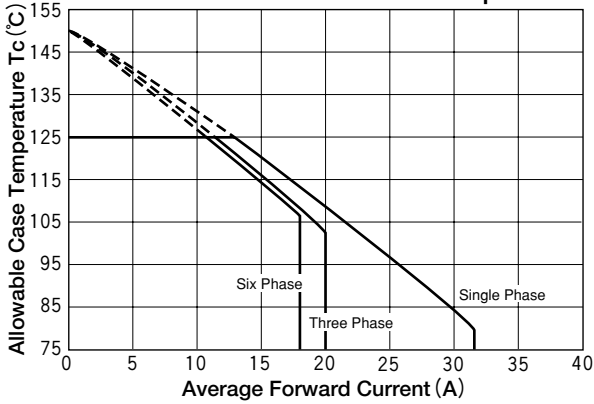
Maximum Forward Characteristics



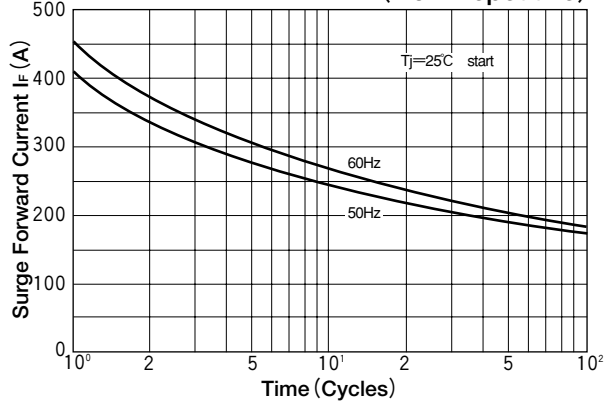
Average Forward Current vs. Power Dissipation



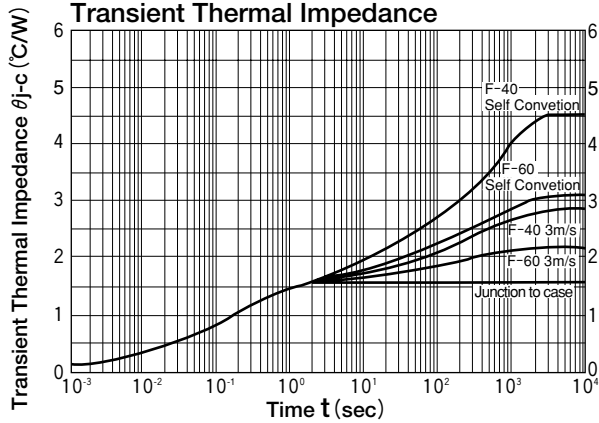
Average Forward Current vs. Allowable Case Temperature



Cycle Surge Forward Current Rating (Non-Repetitive)



Transient Thermal Impedance



## DIODE(NON-ISOLATED TYPE)

# MDF(R)100A

TOP

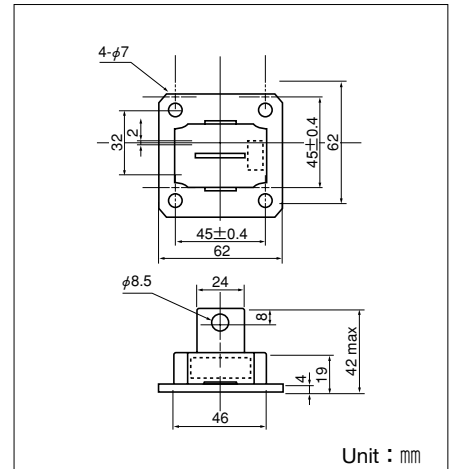
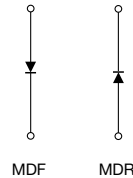


MDF(R)100A is a diode with flat mounting base which is designed for use in various rectifier applications.

- $I_{F(AV)} = 100A$ ,  $V_{RRM} = 500V$
- Easy Construction with Anode (F) Type and Cathode (R) type.
- High reliability by glass passivation

### (Applications)

Various Rectifiers  
Welding Power Supply



### Maximum Ratings

( $T_j = 25^\circ\text{C}$  unless otherwise specified)

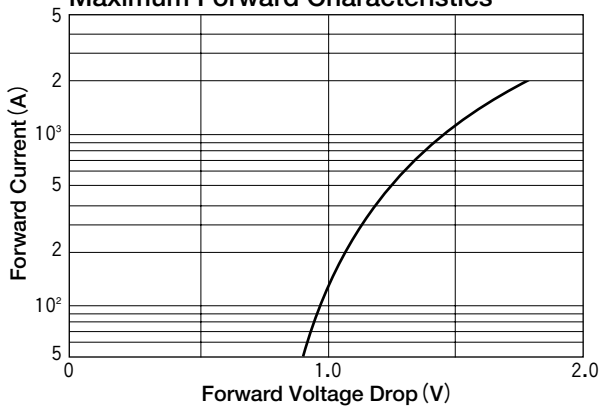
Symbol	Item	Ratings			Unit
		MDF(R)100A30	MDF(R)100A40	MDF(R)100A50	
$V_{RRM}$	Repetitive Peak Reverse Voltage	300	400	500	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	360	480	600	V
$V_{R(DC)}$	D.C. Reverse Voltage	240	320	400	V

Symbol	Item	Conditions	Ratings	Unit	
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 109^\circ\text{C}$	100	A	
$I_{F(RMS)}$	R.M.S. Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 109^\circ\text{C}$	157	A	
$I_{FSM}$	Surge Forward Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	1800/2000	A	
$I^2t$	$I^2t$	Value for one cycle of surge current	16700	$\text{A}^2\text{S}$	
$T_j$	Junction Temperature		$-30$ to $+150$	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature		$-30$ to $+125$	$^\circ\text{C}$	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass			170	g

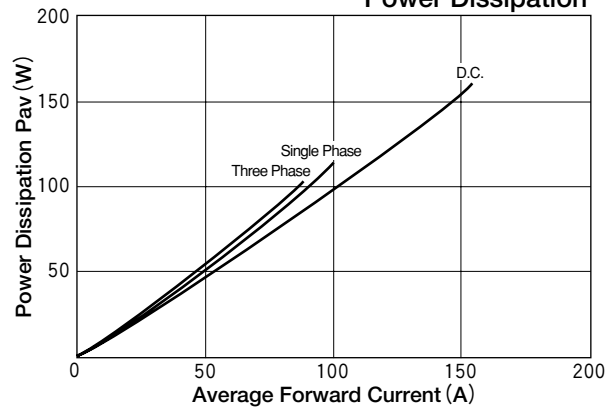
### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j = 150^\circ\text{C}$	6	mA
$V_{FM}$	Forward Voltage Drop, max.	Forward current 310A, $T_j = 25^\circ\text{C}$ , Inst. measurement	1.15	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	0.35	$^\circ\text{C/W}$

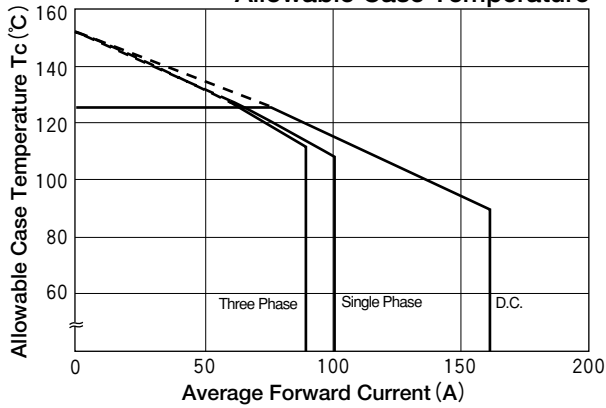
**Maximum Forward Characteristics**



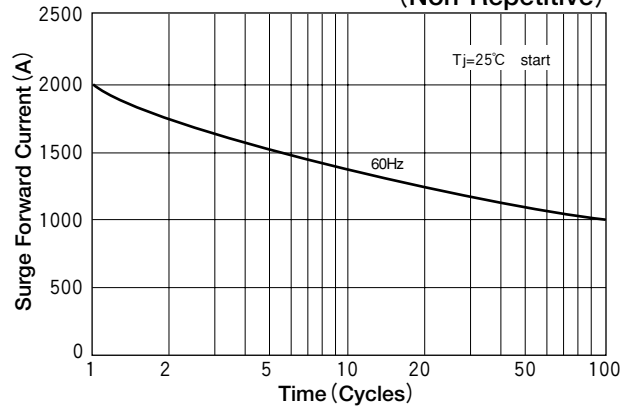
**Average Forward Current vs. Power Dissipation**



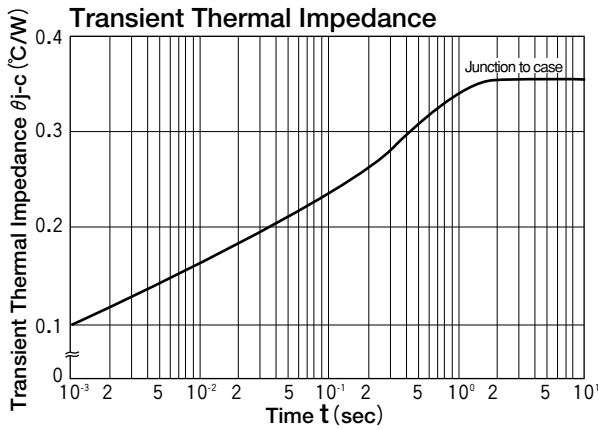
**Average Forward Current vs. Allowable Case Temperature**



**Cycle Surge Forward Current Rating (Non-Repetitive)**



**Transient Thermal Impedance**



## DIODE(NON-ISOLATED TYPE)

# MDF(R)150A

TOP

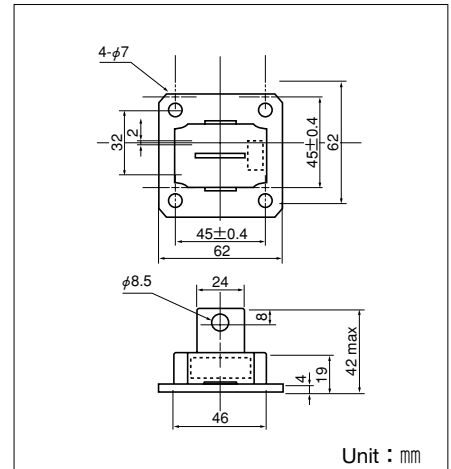
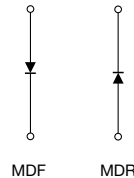


MDF(R)150A is a diode with flat mounting base which is designed for use in various rectifier applications.

- $I_{F(AV)} = 150A$ ,  $V_{RRM} = 500V$
- Easy Construction with Anode (F) Type and Cathode (R) type.
- High reliability by glass passivation

### (Applications)

Various Rectifiers  
Welding Power Supply



Unit : mm

### Maximum Ratings

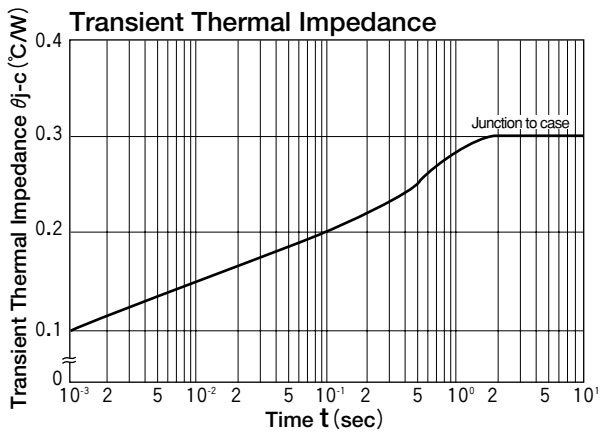
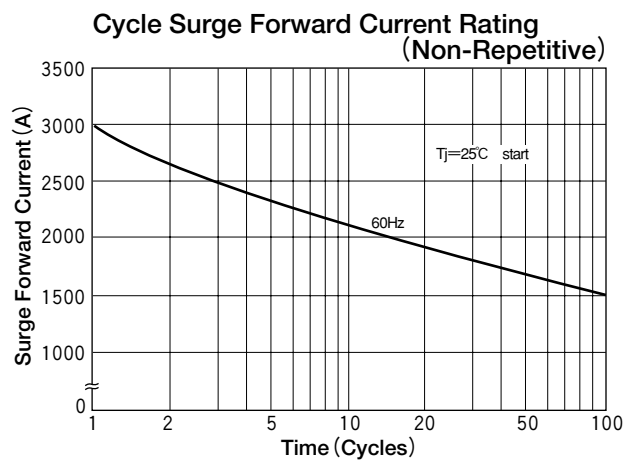
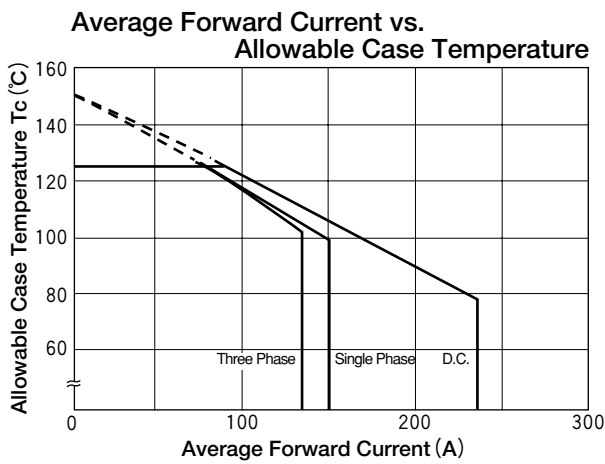
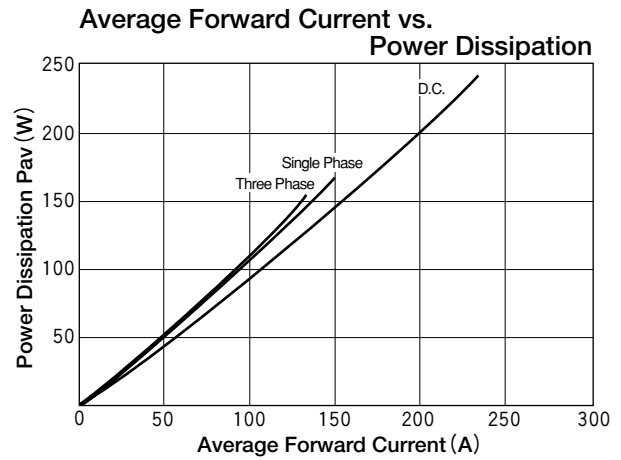
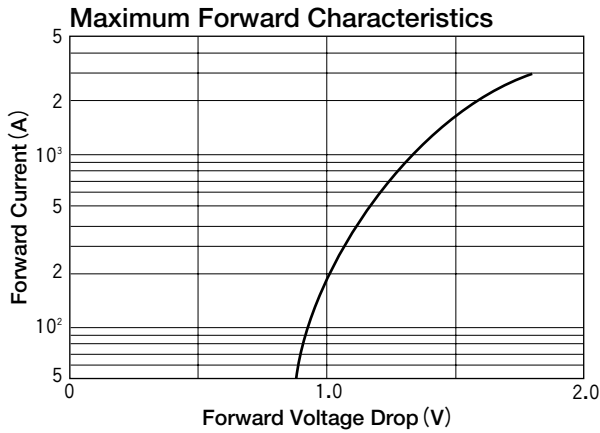
( $T_j = 25^\circ\text{C}$  unless otherwise specified)

Symbol	Item	Ratings			Unit
		MDF(R)150A30	MDF(R)150A40	MDF(R)150A50	
$V_{RRM}$	Repetitive Peak Reverse Voltage	300	400	500	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	360	480	600	V
$V_{R(DC)}$	D.C. Reverse Voltage	240	320	400	V

Symbol	Item	Conditions	Ratings	Unit	
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 98^\circ\text{C}$	150	A	
$I_{F(RMS)}$	R.M.S. Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 98^\circ\text{C}$	235	A	
$I_{FSM}$	Surage Forward Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	2700/3000	A	
$I^2t$	$I^2t$	Value for one cycle of surge current	37500	$\text{A}^2\text{S}$	
$T_j$	Junction Temperature		$-30$ to $+150$	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature		$-30$ to $+125$	$^\circ\text{C}$	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass			170	g

### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j = 150^\circ\text{C}$	10	mA
$V_{FM}$	Forward Voltage Drop, max.	Foward current 470A, $T_j = 25^\circ\text{C}$ , Inst. measurement	1.15	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	0.3	$^\circ\text{C}/\text{W}$



## DIODE(NON-ISOLATED TYPE)

# MDF(R)200A

TOP

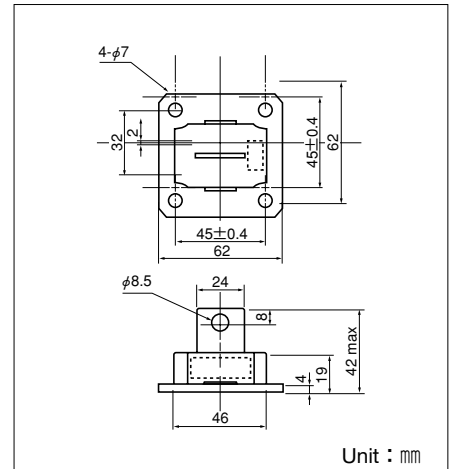
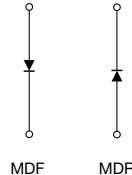


MDF(R)200A is a diode with flat mounting base which is designed for use in various rectifier applications.

- $I_{F(AV)}=200A$ ,  $V_{RRM}=500V$
- Easy Construction with Anode (F) Type and Cathode (R) type.
- High reliability by glass passivation

### (Applications)

Various Rectifiers  
Welding Power Supply



### Maximum Ratings

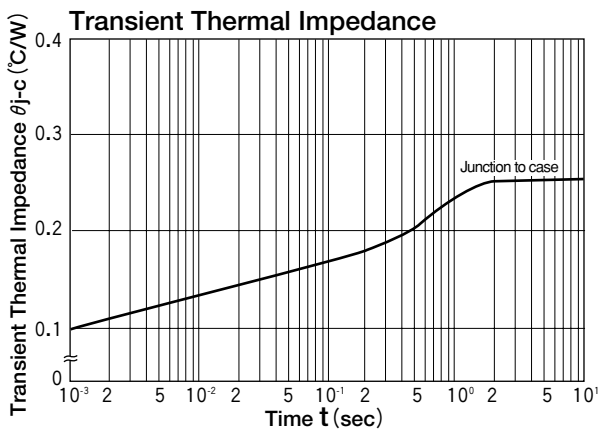
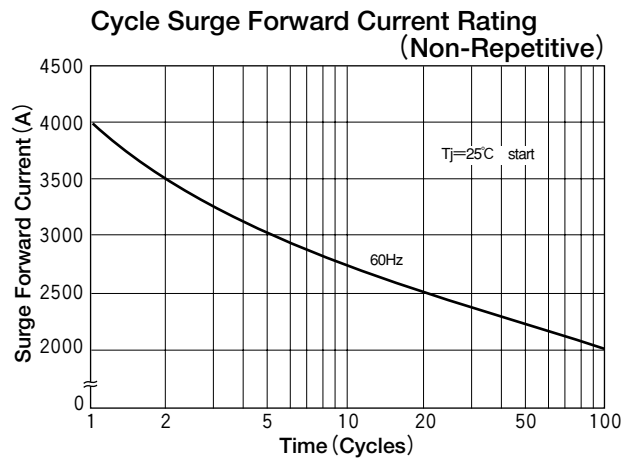
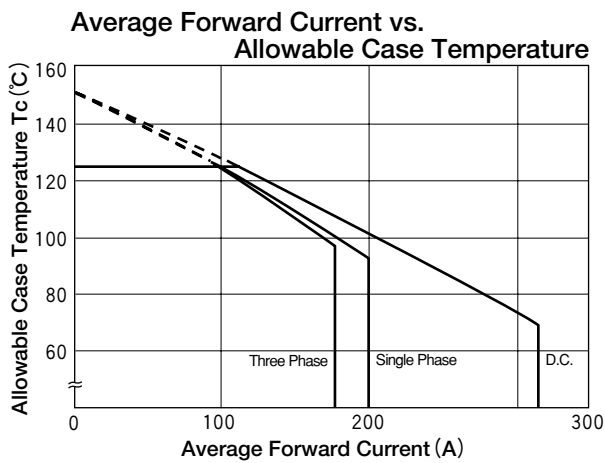
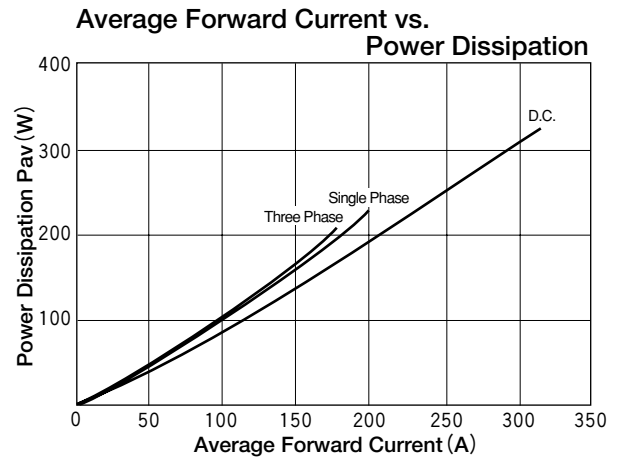
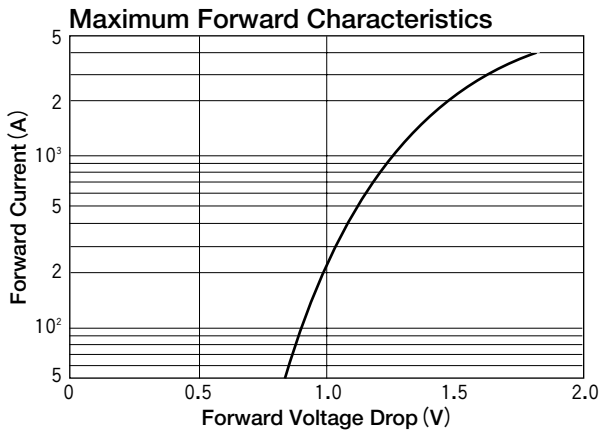
( $T_j=25^{\circ}C$  unless otherwise specified)

Symbol	Item	Ratings			Unit
		MDF(R)200A30	MDF(R)200A40	MDF(R)200A50	
$V_{RRM}$	Repetitive Peak Reverse Voltage	300	400	500	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	360	480	600	V
$V_{R(DC)}$	D.C. Reverse Voltage	240	320	400	V

Symbol	Item	Conditions	Ratings	Unit	
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, $180^{\circ}$ conduction, $T_c : 92^{\circ}C$	200	A	
$I_{F(RMS)}$	R.M.S. Forward Current	Single phase, half wave, $180^{\circ}$ conduction, $T_c : 92^{\circ}C$	314	A	
$I_{FSM}$	Surge Forward Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	3600/4000	A	
$I^2t$	$I^2t$	Value for one cycle of surge current	66600	$A^2S$	
$T_j$	Junction Temperature		$-30$ to $+150$	$^{\circ}C$	
$T_{stg}$	Storage Temperature		$-30$ to $+125$	$^{\circ}C$	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass			170	g

### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j=150^{\circ}C$	13	mA
$V_{FM}$	Forward Voltage Drop, max.	Foward current 630A, $T_j=25^{\circ}C$ , Inst. measurement	1.15	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	0.25	$^{\circ}C/W$





## DIODE(NON-ISOLATED TYPE)

# MDF(R)250A

TOP

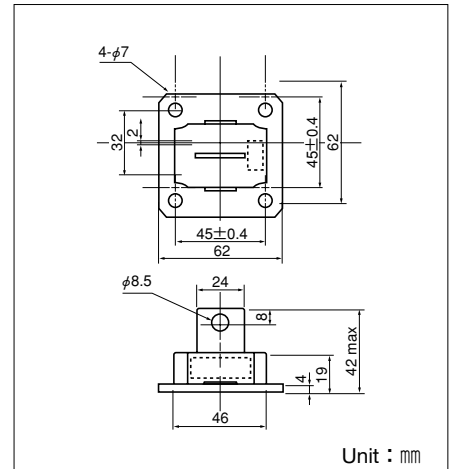
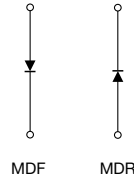


MDF(R)250A is a diode with flat mounting base which is designed for use in various rectifier applications.

