

## Diode Module

High heat dissipation  
(high reliability) model

**DCA 200/240DB**

(200 A / 240 A 800 V / 1600 V)

High heat dissipation,  
High voltage resistance model

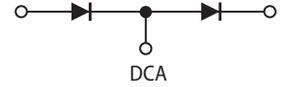
**DCA 200DB220**

(240 A 2200 V)

Super high heat  
dissipation model

**DCA 240EB**

(240 A 800V/1600 V)



### Applications

- ▶ Motor Drives
- ▶ Battery Charger
- ▶ Generator
- ▶ Elevator
- ▶ Various Power Supplies
- ▶ Medium Voltage Inverter (DCA200DB220)



### Features

#### ■ DCA 200/240DB

Reduces thermal stress on the diode chip thanks to newly designed high heat dissipation structure, thus improving the long term reliability (about twice the power cycle capability compared to previous model).

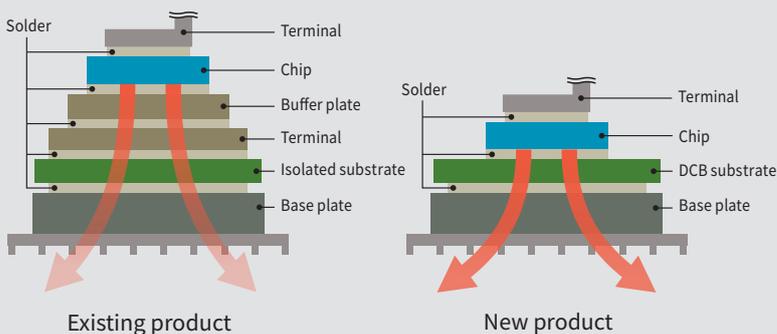
#### ■ DCA 200DB220

Provides high VRRM (2200V) by using specially designed glass passivation diode chip. Can be used in areas where the power supply (or source) voltage exceeds AC500V.

#### ■ DCA 240EB

Improved heat dissipation thanks to newly designed fewer layer structure and special material for insulation layer, offering easy thermal design for equipment.

■ Lighter package and high heat dissipation thanks to fewer layer structure.



■ Improved long term reliability thanks to removal of two layers and soldering on both sides of chips increase product's reliability (twice as long as existing product) .

20% weight reduction by optimizing the internal design and materials.

■ Using 100% lead-free solder to protect the environment.

**Maximum Ratings**

Tj = 25 °C unless otherwise specified

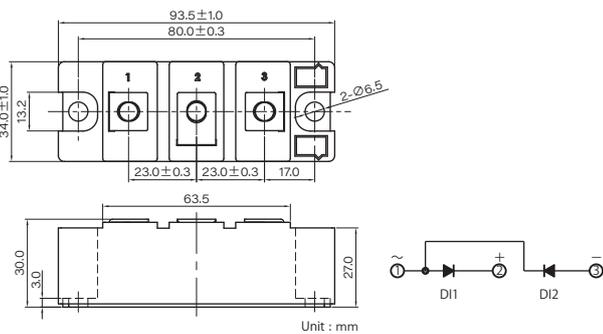
Item	Symbol	Unit	DCA200DB80	DCA200DB160	DCA200DB220	DCA240DB80	DCA240DB160	DCA240EB80	DCA240EB160
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	800	1600	2200	800	1600	800	1600
Non-Repetitive Peak Reverse Voltage	V <sub>RSM</sub>	V	960	1700	2300	960	1700	960	1700

Item	Symbol	Unit	Rating				Conditions
Average Forward Current	I <sub>F(AV)</sub>	A	200 (Tc=113°C)	200 (Tc=110°C)	240 (Tc=104°C)	240 (Tc=113°C)	sin.Wave, 180°
RMS Forward Current	I <sub>F(RMS)</sub>	A	314 (Tc=113°C)	314 (Tc=110°C)	377 (Tc=104°C)	377 (Tc=113°C)	sin.Wave, 180°
Surge On-state Current	I <sub>FSM</sub>	A	5000/5500				50Hz 10ms/60Hz 8.3ms sin.Wave Peak Value, Non-repetitive
I <sup>2</sup> t (for fusing)	I <sup>2</sup> t	A <sup>2</sup> s	125000				50Hz 10ms/60Hz 8.3ms sin.Wave
Isolation Voltage	V <sub>ISO</sub>	V	2500				Terminals to case, AC RMS 1minute
Operating Junction Temperature	T <sub>j</sub>	°C	- 40 ~ + 150				
Storage Temperature	T <sub>stg</sub>	°C	- 40 ~ + 125				
Mass	—	g	180				Typical Value

**Electrical Characteristics**

Tj = 25 °C unless otherwise specified

Item	Symbol	Unit	Rating(Max.)				Conditions
Reverse Current	I <sub>R</sub>	mA	50				T <sub>j</sub> =T <sub>jmax</sub> , V <sub>R</sub> =V <sub>RRM</sub> , Per Leg
Forward Voltage	V <sub>F</sub>	V	1.3 (I <sub>F</sub> =620A)	1.4 (I <sub>F</sub> =620A)	1.35 (I <sub>F</sub> =750A)		Per Leg
Threshold Voltage	V <sub>(TO)</sub>	V	0.94	0.92	0.93	0.93	
Slope Resistance	r <sub>t</sub>	mΩ	0.58	0.78	0.55	0.55	
Thermal Resistance	R <sub>th(j-c)</sub>	°C/W	0.15	0.15	0.15	0.12	Junction to Case(Per Leg)
Interface Thermal Resistance	R <sub>th(c-f)</sub>	°C/W	0.10				Case to Heat sink(Per Module) Thermal conductivity (Silicone grease)=9×10 <sup>-3</sup> (W/cm·°C)



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**Other Products**

Diode /KD/DKA/DD/DAF SERIES



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