- $I_{F(AV)}=250A$ ,  $V_{RRM}=500V$
- Easy Construction with Anode (F) Type and Cathode (R) type.
- High reliability by glass passivation

### (Applications)

Various Rectifiers  
Welding Power Supply



### Maximum Ratings

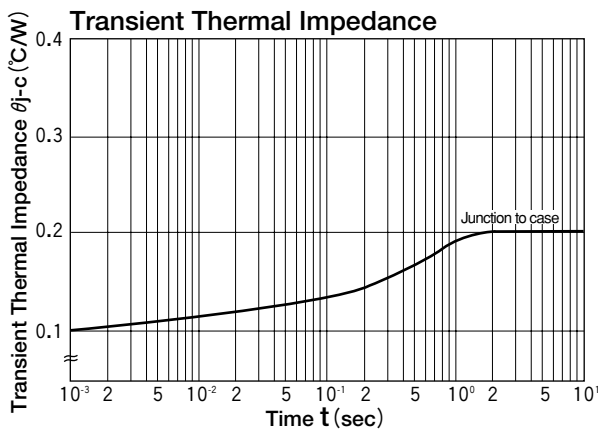
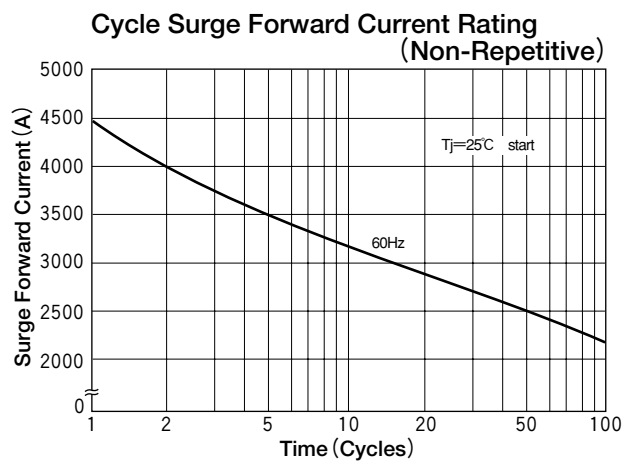
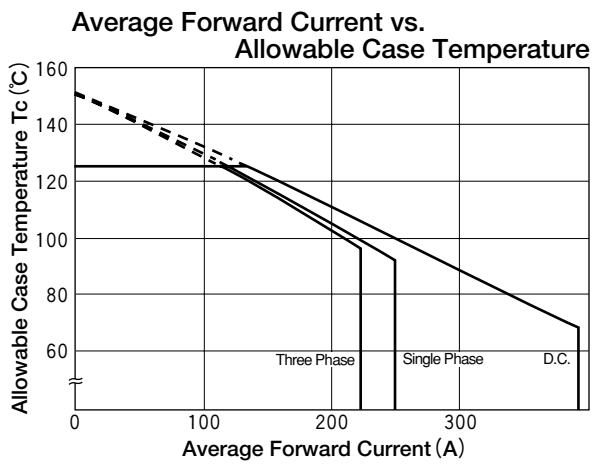
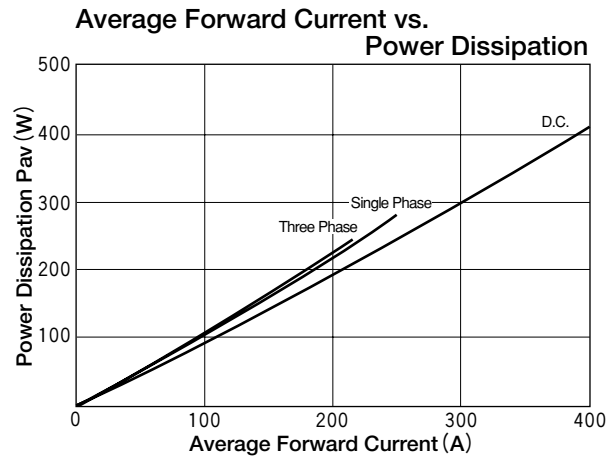
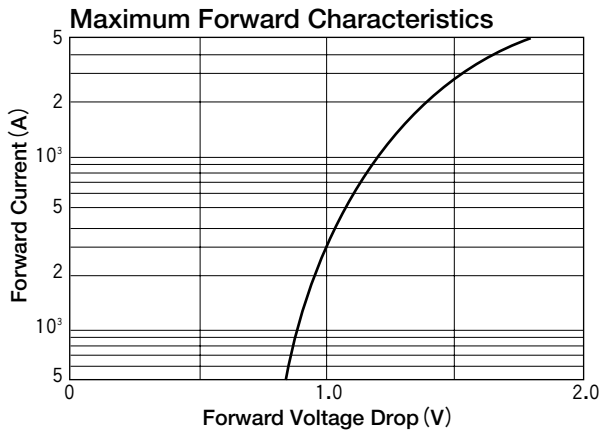
( $T_j=25^\circ C$  unless otherwise specified)

Symbol	Item	Ratings			Unit
		MDF(R)200A30	MDF(R)200A40	MDF(R)200A50	
$V_{RRM}$	Repetitive Peak Reverse Voltage	300	400	500	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	360	480	600	V
$V_{R(DC)}$	D.C. Reverse Voltage	240	320	400	V

Symbol	Item	Conditions	Ratings	Unit	
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 92^\circ C$	250	A	
$I_{F(RMS)}$	R.M.S. Forward Current	Single phase, half wave, $180^\circ$ conduction, $T_c : 92^\circ C$	390	A	
$I_{FSM}$	Surge Forward Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	4000/4500	A	
$I^2t$	$I^2t$	Value for one cycle of surge current	84000	$A^2S$	
$T_j$	Junction Temperature		$-30$ to $+150$	$^\circ C$	
$T_{stg}$	Storage Temperature		$-30$ to $+125$	$^\circ C$	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass			170	g

### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j=150^\circ C$	15	mA
$V_{FM}$	Forward Voltage Drop, max.	Foward current 800A, $T_j=25^\circ C$ , Inst. measurement	1.15	V
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	0.2	$^\circ C/W$



# DIODE MODULE

# DD60KB



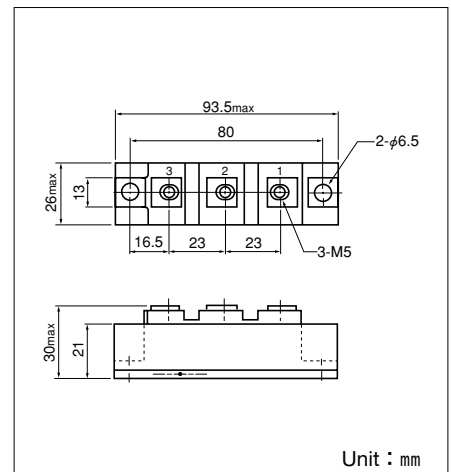
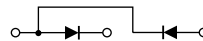
UL;E76102 (M)

Power Diode Module **DD60KB** Series are designed for various rectifier circuits. **DD60KB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

- Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

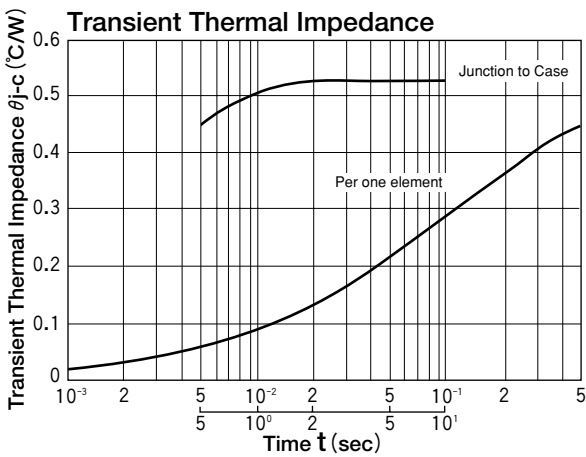
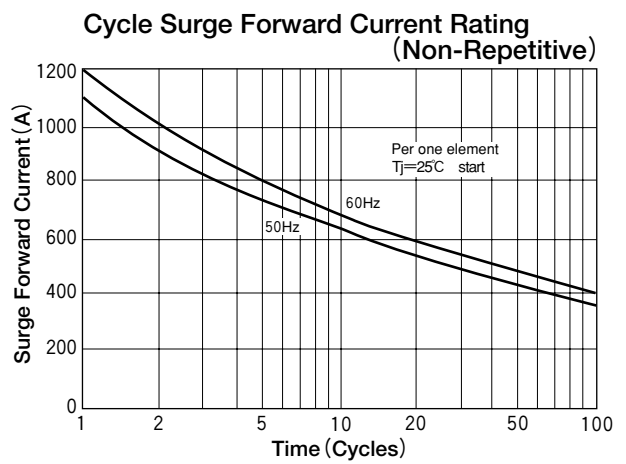
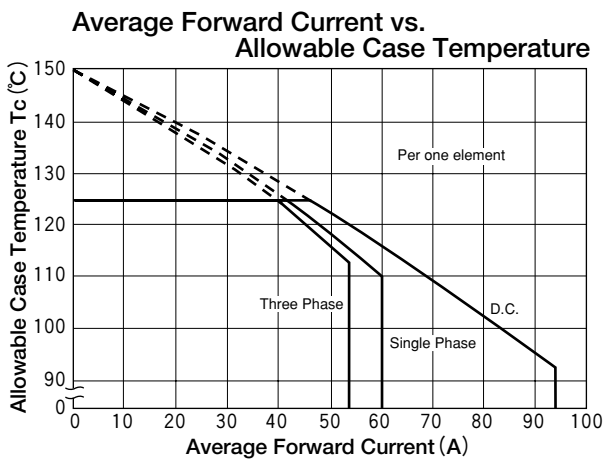
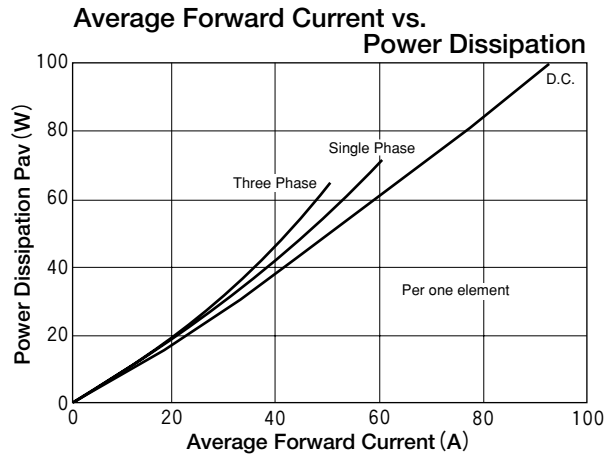
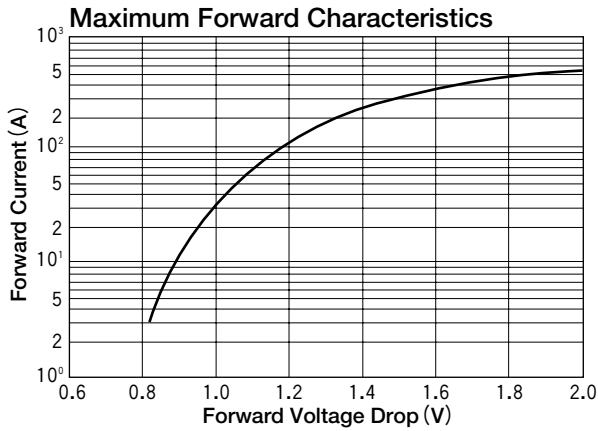
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD60KB80	DD60KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	800	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	960	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =110°C	60	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =110°C	95	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	1100/1200	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	6000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>RRM</sub> Single phase, half wave, T <sub>j</sub> =150°C	20	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 180A, Inst measurement	1.35	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.52	°C/W



# DIODE MODULE

# DD100KB

TOP



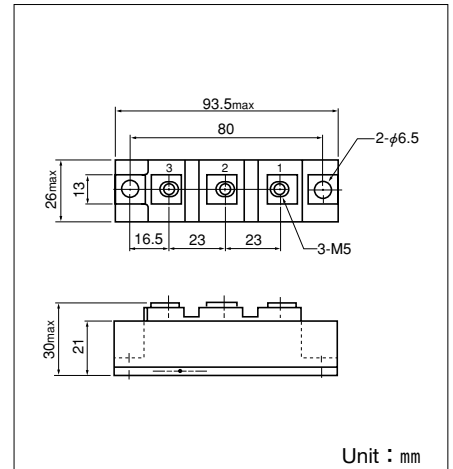
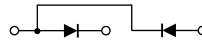
UL;E76102 (M)

Power Diode Module **DD100KB** Series are designed for various rectifier circuits. **DD100KB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

- Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

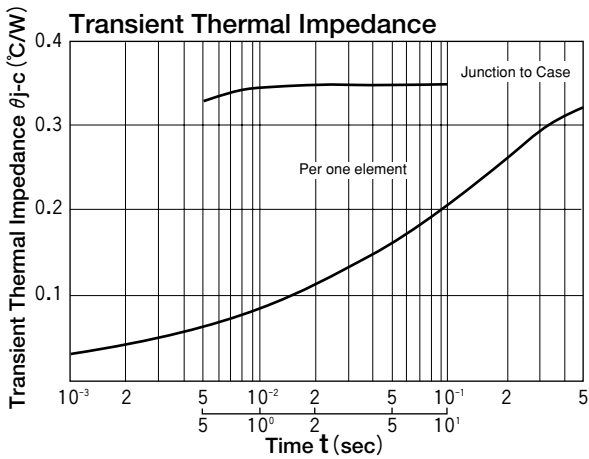
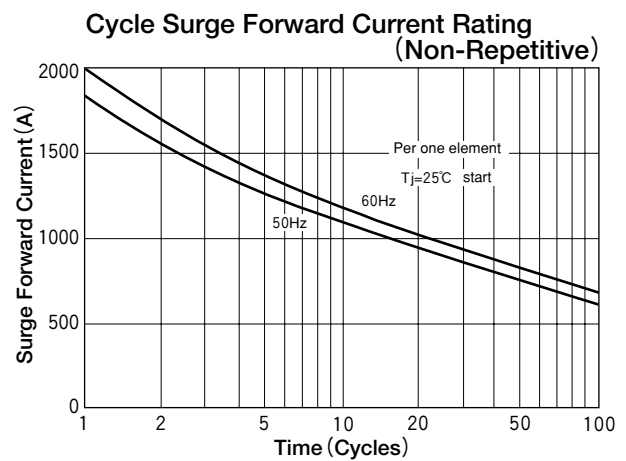
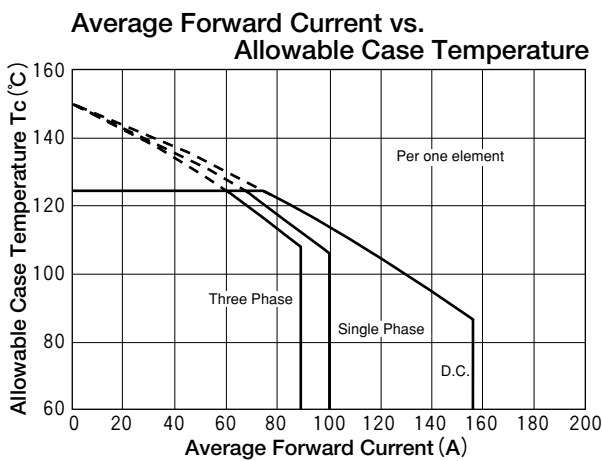
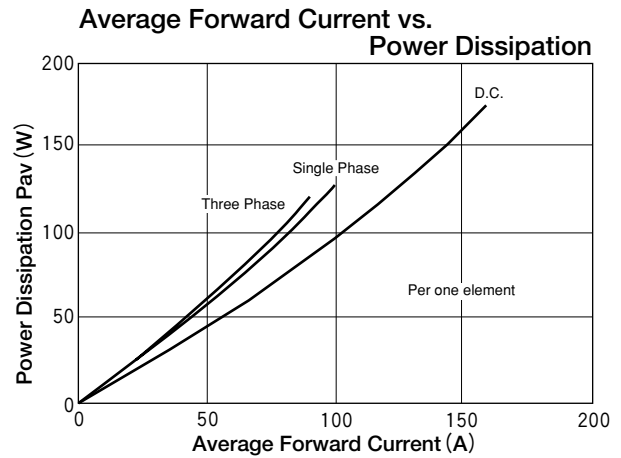
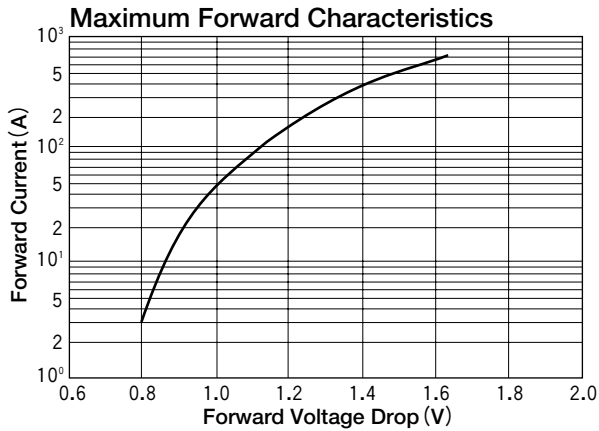
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD100KB80	DD100KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	800	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	960	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =105°C	100	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =105°C	155	A	
I <sub>FSM</sub>	Surge Forward Current	½cycle, 50/60Hz, peak value, non-repetitive	1800/2000	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	16500	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>RRM</sub> Single phase, half wave, T <sub>j</sub> =150°C	30	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 320A, Inst measurement	1.35	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.35	°C/W



# DIODE MODULE

# DD160KB

TOP



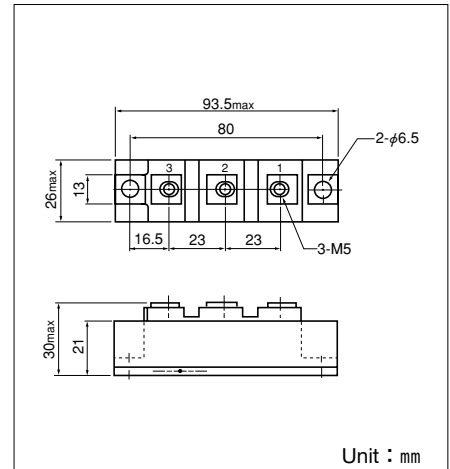
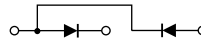
UL;E76102 (M)

Power Diode Module **DD160KB** Series are designed for various rectifier circuits. **DD160KB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

- Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

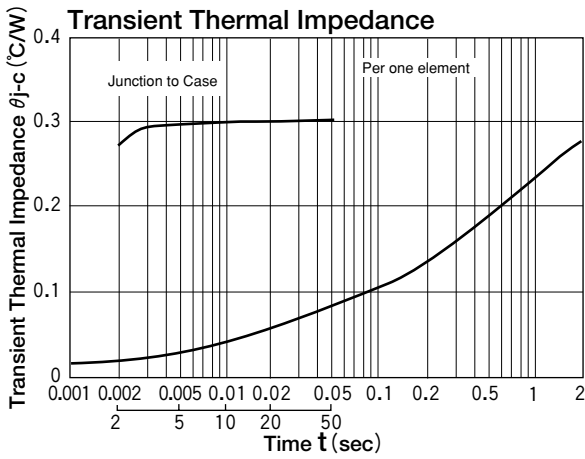
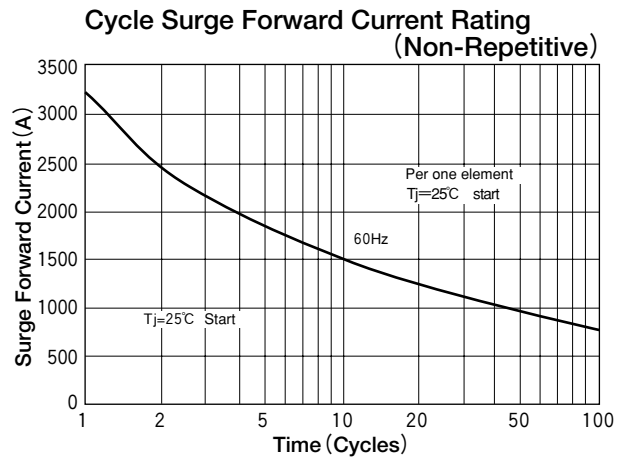
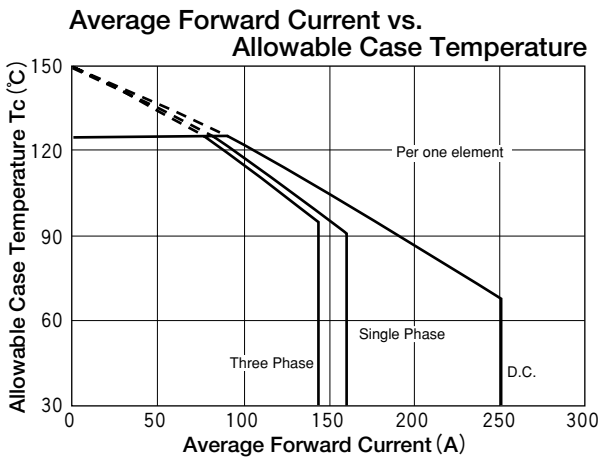
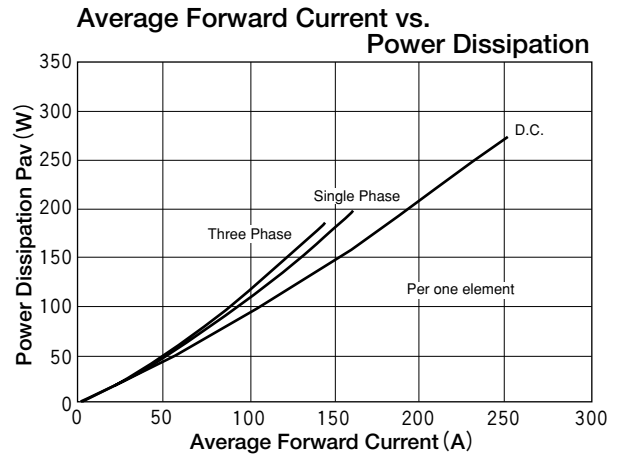
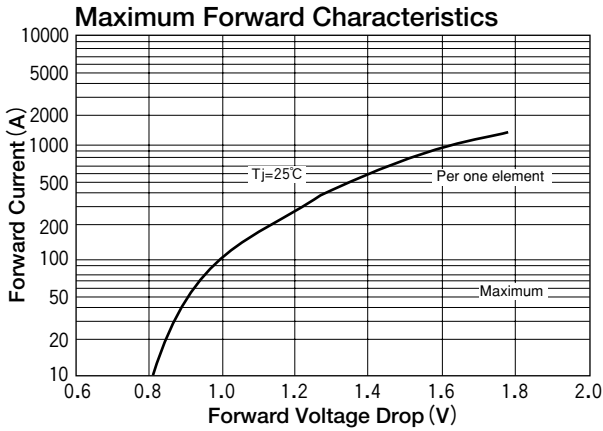
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD160KB40	DD160KB80	DD160KB120	DD160KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =90°C	160	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =90°C	250	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 60Hz, peak value, non-repetitive	3200	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	42600	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	T <sub>j</sub> =150°C, V <sub>R</sub> =V <sub>RRM</sub>	30	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 500A, Inst measurement	1.35	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.3	°C/W





# DIODE MODULE

## DD200KB



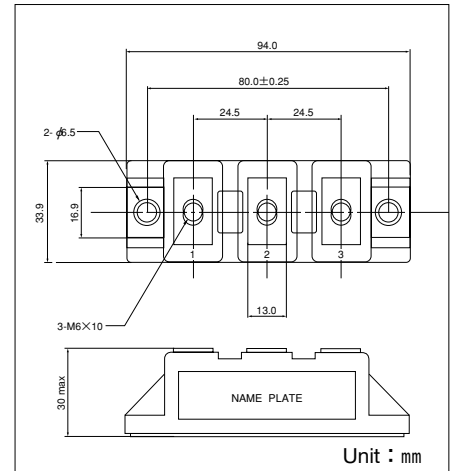
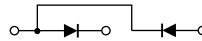
UL;E76102 (M)

Power Diode Module **DD200KB** Series are designed for various rectifier circuits. **DD200KB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

- Various rectifiers, Battery chargers, DC motor drives



### ■ Maximum Ratings

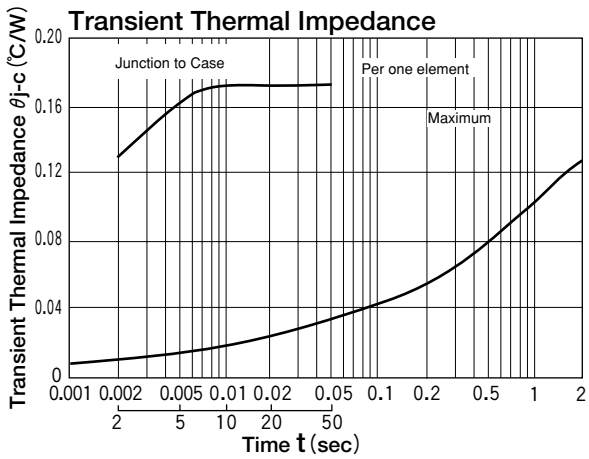
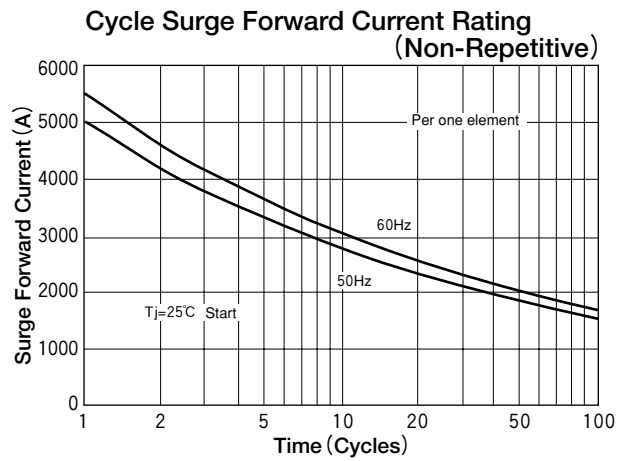
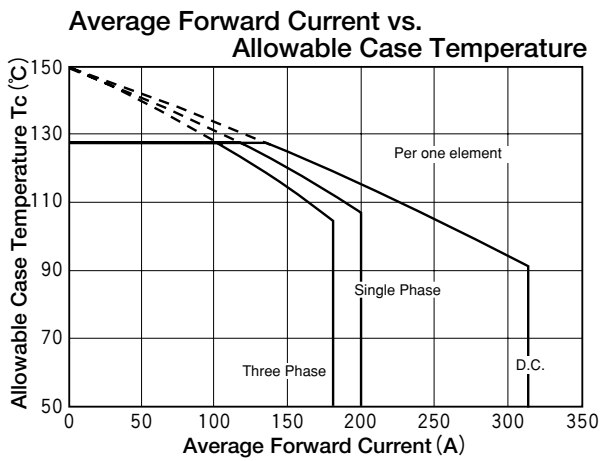
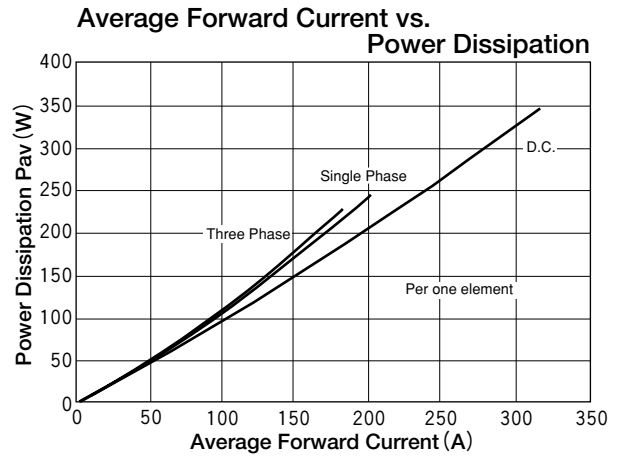
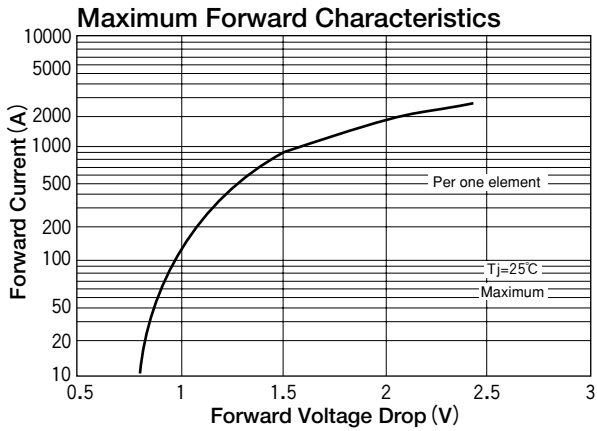
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD200KB40	DD200KB80	DD200KB120	DD200KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =106°C	200	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =106°C	310	A	
I <sub>FSM</sub>	Surge Forward Current	1cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	
	Mass	Typical Value	240	g	

### ■ Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	T <sub>j</sub> =150°C, V <sub>R</sub> =V <sub>RRM</sub>	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	T <sub>j</sub> =25°C, I <sub>F</sub> =620A	1.30	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.17	°C/W



# DIODE MODULE

## DD240KB



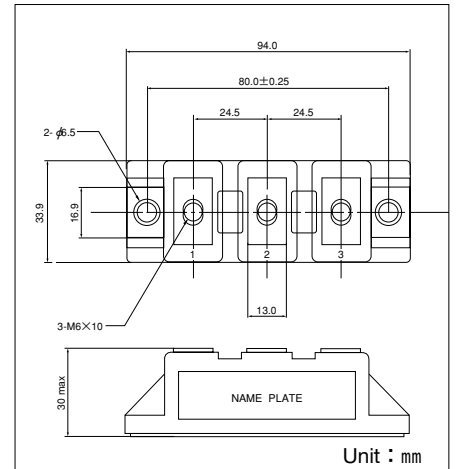
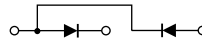
UL;E76102 (M)

Power Diode Module DD240KB Series are designed for various rectifier circuits. DD240KB has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

- Various rectifiers, Battery chargers, DC motor drives



### Maximum Ratings

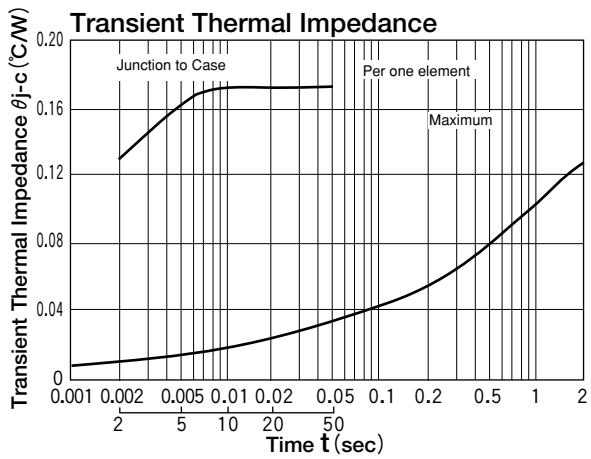
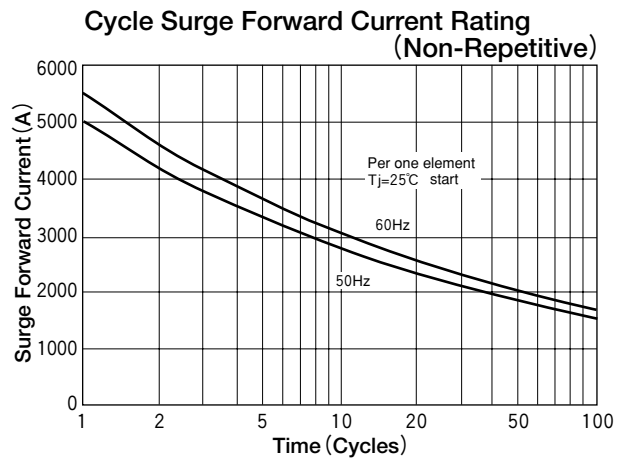
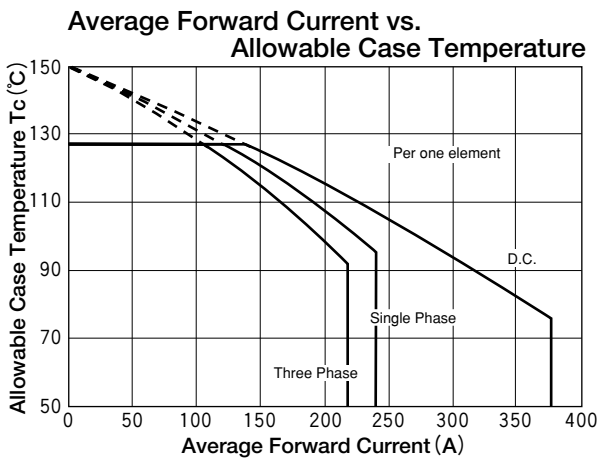
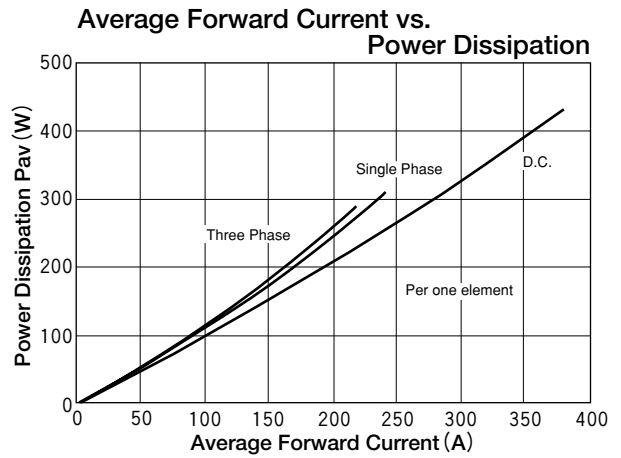
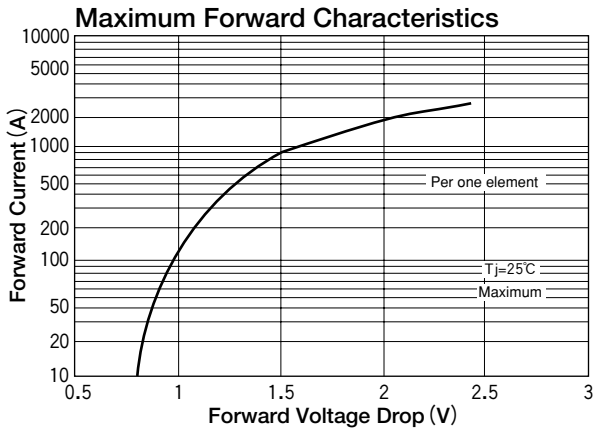
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD240KB40	DD240KB80	DD240KB120	DD240KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =95°C	240	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =95°C	370	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	
	Mass	Typical Value	240	g	

### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	T <sub>j</sub> =150°C, V <sub>R</sub> =V <sub>RRM</sub>	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	T <sub>j</sub> =25°C, I <sub>F</sub> =750A	1.30	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.17	°C/W



# DIODE MODULE

## DD300KB



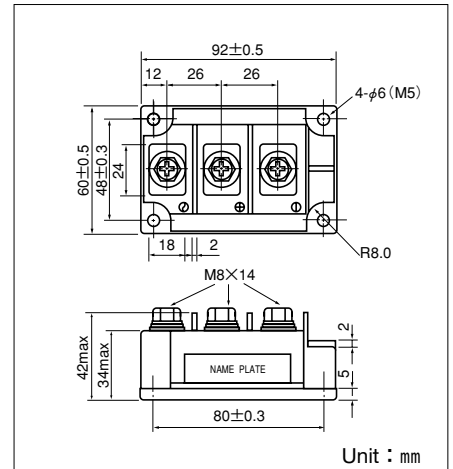
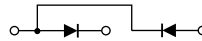
UL;E76102 (M)

Power Diode Module **DD300KB** Series are designed for various rectifier circuits. **DD300KB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

- Various rectifiers, Battery chargers, DC motor drives



### Maximum Ratings

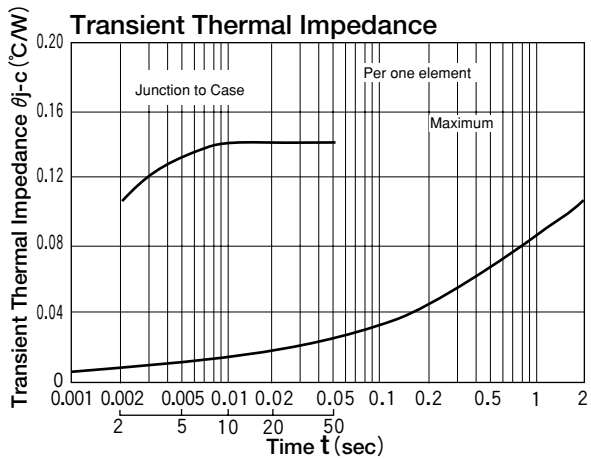
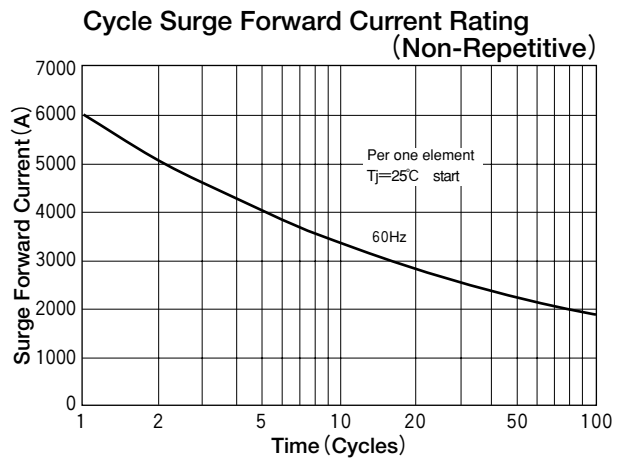
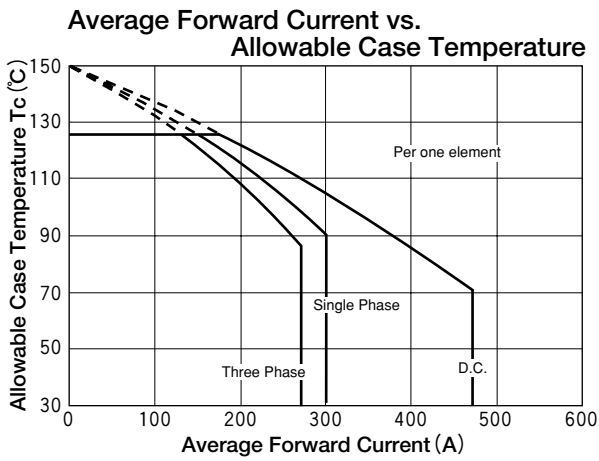
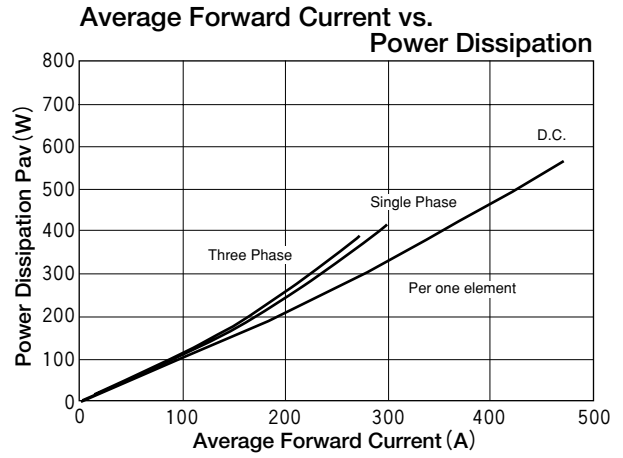
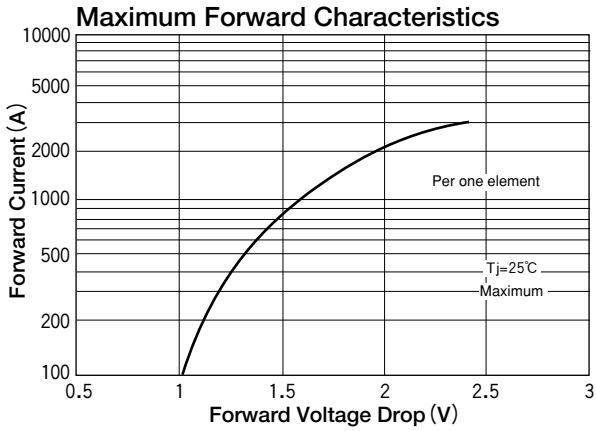
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD300KB40	DD300KB80	DD300KB120	DD300KB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =91°C	300	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> =91°C	465	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 60Hz, peak value, non-repetitive	6000	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	150000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10.0 (90-105)	11 (115)	
	Mass	Typical Value	510	g	

### Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	T <sub>j</sub> =150°C, V <sub>R</sub> =V <sub>RRM</sub>	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 750A, Inst measurement	1.50	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.14	°C/W



# DIODE MODULE

# DD(KD)30GB40/80



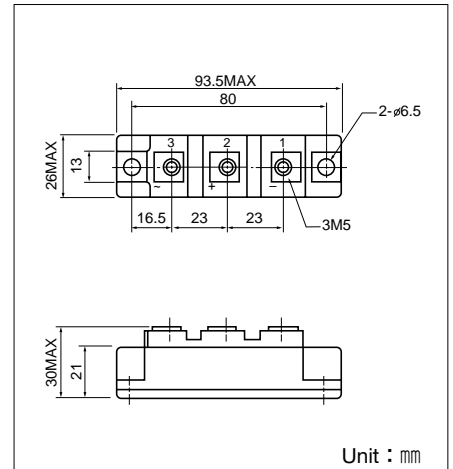
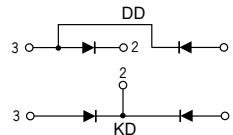
UL;E76102(M)

Power Diode Module **DD30GB** series are designed for various rectifier circuits. **DD30GB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 800V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

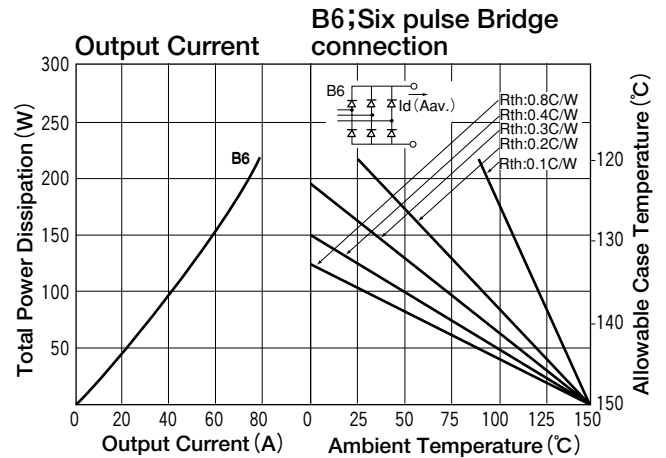
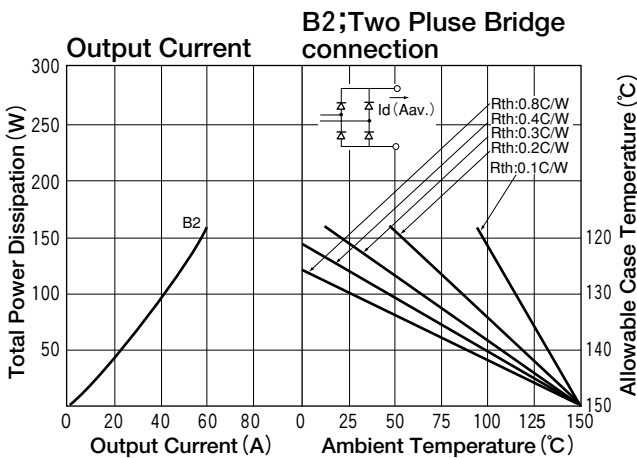
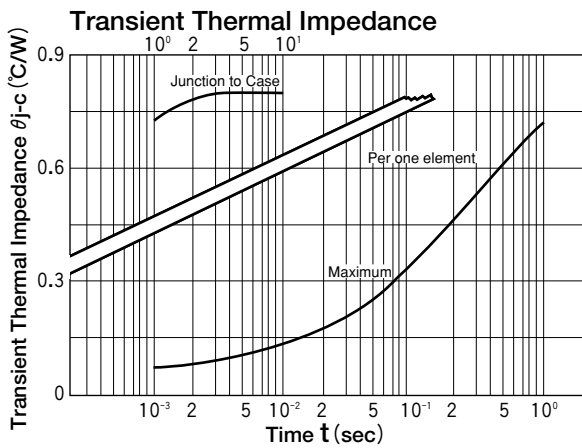
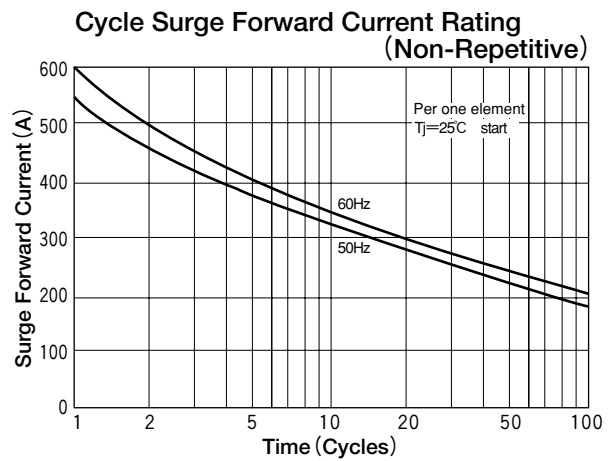
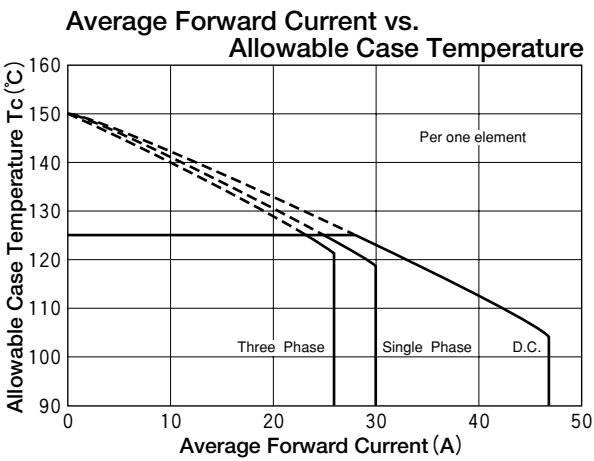
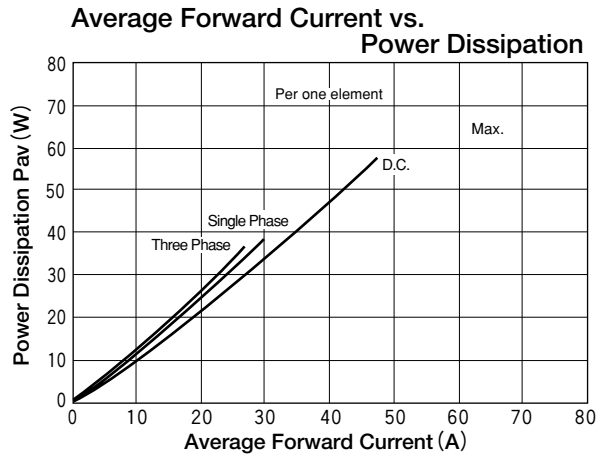
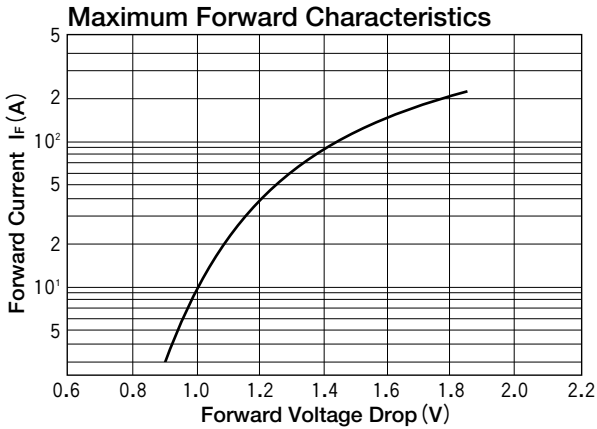
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD30GB40	DD30GB80	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 118°C	30	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 118°C	47	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	550/600	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	1500	A <sup>2</sup> S	
T <sub>j</sub>	Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	10	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Foward current 90A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.80	°C/W





# DIODE MODULE

# DD(KD)30HB120/160



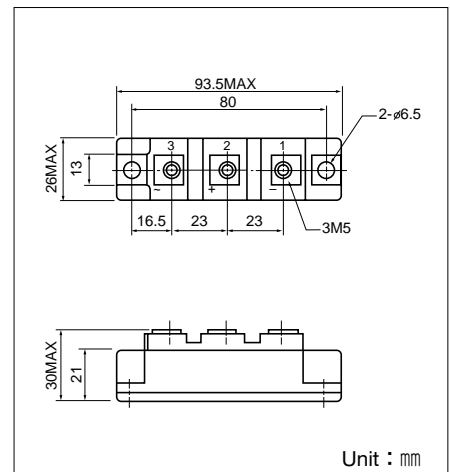
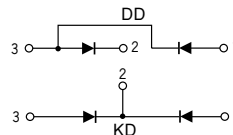
UL;E76102 (M)

Power Diode Module **DD30HB** series are designed for various rectifier circuits. **DD30HB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



## Maximum Ratings

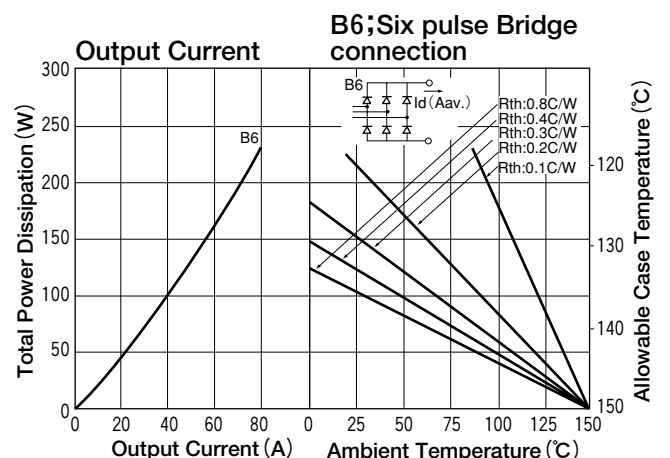
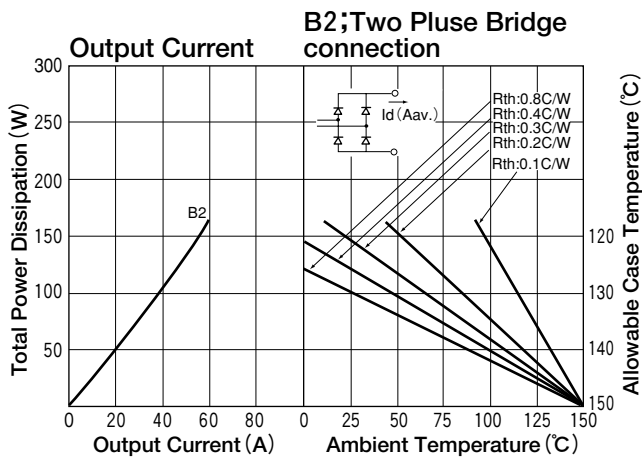
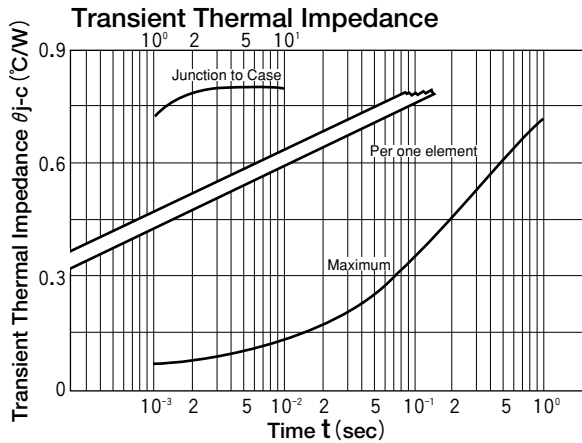
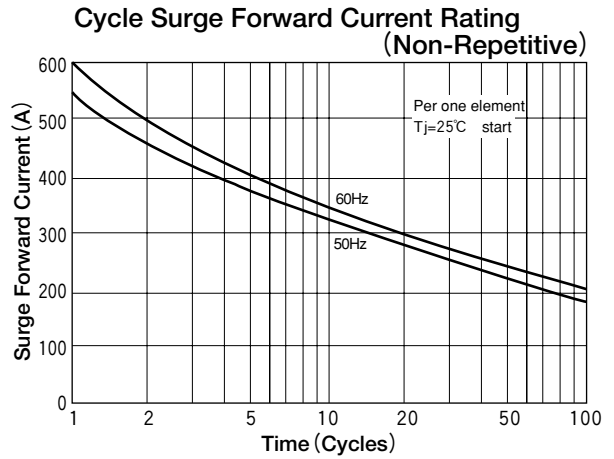
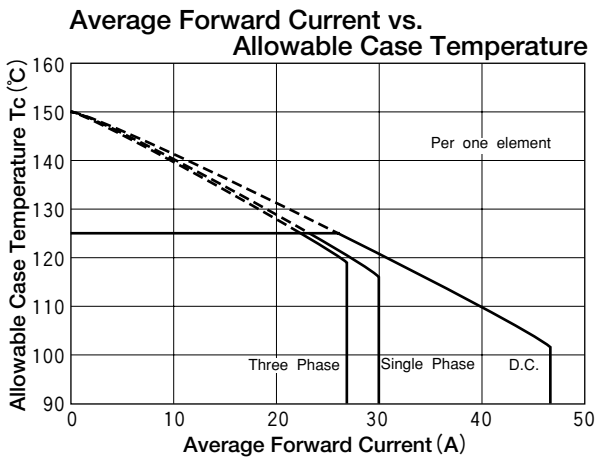
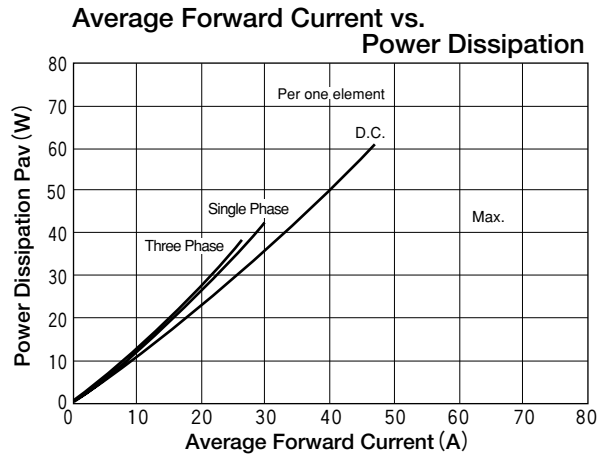
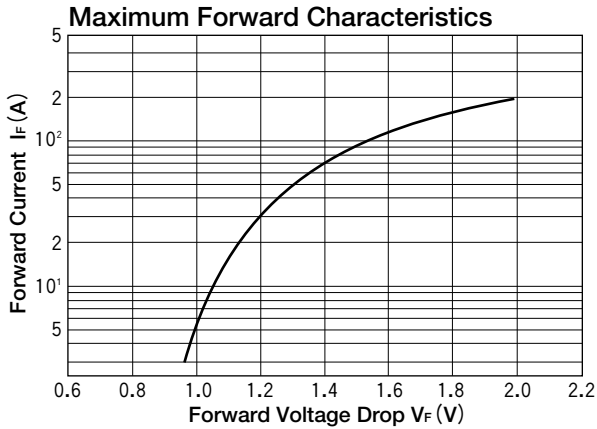
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD30HB120	DD30HB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	1350	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 115°C	30	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 115°C	47	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	550/600	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	1500	A <sup>2</sup> S	
T <sub>j</sub>	Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	10	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Foward current 90A, T <sub>j</sub> =25°C, Inst. measurement	1.50	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.80	°C/W



# DIODE MODULE

# DD(KD)60GB40/80



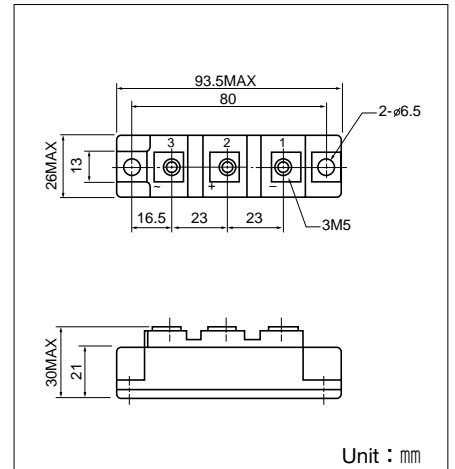
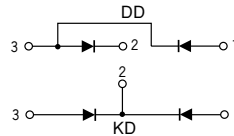
UL;E76102 (M)

Power Diode Module **DD60GB** series are designed for various rectifier circuits. **DD60GB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 800V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

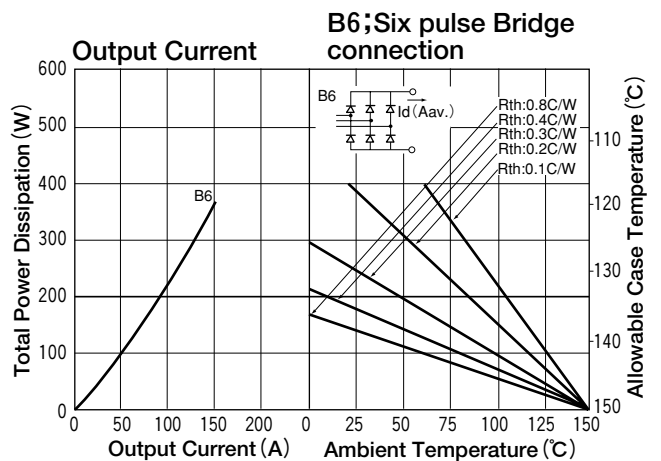
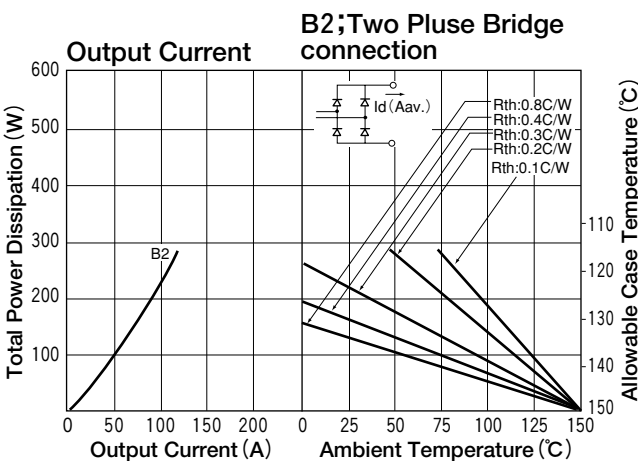
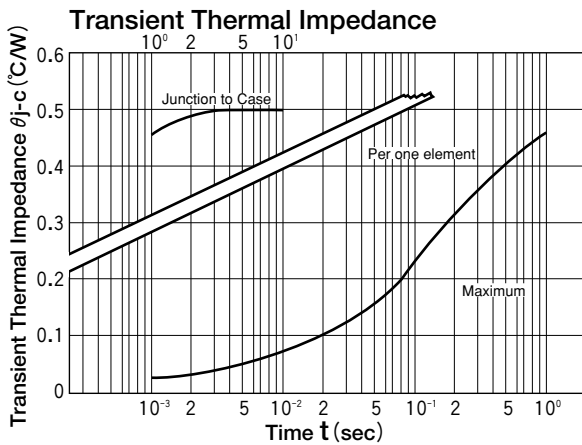
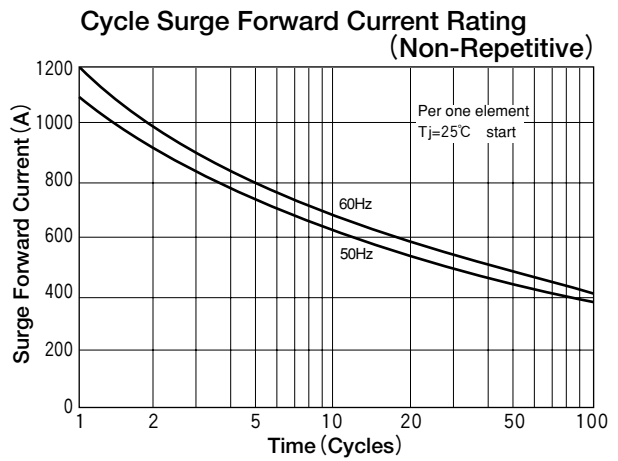
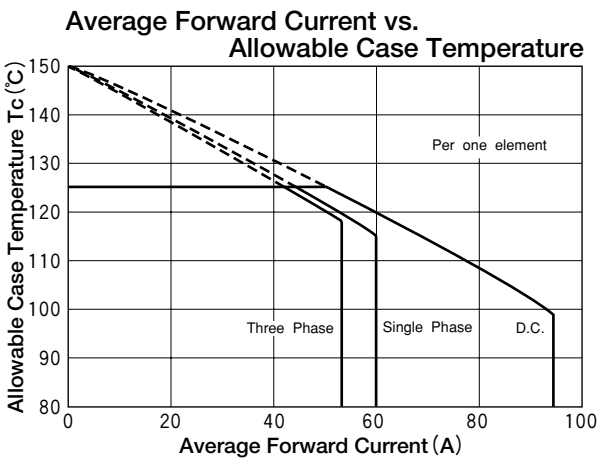
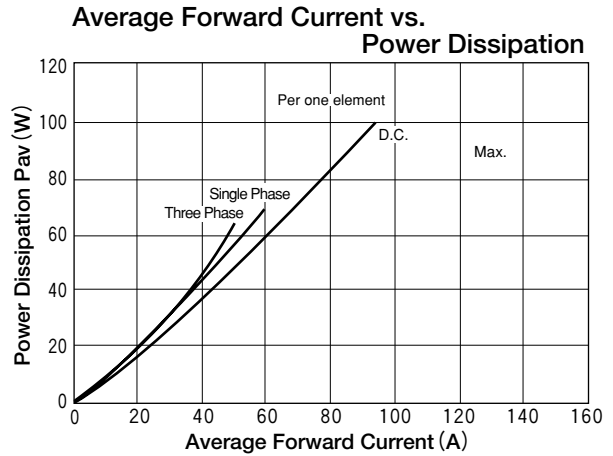
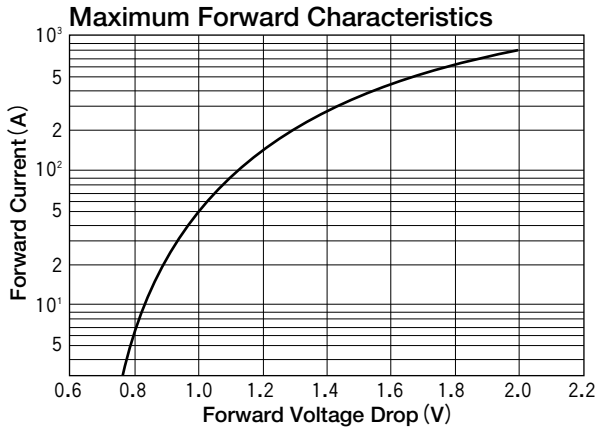
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD60GB40	DD60GB80	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 114°C	60	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 114°C	95	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	1100/1200	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	6000	A <sup>2</sup> S	
T <sub>j</sub>	Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Voltage	A.C.1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	20	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Foward current 180A, T <sub>j</sub> =25°C, Inst. measurement	1.25	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.50	°C/W



# DIODE MODULE

# DD(KD)60HB120/160



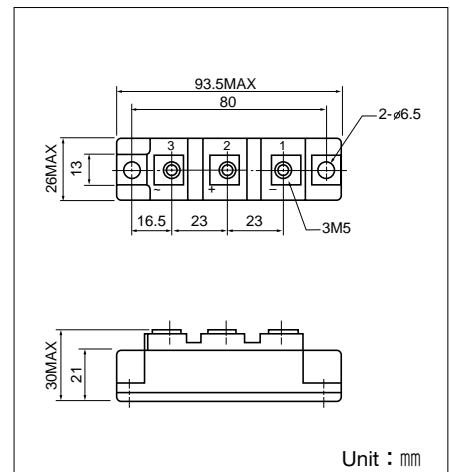
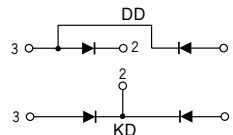
UL;E76102 (M)

Power Diode Module **DD60HB** series are designed for various rectifier circuits. **DD60HB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage range up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



## Maximum Ratings

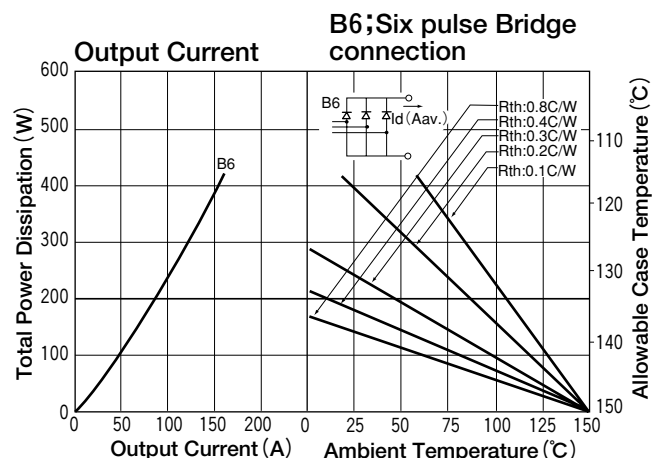
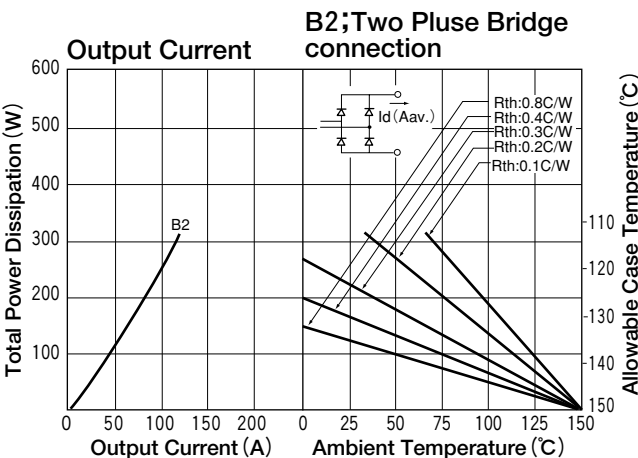
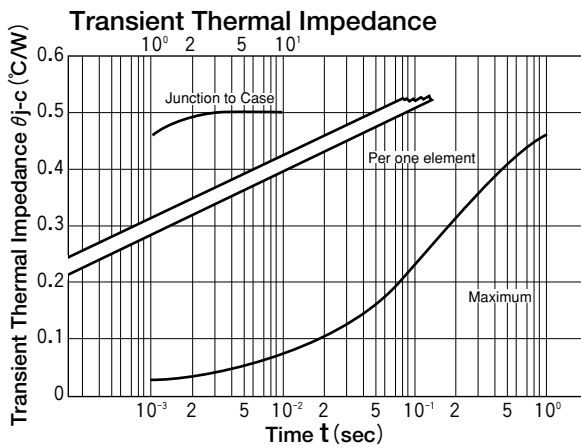
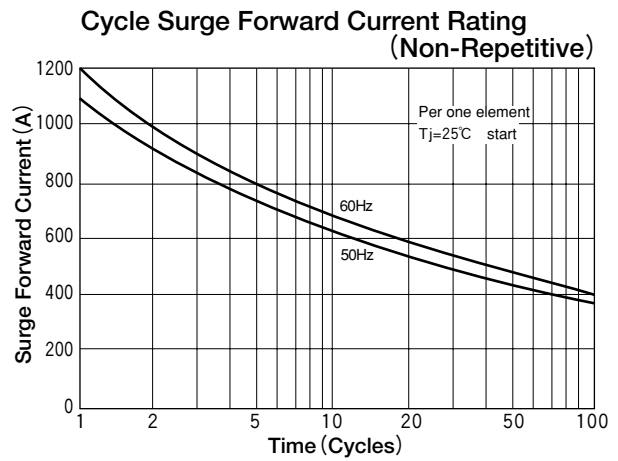
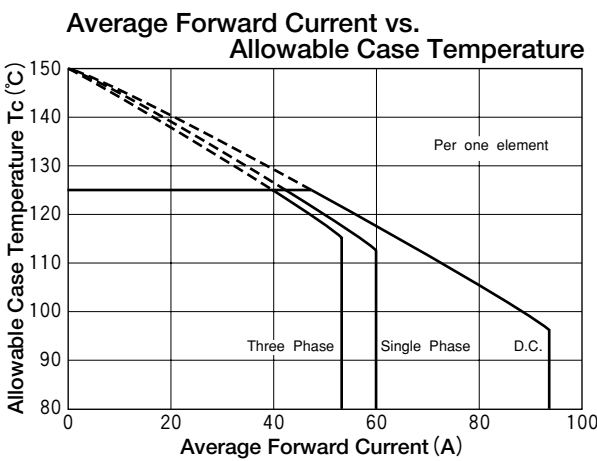
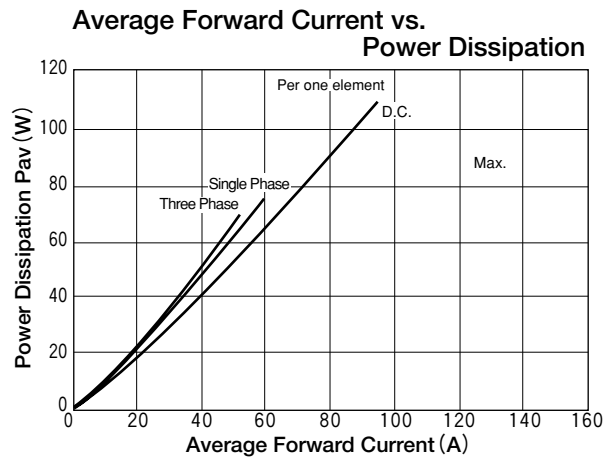
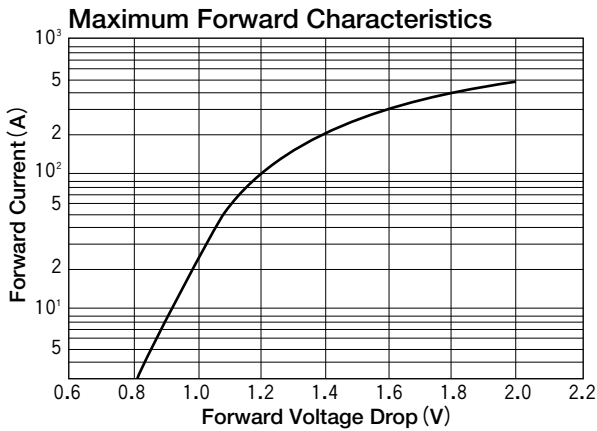
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD60HB120	DD60HB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	1350	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 111°C	60	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 111°C	95	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	1100/1200	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	6000	A <sup>2</sup> S	
T <sub>j</sub>	Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	20	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 180A, T <sub>j</sub> =25°C, Inst. measurement	1.35	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.50	°C/W



# DIODE MODULE

# DD(KD)100GB40/80



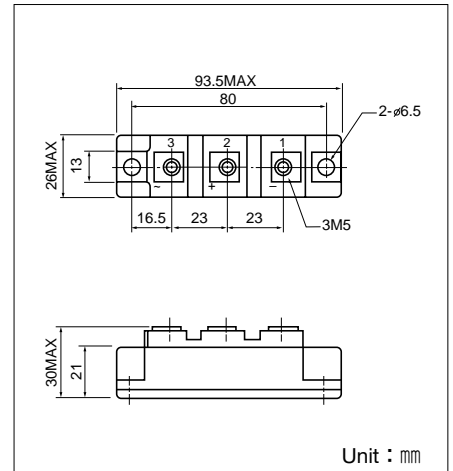
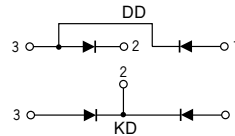
UL;E76102 (M)

Power Diode Module **DD100GB** series are designed for various rectifier circuits. **DD100GB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 800V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



## Maximum Ratings

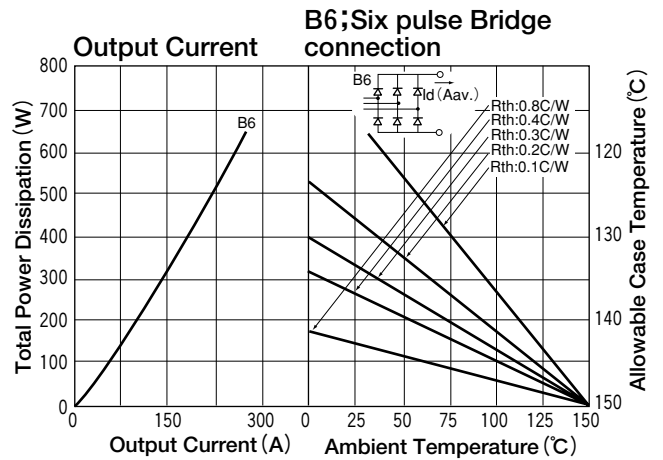
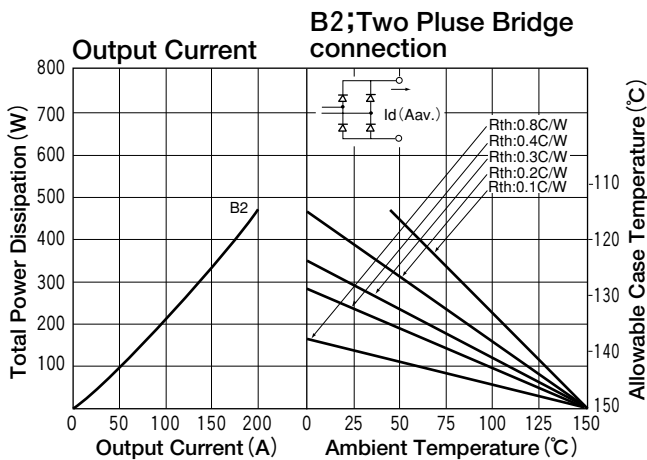
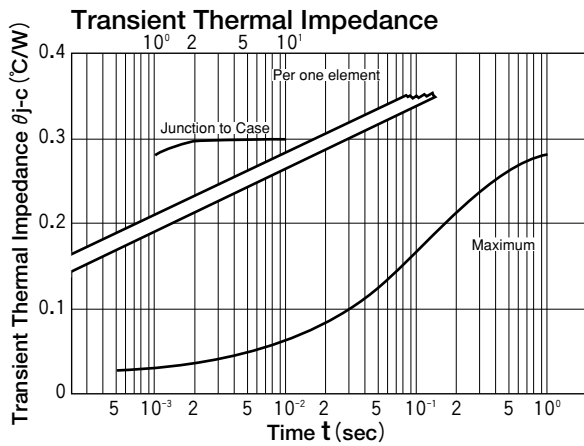
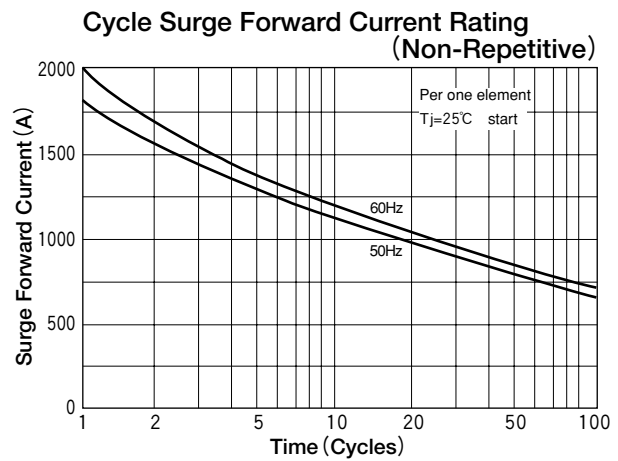
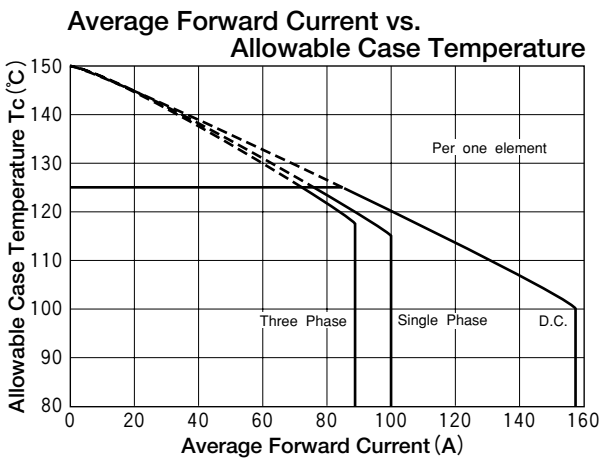
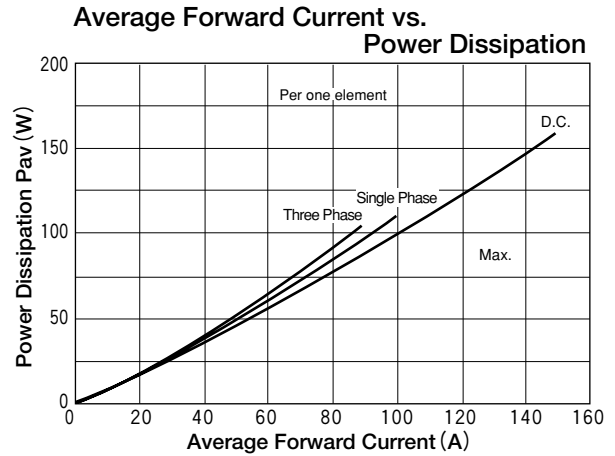
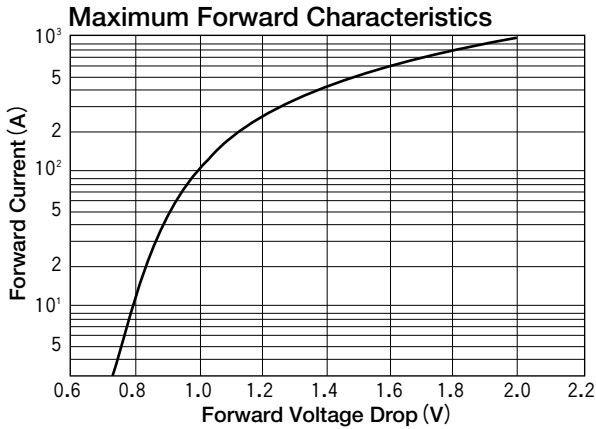
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD100GB40	DD100GB80	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	V

Symbol	Item	Conditions	Ratings	Unit
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 115°C	100	A
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 115°C	155	A
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	1800/2000	A
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	16500	A <sup>2</sup> S
T <sub>j</sub>	Junction Temperature		-40 to +150	°C
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	V
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	
	Mass		170	g

## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	30	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Foward current 320A, T <sub>j</sub> =25°C, Inst. measurement	1.25	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.30	°C/W





# DIODE MODULE

# DD(KD)100HB120/160

TOP



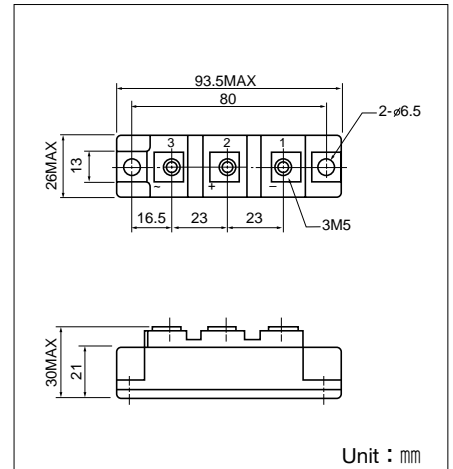
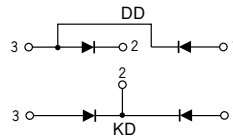
UL;E76102 (M)

Power Diode Module **DD100HB** series are designed for various rectifier circuits. **DD100HB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



## Maximum Ratings

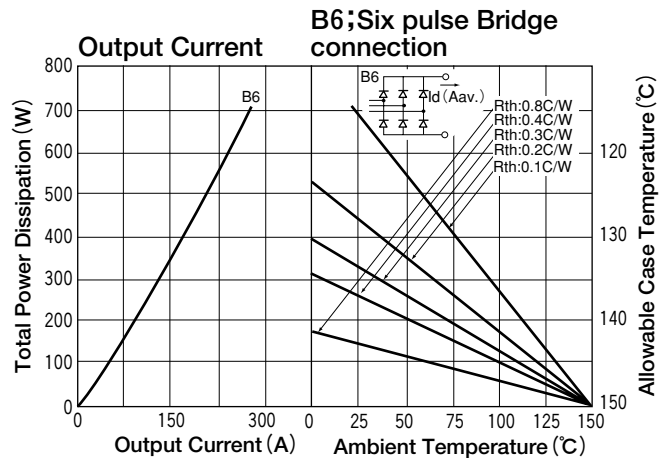
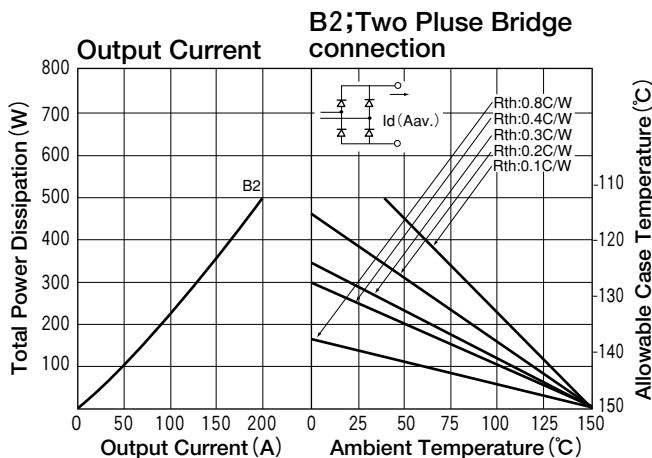
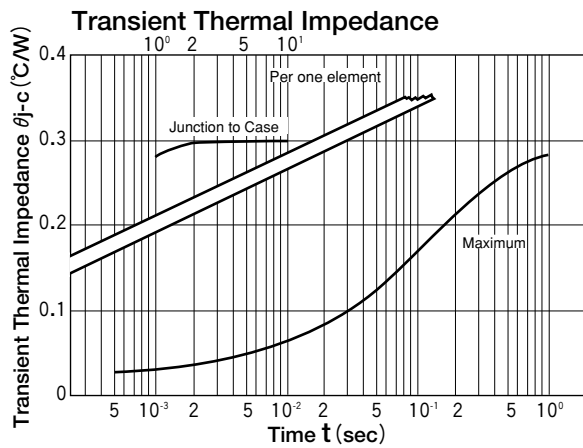
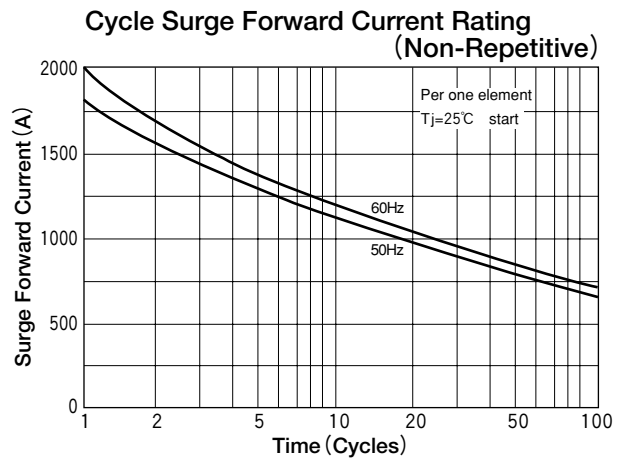
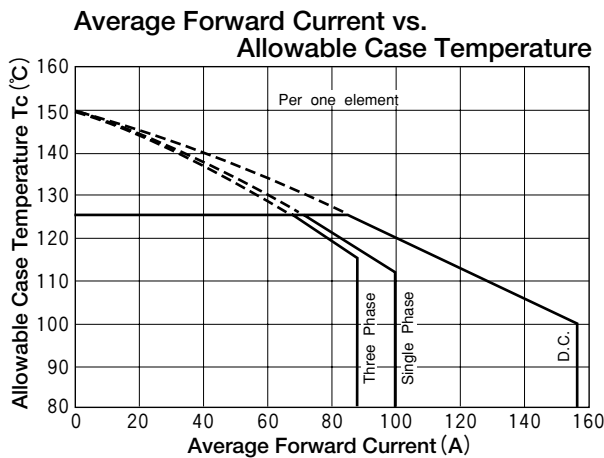
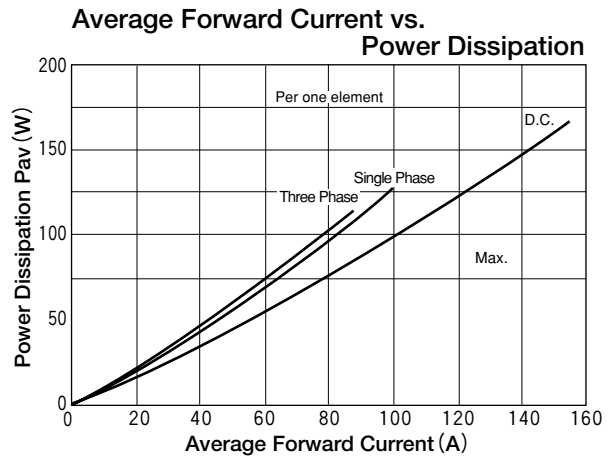
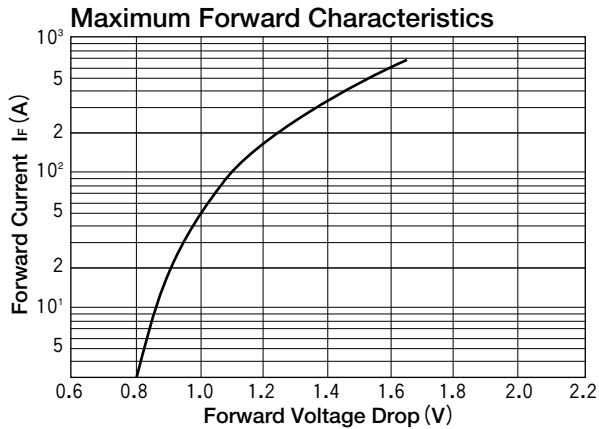
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DF100HB120	DD100HB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	1350	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 111°C	100	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 111°C	155	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	1800/2000	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	16500	A <sup>2</sup> S	
T <sub>j</sub>	Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Voltage	A.C.1minute	2500	V	
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =150°C	30	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Foward current 320A, T <sub>j</sub> =25°C, Inst. measurement	1.35	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.30	°C/W



# DIODE MODULE

## DD200GB



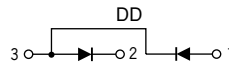
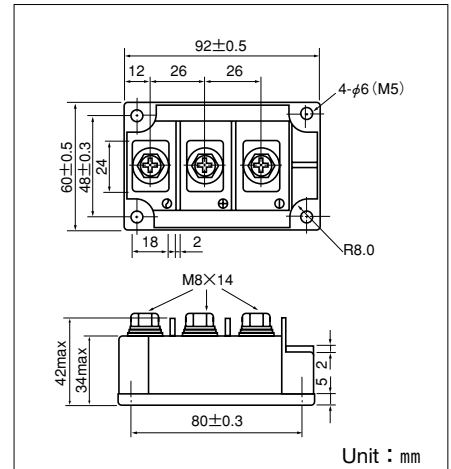
UL;E76102 (M)

Power Diode Module **DD200GB** series are designed for various rectifier circuits. **DD200GB** has two diode two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to 800V is available for various input voltages.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



### Maximum Ratings

(T<sub>j</sub>=25°C unless otherwise specified)

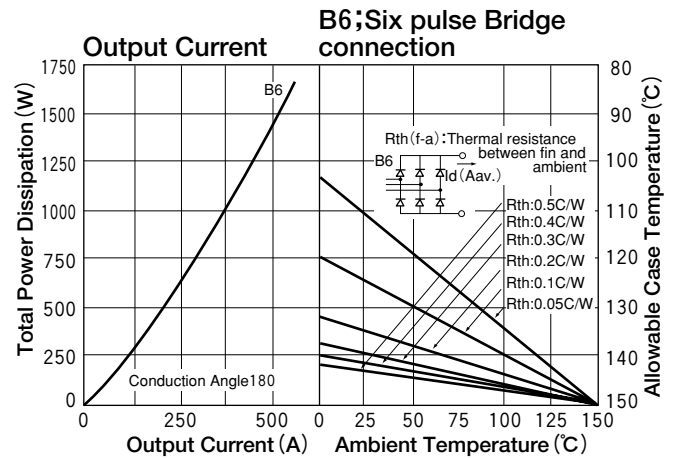
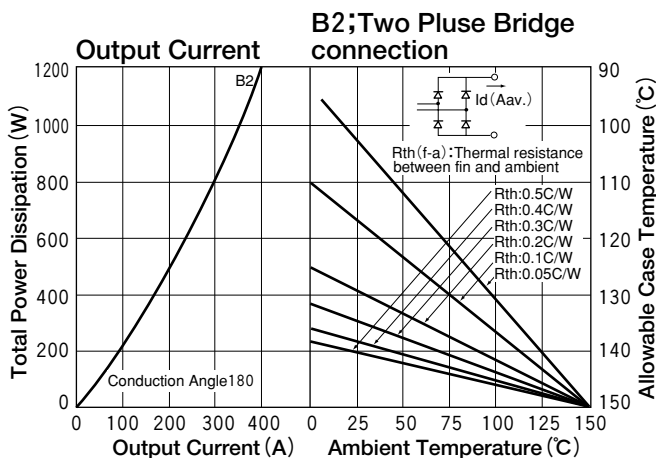
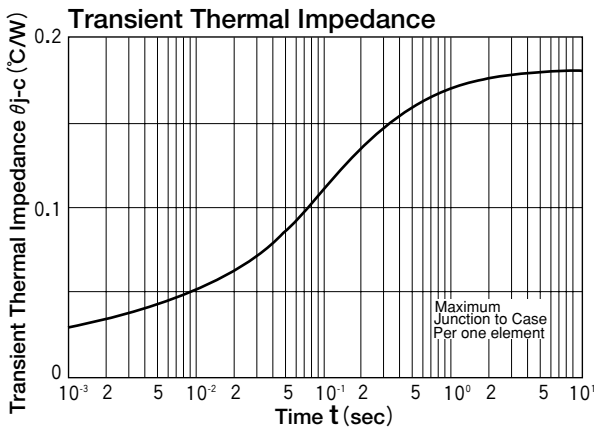
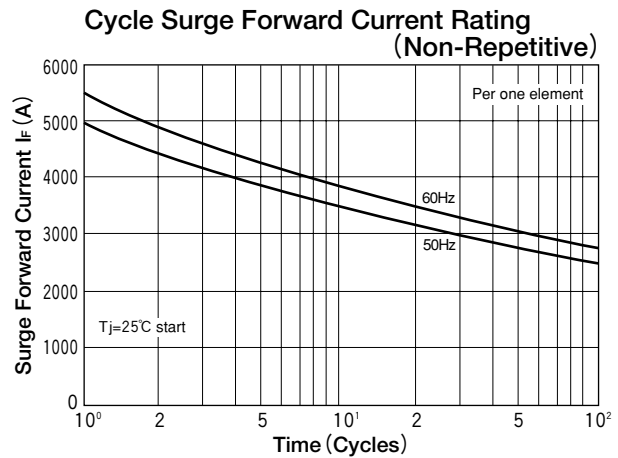
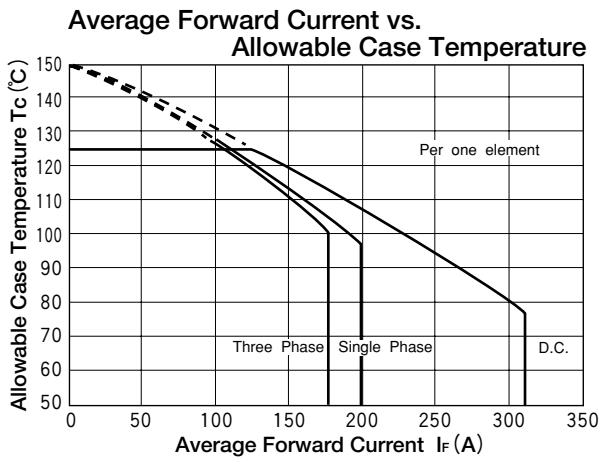
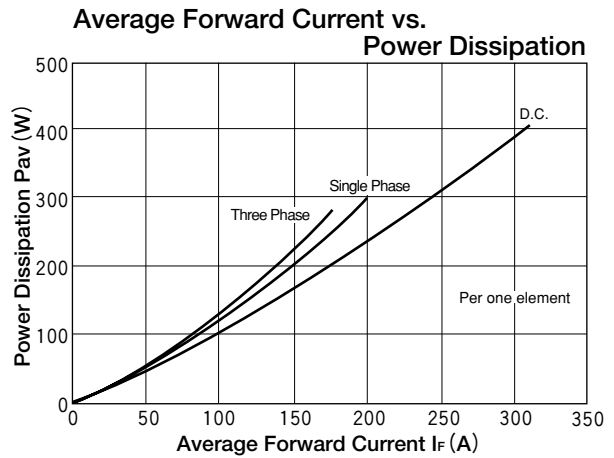
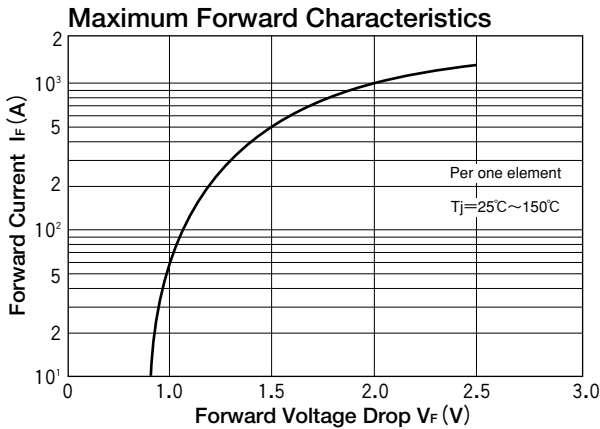
Symbol	Item	Ratings		Unit
		DD200GB40	DD200GB80	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 96°C	200	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 96°C	310	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A²S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass	Typical Value	510	g	

### Electrical Characteristics

(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>RRM</sub> . Single phase, half wave, T <sub>j</sub> =150°C	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 600A, T <sub>j</sub> =25°C, Inst measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case (Per a half module)	0.18	°C/W



# DIODE MODULE

# DD200HB

TOP



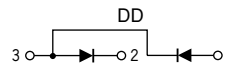
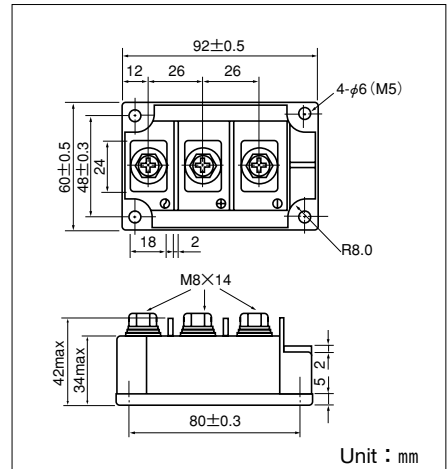
UL;E76102 (M)

Power Diode Module **DD200HB** series are designed for various rectifier circuits. **DD200HB** has two diode chips connected in series and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to 1,600V is available for various input voltage.

- Isolated mountings base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High Surge current Capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

(T<sub>j</sub>=25°C unless otherwise specified)

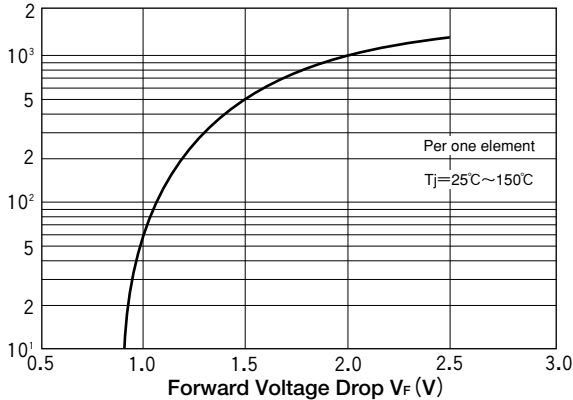
Symbol	Item	Ratings		Unit
		DD200HB120	DD200HB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	1350	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single Phase, half wave, 180°C conduction, T <sub>c</sub> : 96°C	200	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single Phase, half wave, 180°C conduction, T <sub>c</sub> : 96°C	310	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (15-25)	11 (115)	
	Mass	Typical Value	510	g	

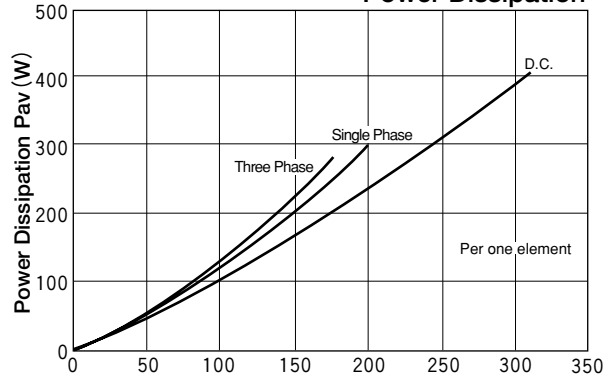
**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>RRM</sub> . Single phase, half wave, T <sub>j</sub> =150°C	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 600A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junctoin to case (Per a half module)	0.18	°C/W

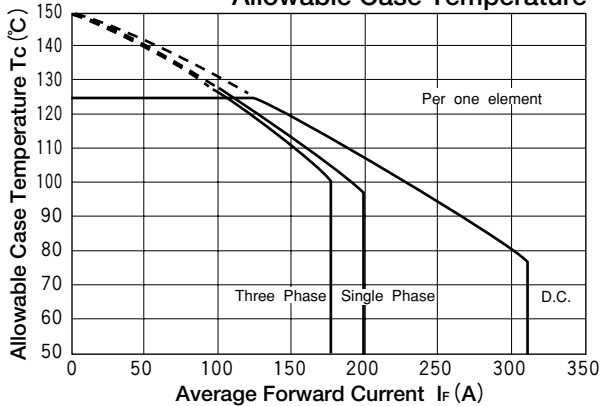
### Maximum Forward Characteristics



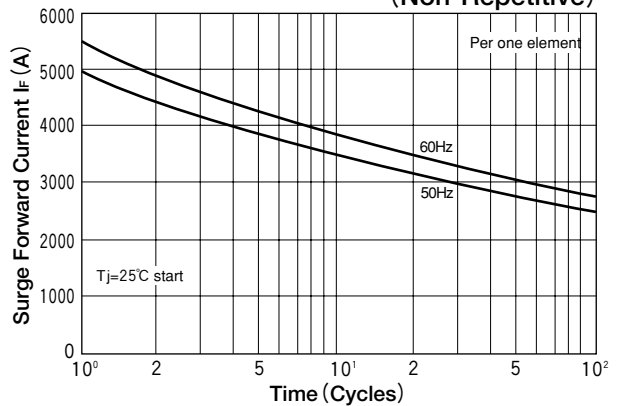
### Average Forward Current vs. Power Dissipation



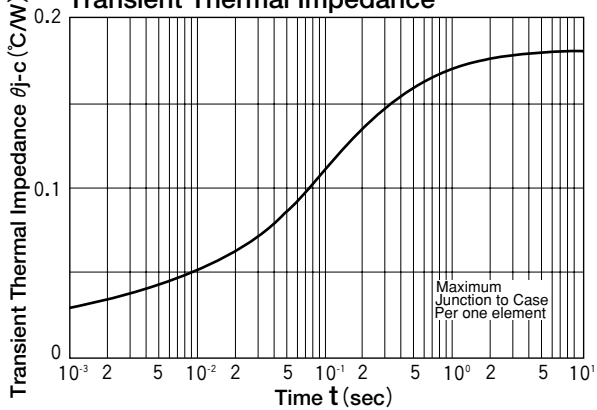
### Average Forward Current vs. Allowable Case Temperature



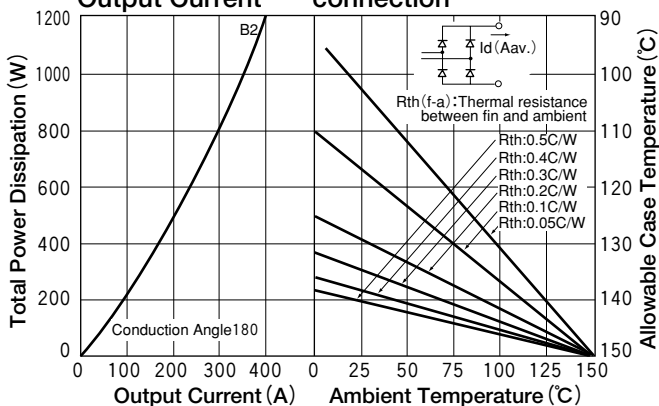
### Cycle Surge Forward Current Rating (Non-Repetitive)



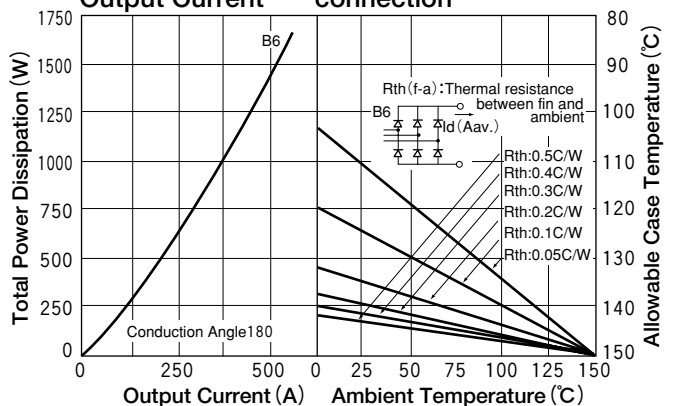
### Transient Thermal Impedance



### B2; Two Pulse Bridge connection



### B6; Six pulse Bridge connection



# DIODE MODULE (F.R.D.)

## DD250GB



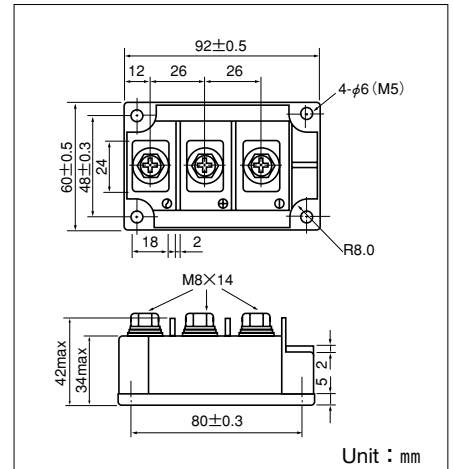
UL;E76102 (M)

Power Diode Module **DD250GB** series are designed for various rectifier circuits. **DD250GB** has two diode chips connected in series in a package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to 800V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



### Maximum Ratings

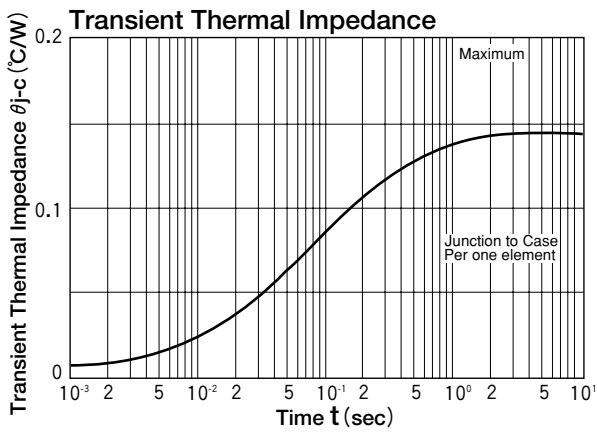
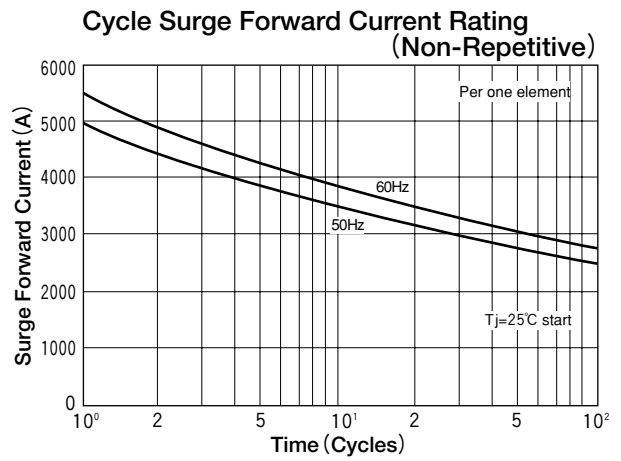
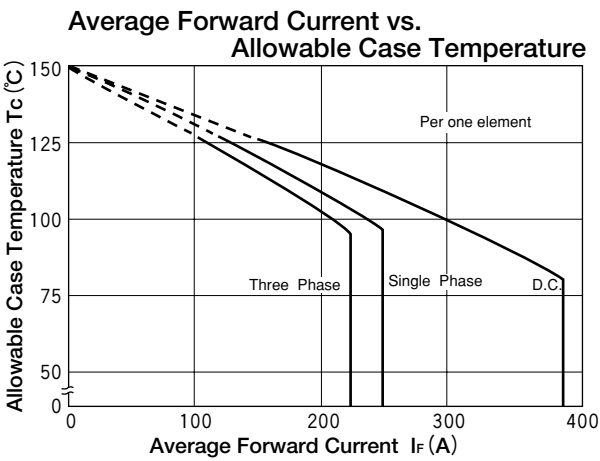
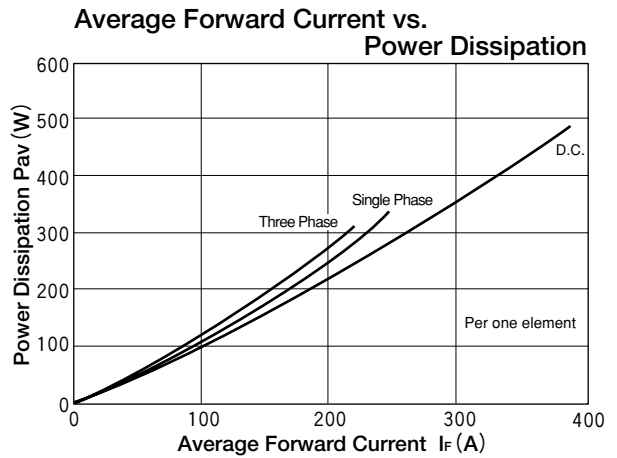
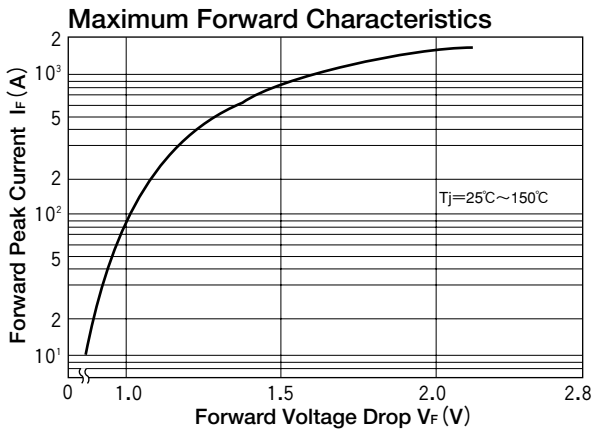
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Symbol	Ratings		Unit
		DD250GB40	DD250GB80	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	V

Symbol	Symbol	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 98°C	250	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 98°C	390	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass	Typical Value	510	g	

### Electrical Characteristics

Symbol	Symbol	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I <sub>RRM</sub>	Repetitive Peak Reverse Current	T <sub>j</sub> =150°C at V <sub>RRM</sub>			50	mA
V <sub>FM</sub>	Forward Voltage Drop	T <sub>j</sub> =25°C, I <sub>FM</sub> =750A, Inst. measurement			1.45	V
R <sub>th(j-c)</sub>	Thermal Impedance	Junction to case			0.14	°C/W





# DIODE MODULE (F.R.D.)

# DD250HB



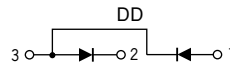
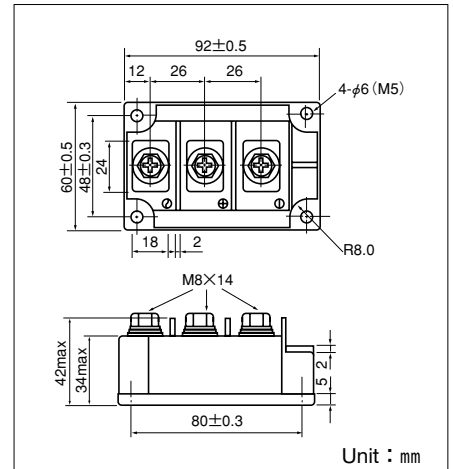
UL;E76102 (M)

Power Diode Module **DD250HB** series are designed for various rectifier circuits. **DD250HB** has two diode chips connected in series in a package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a packing for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

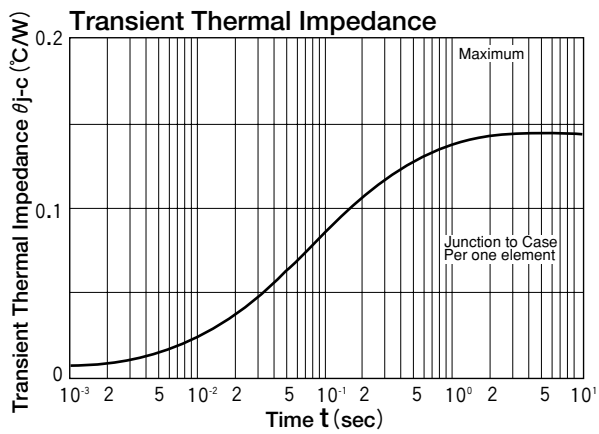
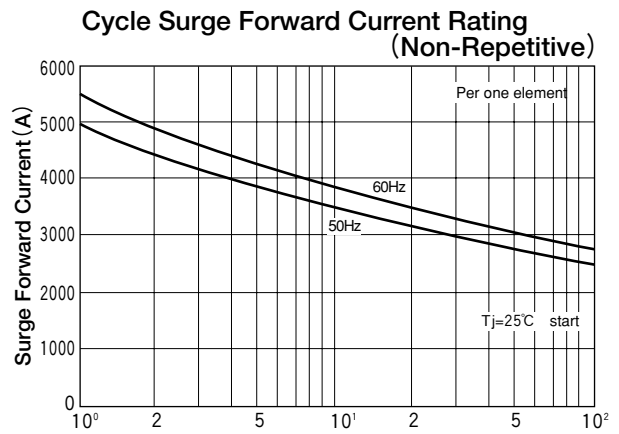
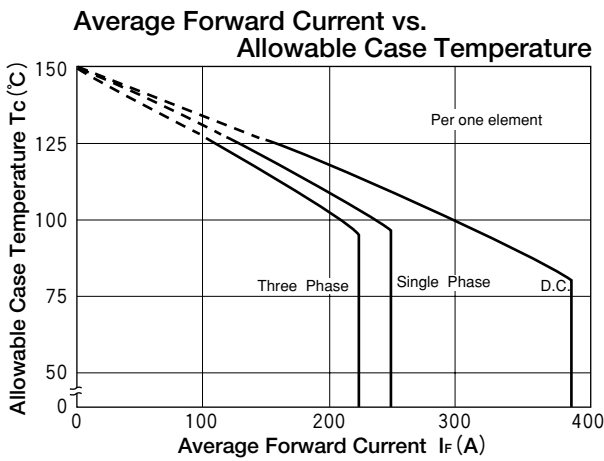
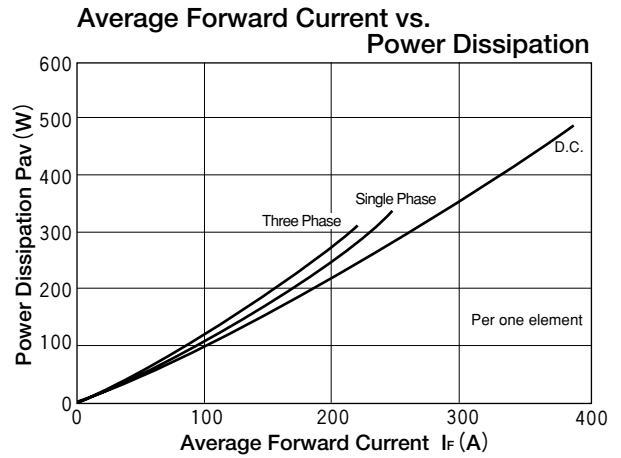
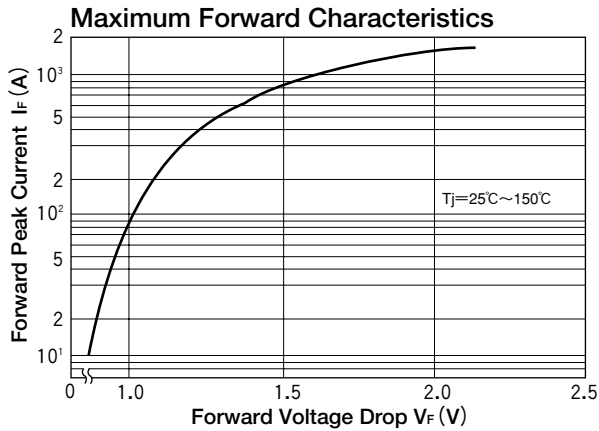
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings		Unit
		DD250HB120	DD250HB160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	1350	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 94°C	250	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180°C conduction, T <sub>c</sub> : 94°C	390	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass	Typical Value	510	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I <sub>RRM</sub>	Repetitive Peak Reverse Current	T <sub>j</sub> =150°C at V <sub>RRM</sub>			50	mA
V <sub>FM</sub>	Forward Voltage Drop	T <sub>j</sub> =25°C, I <sub>FM</sub> =750A, Inst. measurement			1.45	V
R <sub>th(j-c)</sub>	Thermal Impedance	Junction case			0.14	°C/W



# DIODE MODULE

# DD25F/KD25F



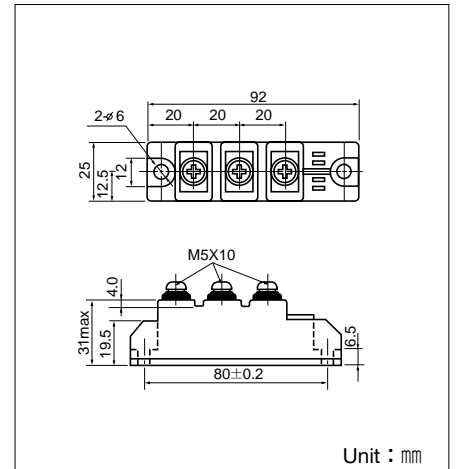
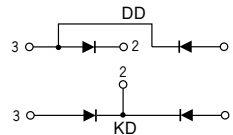
UL;E76102 (M)

Power Diode Module **DD25F** series are designed for various rectifier circuits. **DD25F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

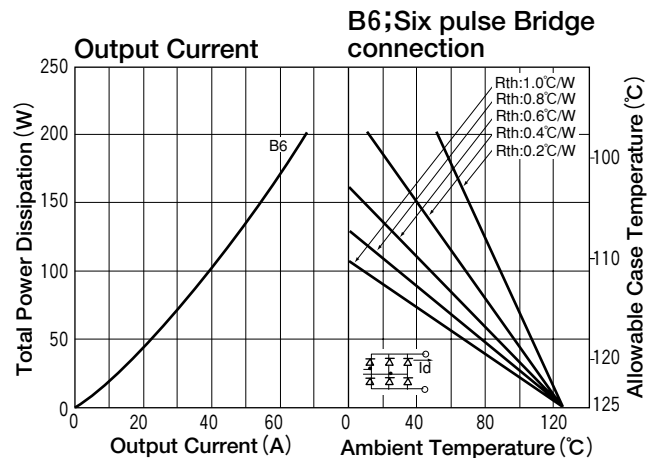
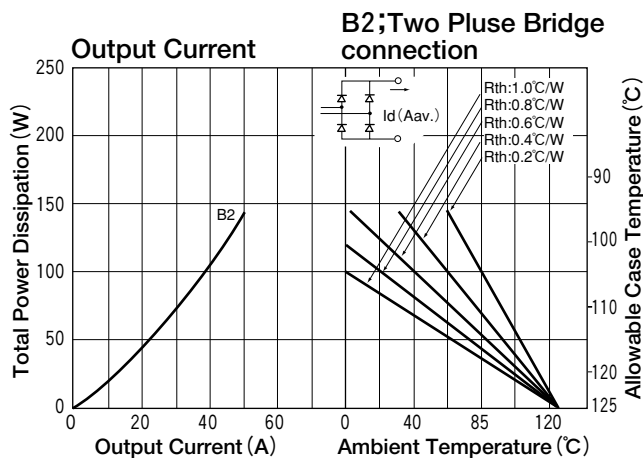
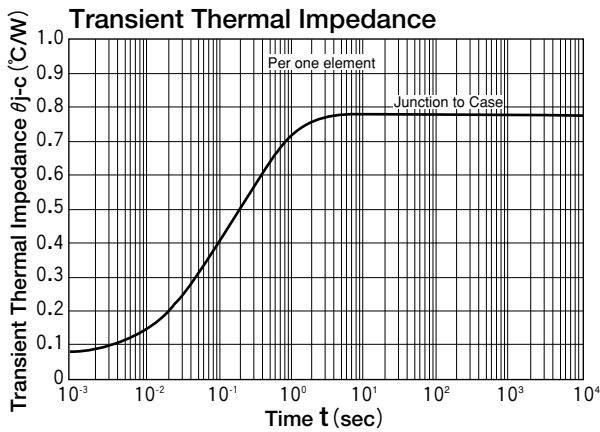
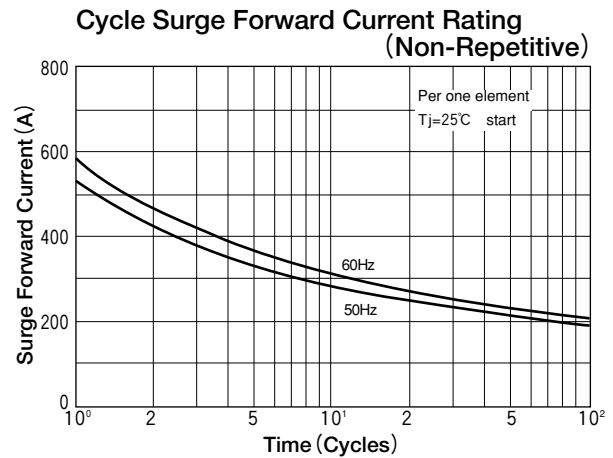
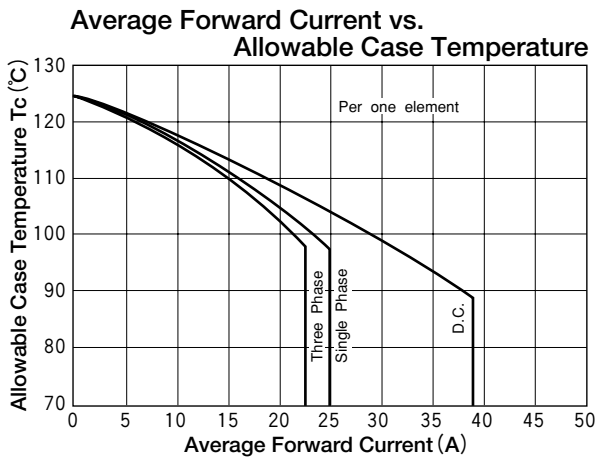
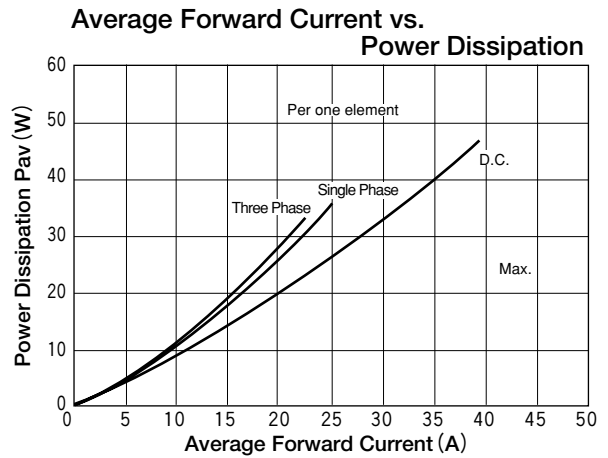
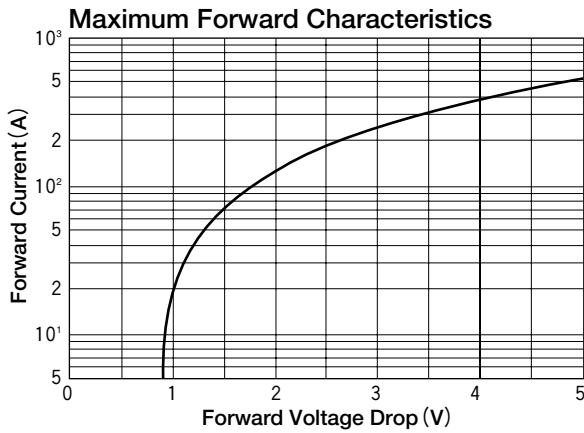
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD25F40	DD25F80	DD25F120	DD25F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 96°C	25	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 96°C	39	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak Value, non-repetitive	530/580	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	1400	A <sup>2</sup> S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	°C	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	10	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 75A, T <sub>j</sub> =25°C, Inst. measurement	1.55	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.78	°C/W



# DIODE MODULE

# DD40F/KD40F



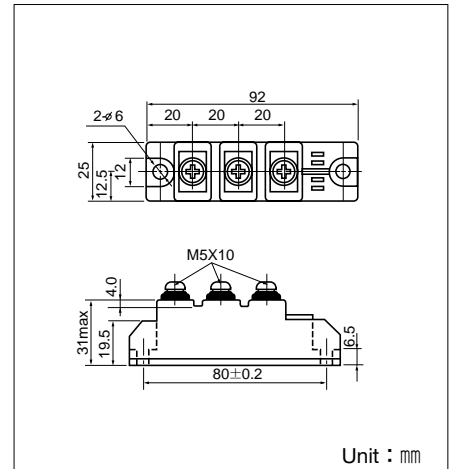
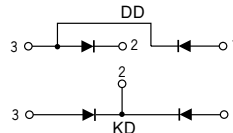
UL;E76102 (M)

Power Diode Module **DD40F** series are designed for various rectifier circuits. **DD40F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



Unit : mm

## Maximum Ratings

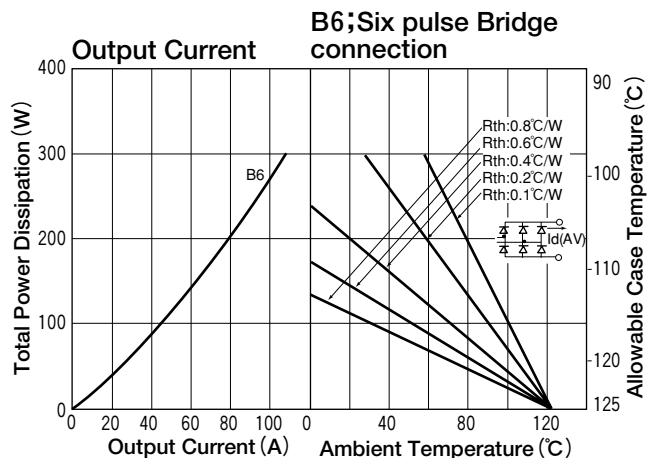
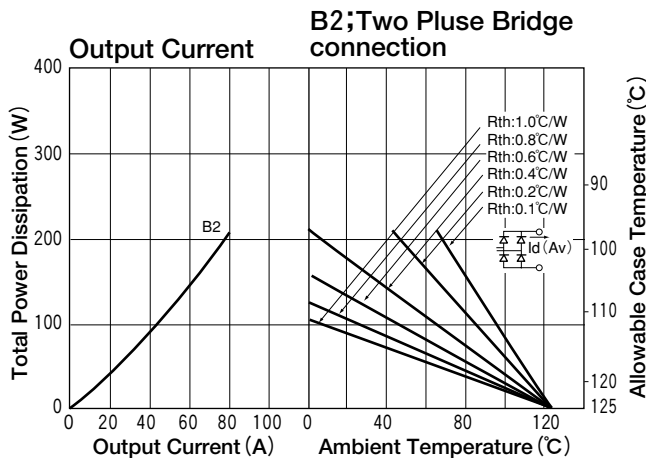
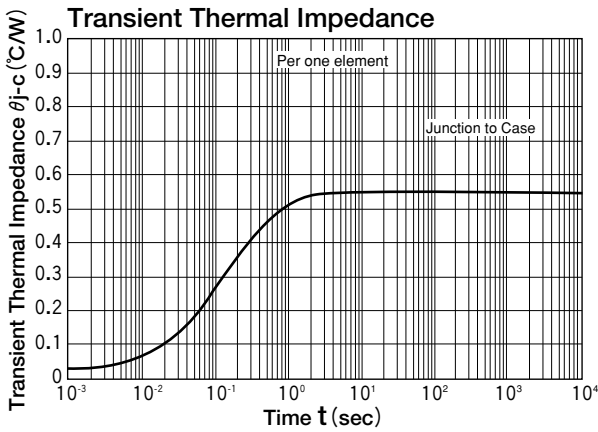
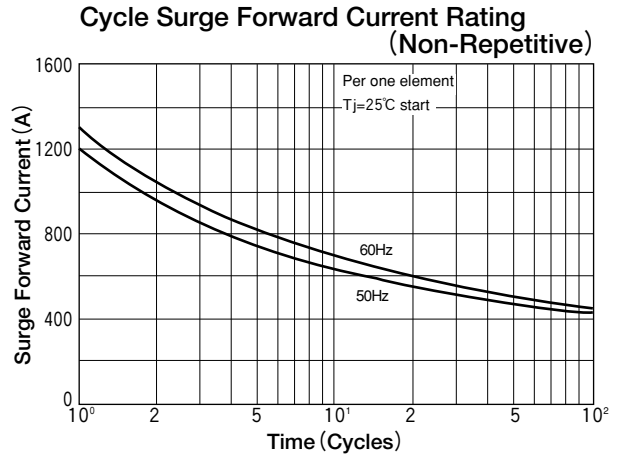
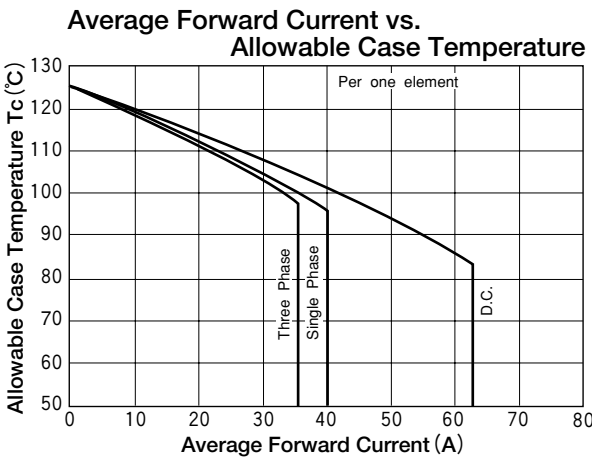
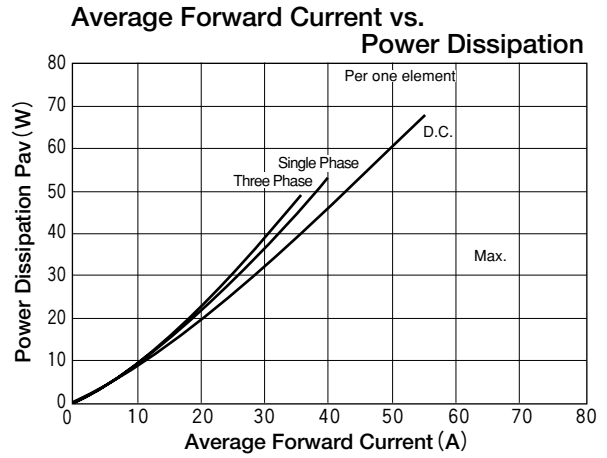
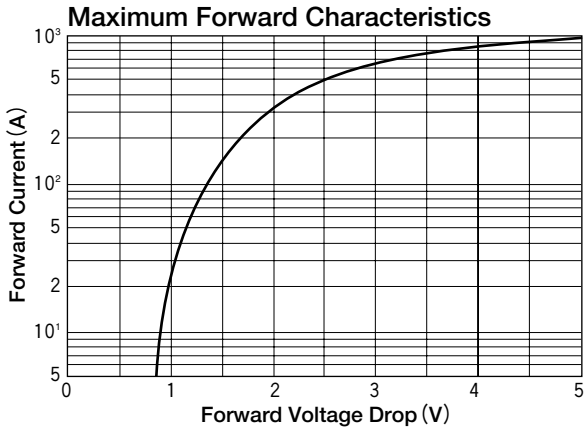
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD40F40	DD40F80	DD40F120	DD40F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 96°C	40	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 96°C	62	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak Value, non-repetitive	1200/1300	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	7200	A <sup>2</sup> S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	°C	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	15	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 120A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.55	°C/W



# DIODE MODULE

# DD55F/KD55F



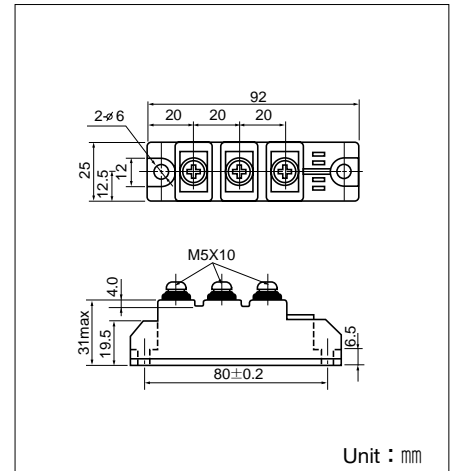
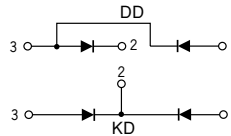
UL;E76102 (M)

Power Diode Module **DD55F** series are designed for various rectifier circuits. **DD55F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

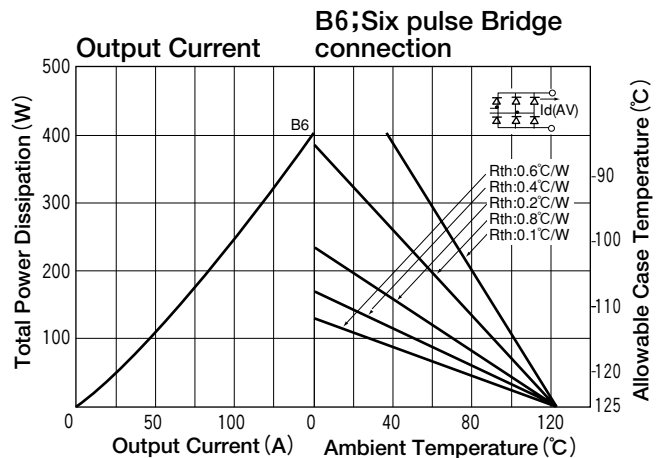
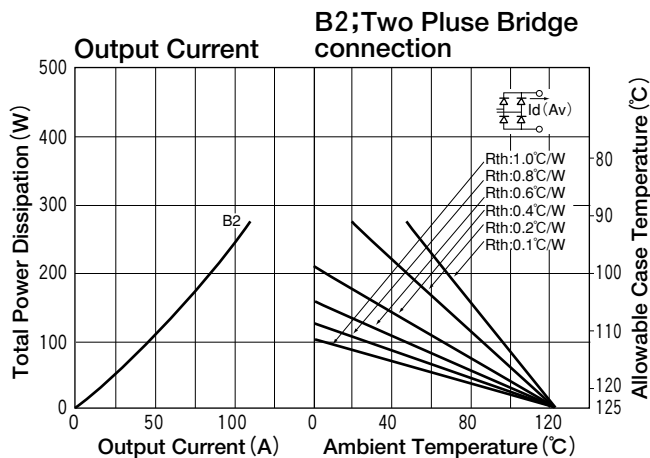
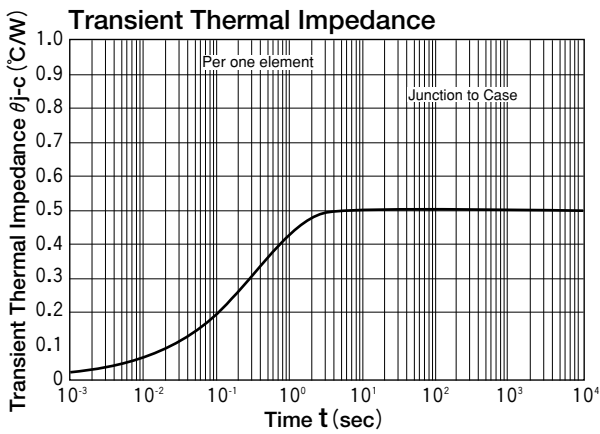
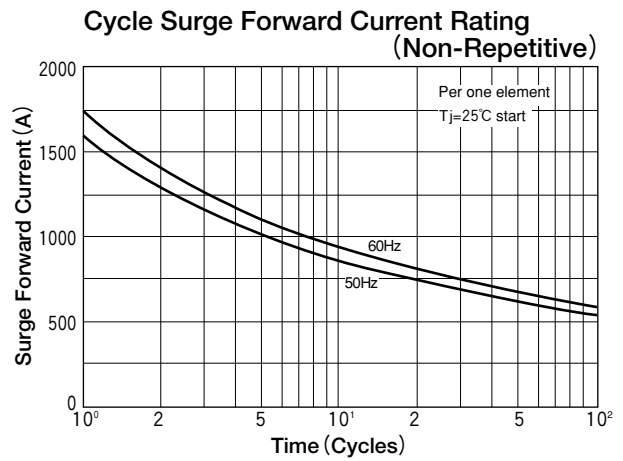
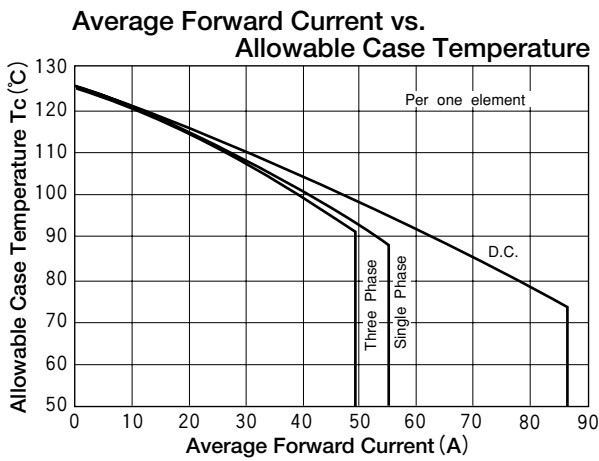
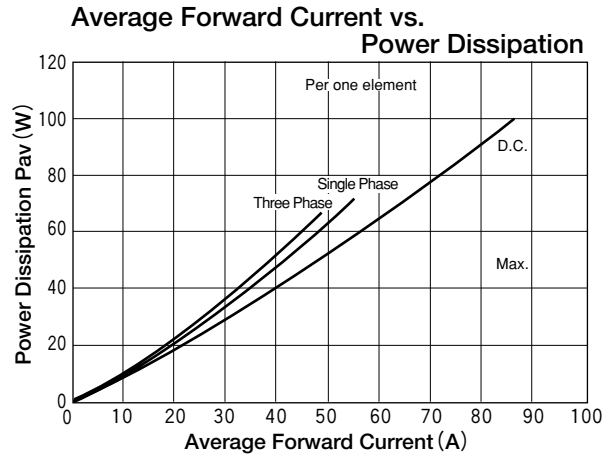
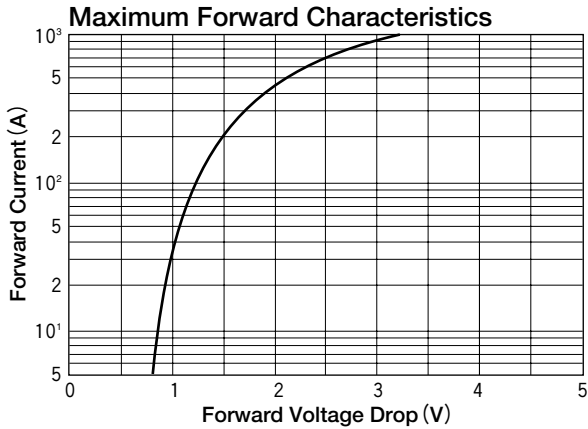
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD55F40	DD55F80	DD55F120	DD55F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 89°C	55	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 89°C	86	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	1600/1750	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	12800	A²S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	°C	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	15	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 170A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.50	°C/W





# DIODE MODULE

# DD70F/KD70F

TOP



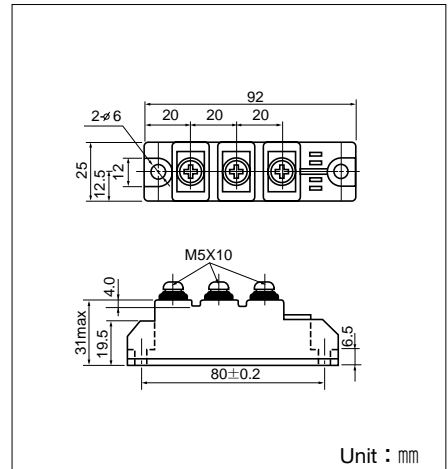
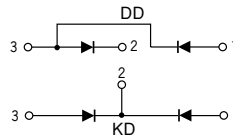
UL;E76102(M)

Power Diode Module **DD70F** series are designed for various rectifier circuits. **DD70F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

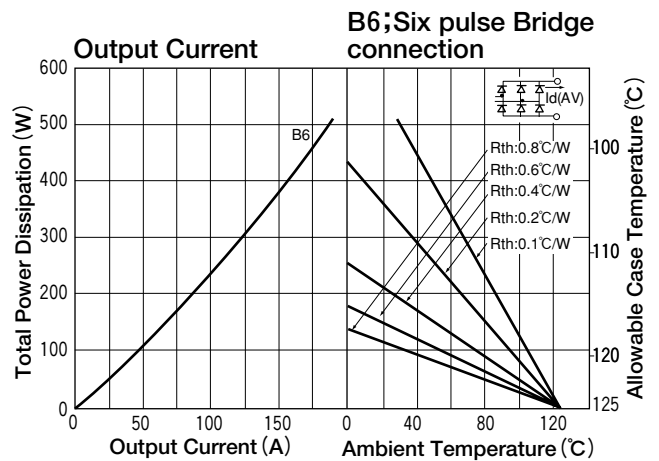
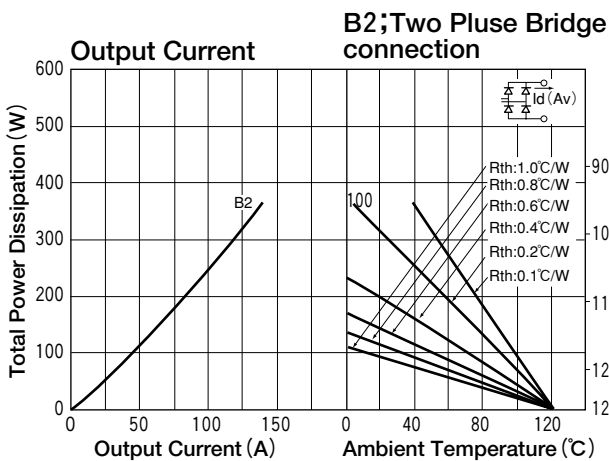
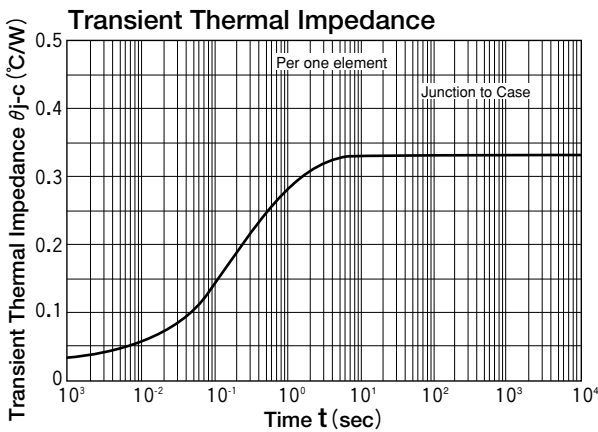
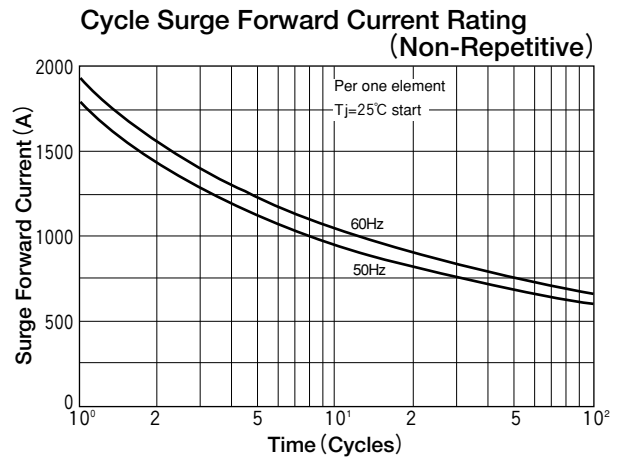
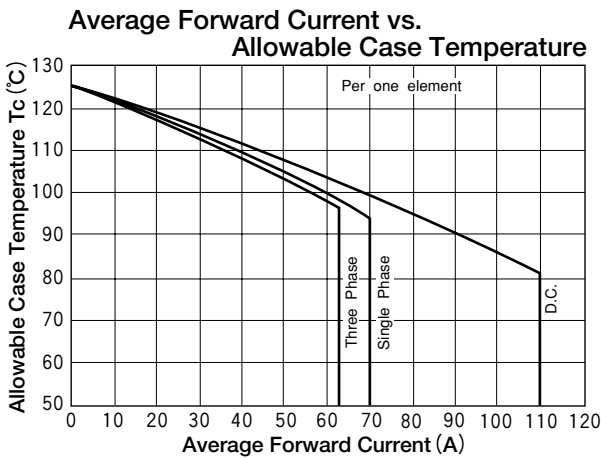
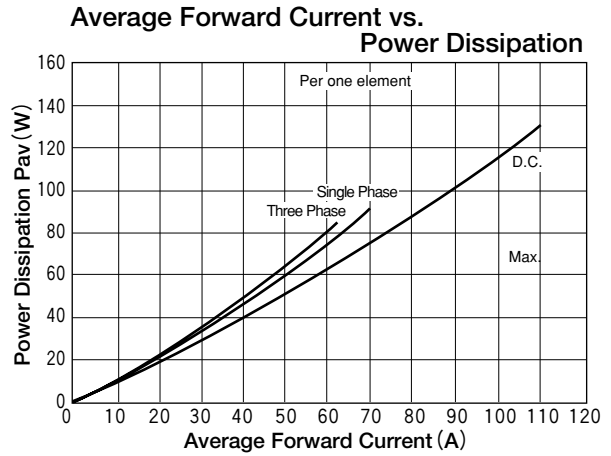
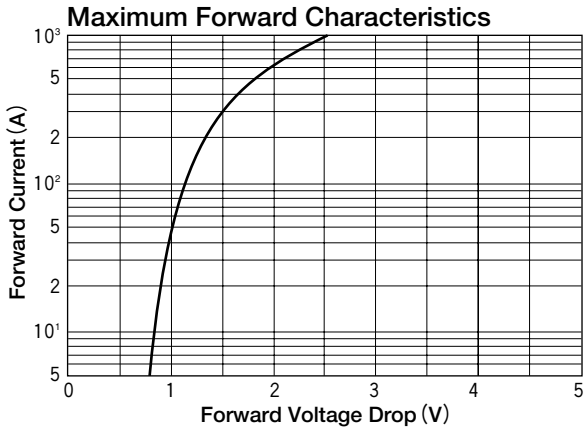
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD70F40	DD70F80	DD70F120	DD70F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 94°C	70	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 94°C	110	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	1800/1950	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	16200	A²S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C.1minute	2500	V	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	15	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 220A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.33	°C/W



# DIODE MODULE

# DD90F/KD90F



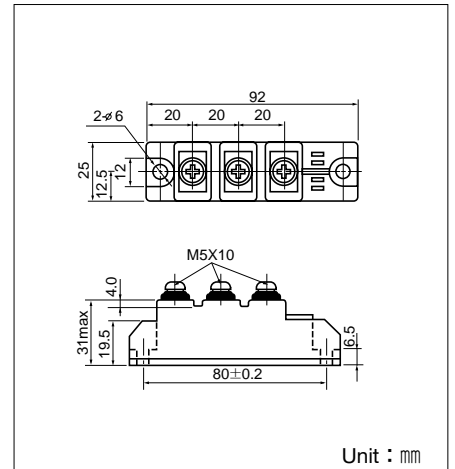
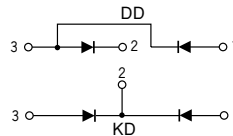
UL;E76102(M)

Power Diode Module **DD90F** series are designed for various rectifier circuits. **DD90F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

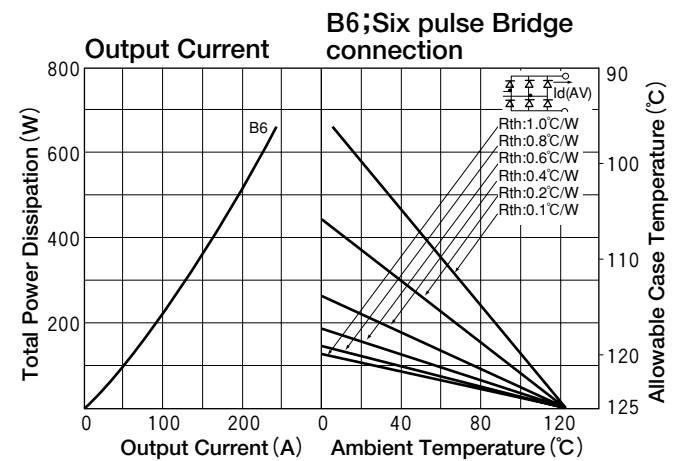
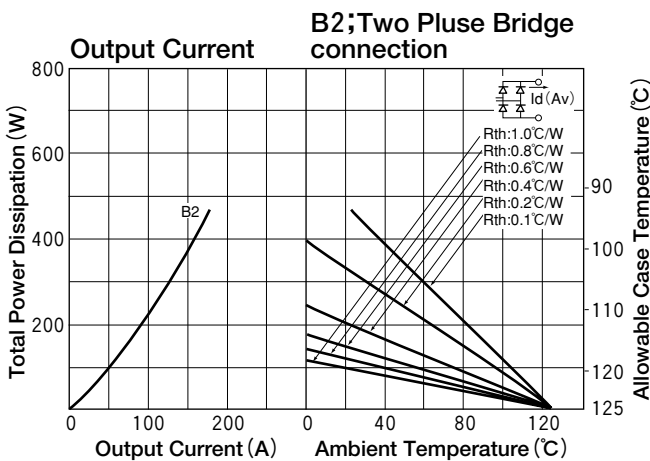
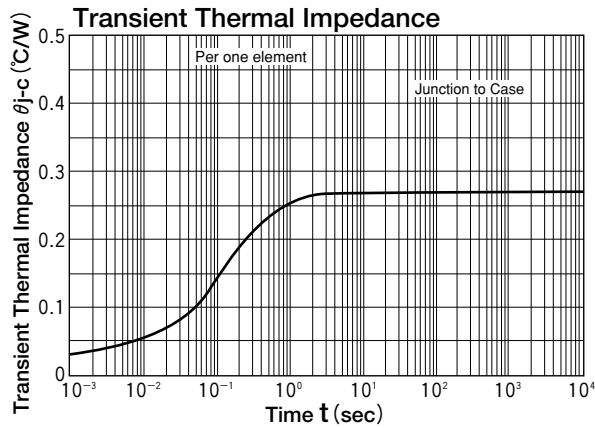
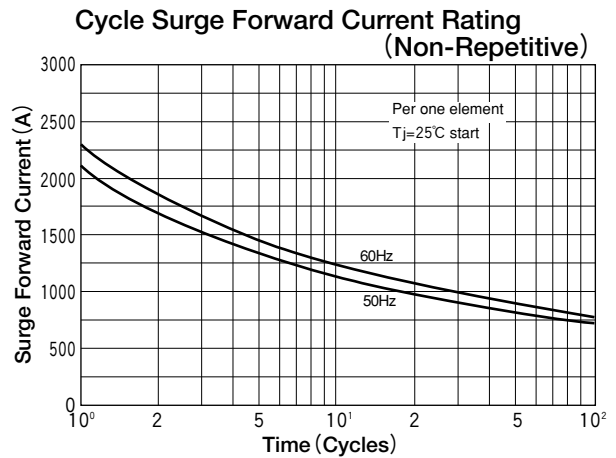
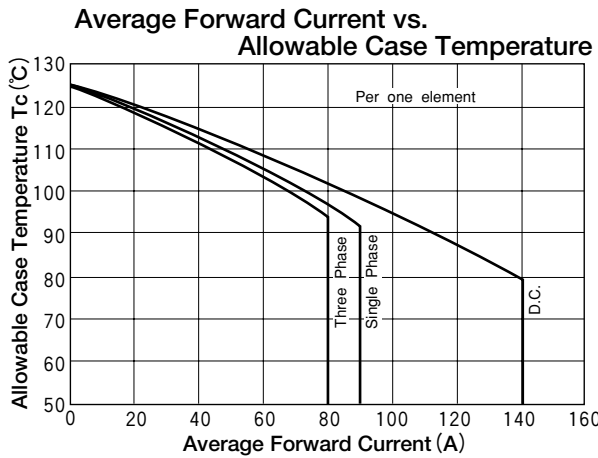
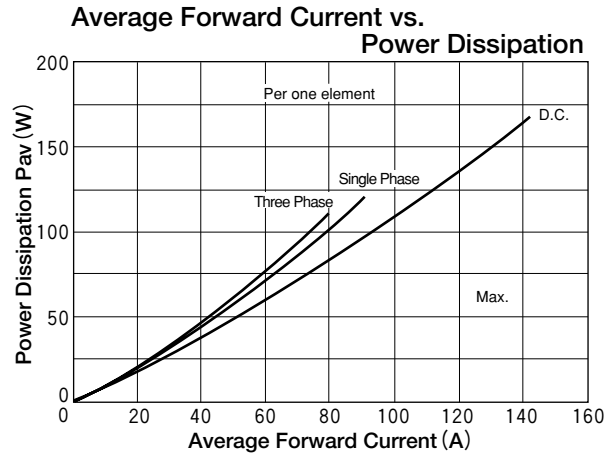
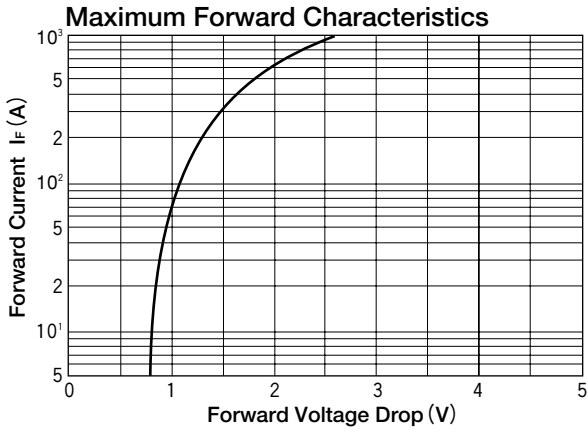
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD90F40	DD90F80	DD90F120	DD90F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 93°C	90	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 93°C	140	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	2100/2300	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	22000	A²S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S)	A.C.1minute	2500	V	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass			170	g

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	20	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 285A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.27	°C/W



# DIODE MODULE

# DD110F/KD110F



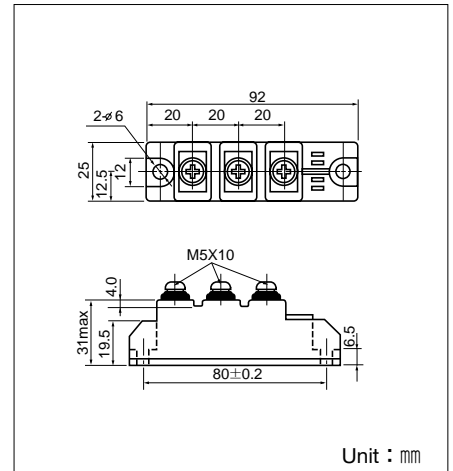
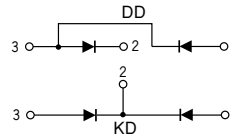
UL;E76102 (M)

Power Diode Module **DD110F** series are designed for various rectifier circuits. **DD110F** has two diode chips connected in series in 25mm (1inch) width package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

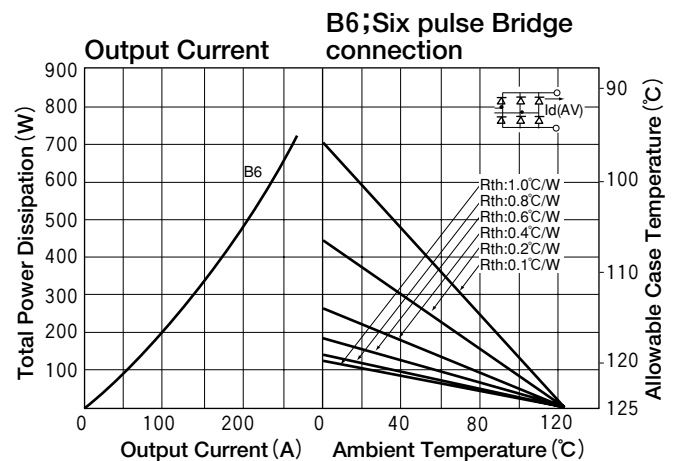
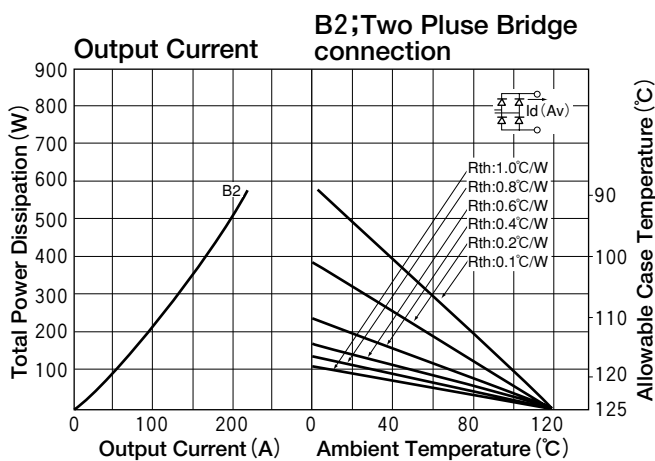
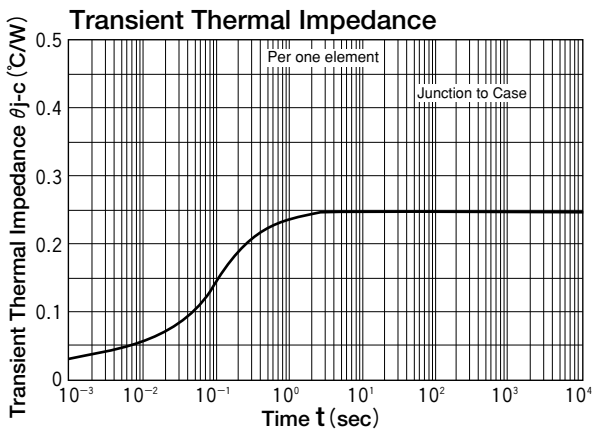
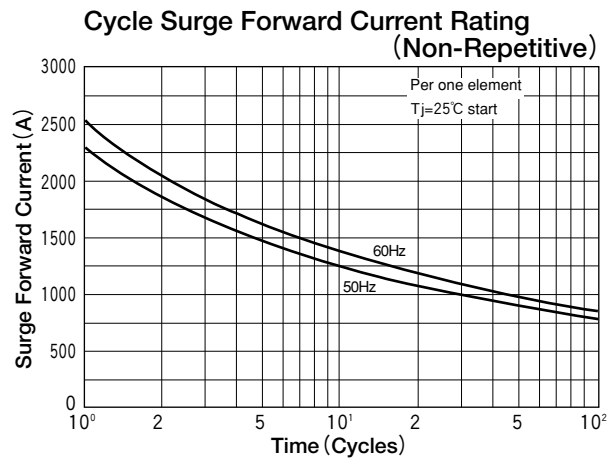
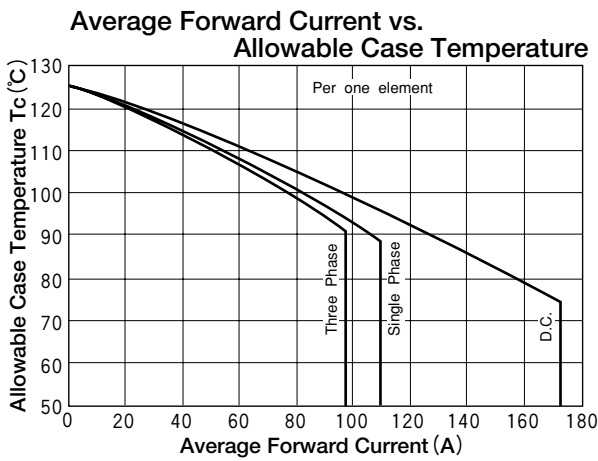
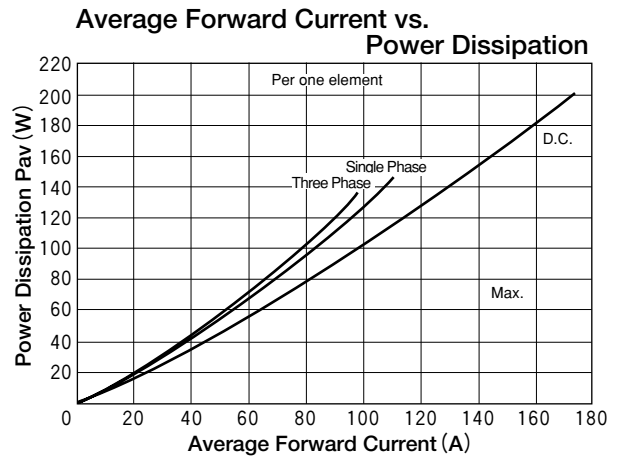
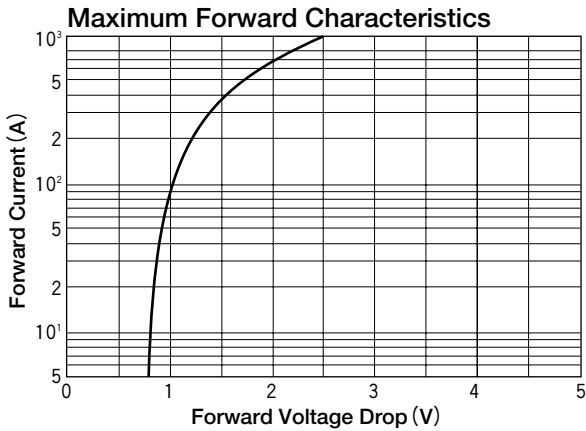
(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings				Unit
		DD110F40	DD110F80	DD110F120	DD110F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 88°C	110	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 88°C	172	A	
I <sub>FSM</sub>	Surge Forward Current	½ cycle, 50/60Hz, peak value, non-repetitive	2300/2550	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	26500	A²S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S)	A.C.1minute	2500	V	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		170	g	

**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	20	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 350A, T <sub>j</sub> =25°C, Inst. measurement	1.45	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.25	°C/W



# DIODE MODULE

# DD130F



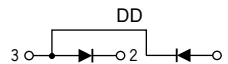
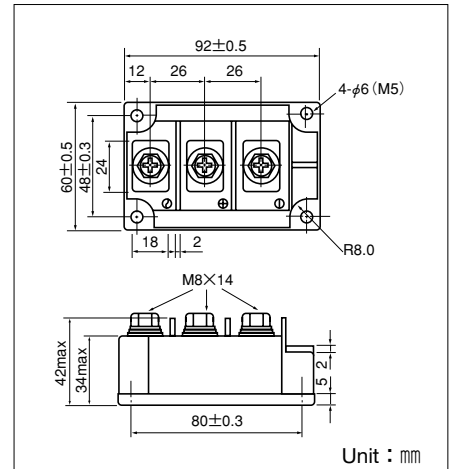
UL;E76102 (M)

Power Diode Module **DD130F** series are designed for various rectifier circuits. **DD130F** has two diode chips connected in series in a package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

**(Applications)**

Various rectifiers, Battery chargers, DC motor drives



**Maximum Ratings**

(T<sub>j</sub>=25°C unless otherwise specified)

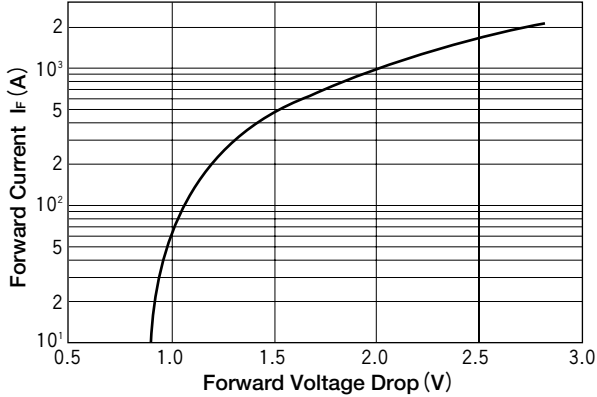
Symbol	Item	Ratings				Unit
		DD130F40	DD130F80	DD130F120	DD130F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 90°C	130	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 90°C	205	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	4000/4400	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	80000	A <sup>2</sup> S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S)	A.C.1minute	2500	°C	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	V	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass			510	g

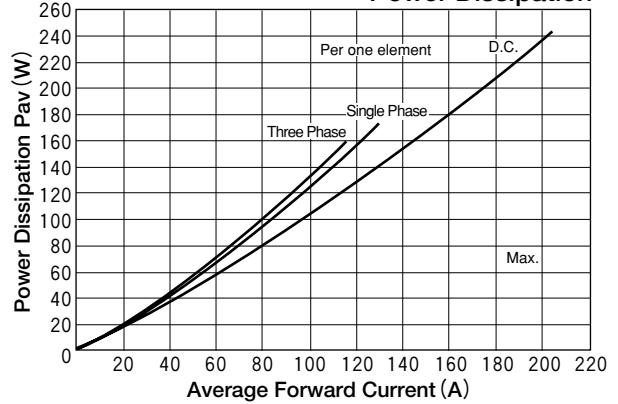
**Electrical Characteristics**

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 400A, T <sub>j</sub> =25°C, Inst. measurement	1.40	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.20	°C/W

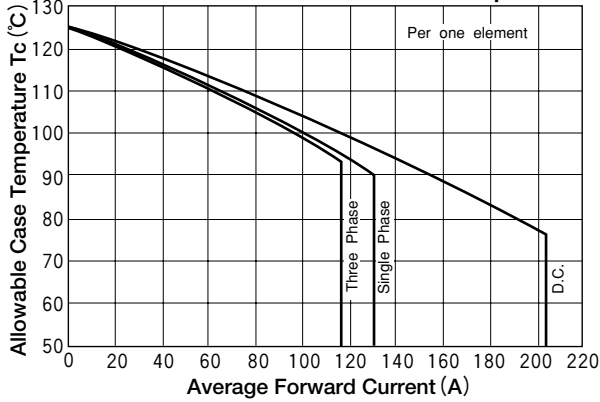
**Maximum Forward Characteristics**



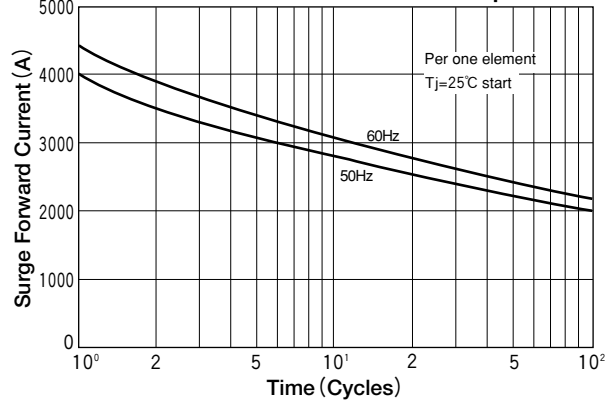
**Average Forward Current vs. Power Dissipation**



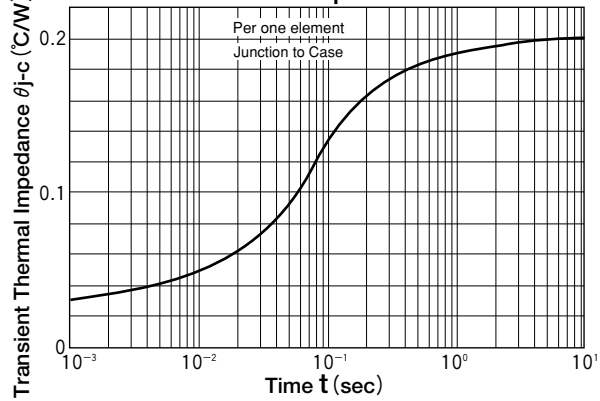
**Average Forward Current vs. Allowable Case Temperature**



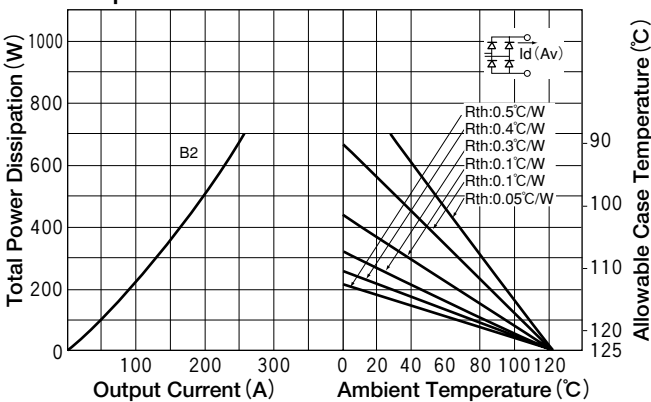
**Cycle Surge Forward Current Rating (Non-Repetitive)**



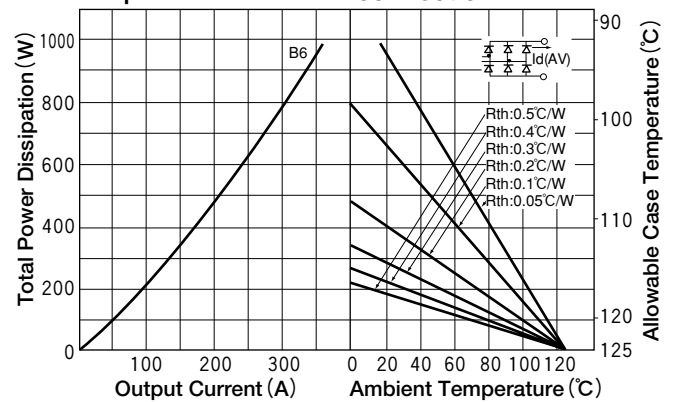
**Transient Thermal Impedance**



**B2; Two Pulse Bridge connection**



**B6; Six pulse Bridge connection**





# DIODE MODULE

# DD160F



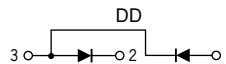
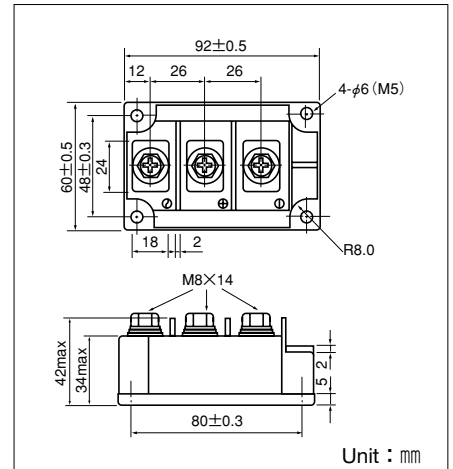
UL;E76102 (M)

Power Diode Module **DD160F** series are designed for various rectifier circuits. **DD160F** has two diode chips connected in series in a package and the mounting base is electrically isolated from elements for simple heatsink construction. Wide voltage rating up to, 1,600V is available for various input voltage.

- Isolated mounting base
- Two elements in a package for simple (single and three phase) bridge connections
- Highly reliable glass passivated chips
- High surge current capability

### (Applications)

Various rectifiers, Battery chargers, DC motor drives



## Maximum Ratings

(T<sub>j</sub>=25°C unless otherwise specified)

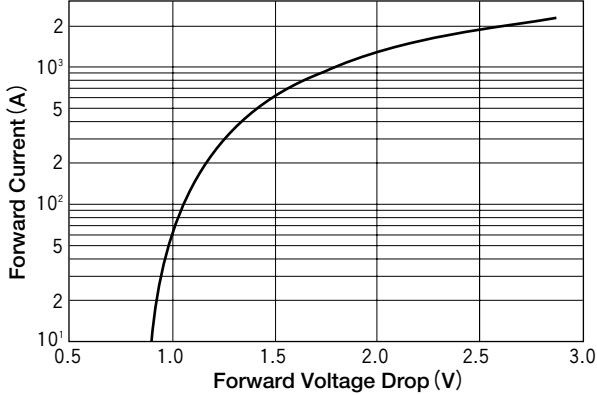
Symbol	Item	Ratings				Unit
		DD160F40	DD160F80	DD160F120	DD160F160	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Average Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 87°C	160	A	
I <sub>F(RMS)</sub>	R.M.S. Forward Current	Single phase, half wave, 180° conduction, T <sub>c</sub> : 87°C	250	A	
I <sub>FSM</sub>	Surge Forward Current	1/2 cycle, 50/60Hz, peak value, non-repetitive	5000/5500	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	125000	A <sup>2</sup> S	
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S)	A.C.1minute	2500	V	
T <sub>j</sub>	Junction Temperature		-40 to +125	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value 8.8-10 (90-105)	11 (115)	
	Mass		510	g	

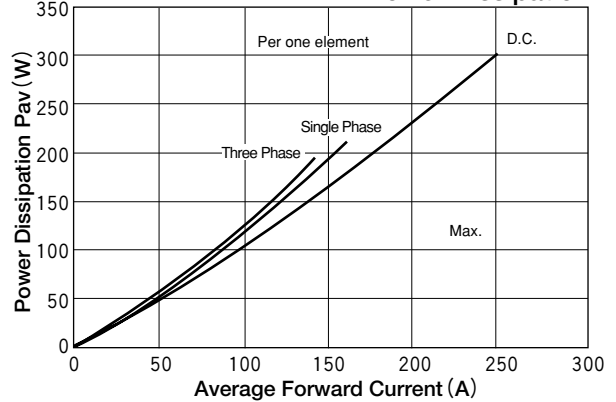
## Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave. T <sub>j</sub> =125°C	50	mA
V <sub>FM</sub>	Forward Voltage Drop, max.	Forward current 500A, T <sub>j</sub> =25°C, Inst. measurement	1.42	V
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	0.18	°C/W

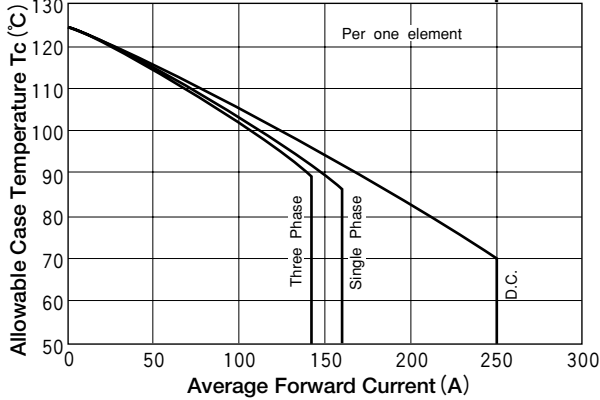
Maximum Forward Characteristics



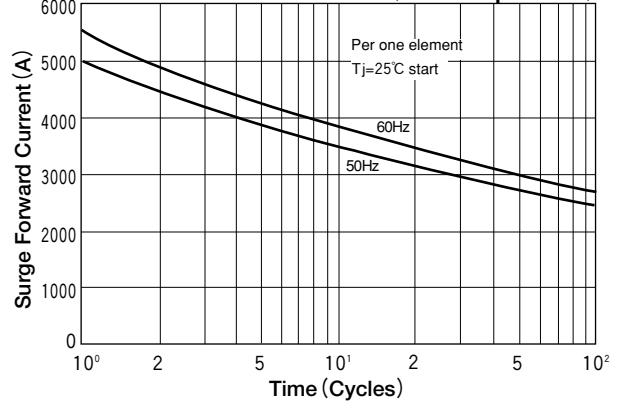
Average Forward Current vs. Power Dissipation



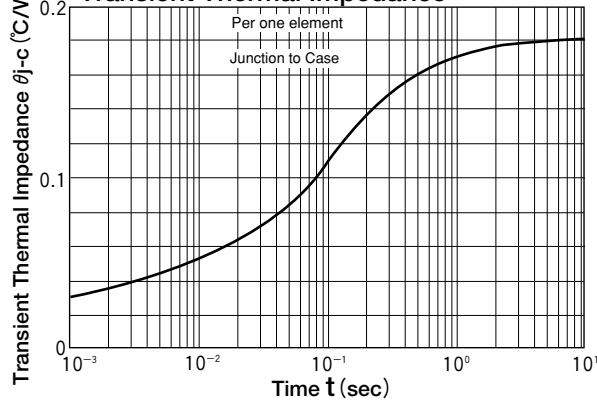
Average Forward Current vs. Allowable Case Temperature



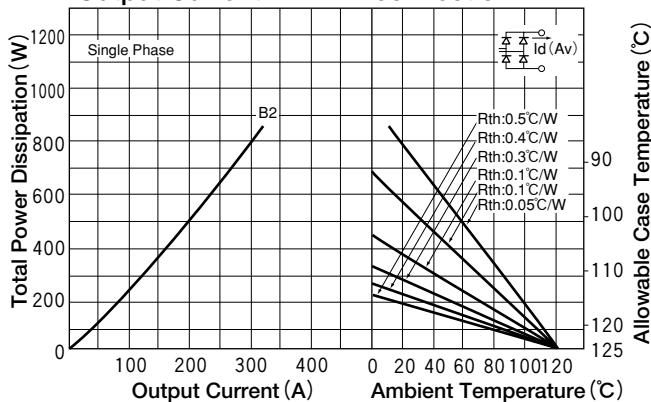
Cycle Surge Forward Current Rating (Non-Repetitive)



Transient Thermal Impedance



B2; Two Pulse Bridge connection



B6; Six pulse Bridge connection

