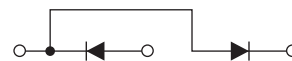


## Soft Recovery Diode Module

DCA200UA65 (200A/650V)



### Applications

- ▶ Plasma Cutting Machine
- ▶ Welding Machine
- ▶ Power Supplies
- ▶ PV Inverter  
(Booster chopper circuit)

### Features

#### ■ Low loss

Achieve a balance between low loss ( $V_F=1.4V$  [Typ] ) and higher soft recovery characteristics due to a local lifetime control

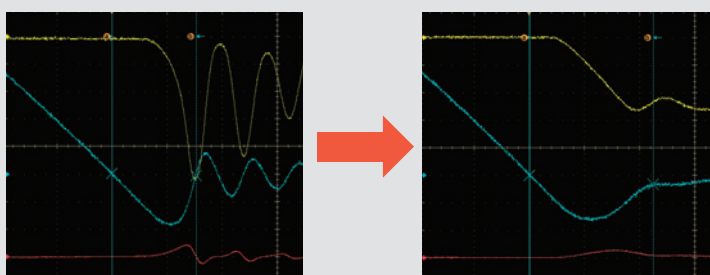
Low loss based on low  $I_{RRM} \leq 50mA$ , 50% lower than our existing product ( $T_j=150^\circ C$ )

#### ■ Low noise

Reduce noises from surge voltage generated during reverse recovery operation

optimizing characteristics for application

Reverse Recovery Waveform



Standard Soft Recovery Diode

DCA200UA65

## Maximum Ratings

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

Item	Symbol	Unit	DCA200UA65	
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	650	
DC Reverse Voltage	V <sub>R(DC)</sub>	V	600	

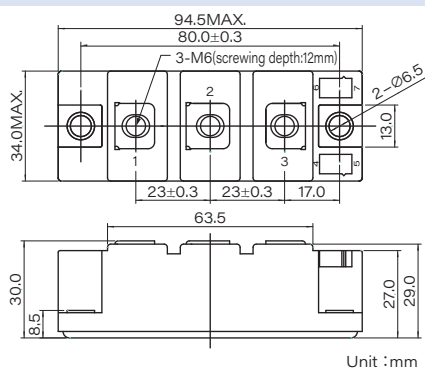
  

Item	Symbol	Unit	Rating	Conditions
Output Current	I <sub>F(AV)</sub>	A	200	DC T <sub>c</sub> =85°C
Surge Forward Current	I <sub>FSM</sub>	A	1350	1/2 cycle, 60Hz, Peak value, non-repetitive
I <sup>2</sup> t (for fusing)	I <sup>2</sup> t	A <sup>2</sup> s	7500	Value for one cycle of surge current (60Hz)
Junction Temperature	T <sub>j</sub>	°C	- 40 to +150	
Storage Temperature	T <sub>stg</sub>	°C	- 40 to +125	
Isolation Voltage	V <sub>ISO</sub>	V	2500	AC RMS 1minute
Mounting Torque	Mounting (M6)	N · m (kgf · cm)	4.7(48)	Recommended value 2.5 to 3.9 ( 25 to 40)
	Terminal (M6)		4.7(48)	Recommended value 2.5 to 3.9 ( 25 to 40)
Mass		g	200	Typical value

## Electrical Characteristics





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

Item	Symbol	Unit	Rating			Conditions
			Min.	Typ.	Max.	
Repetitive Peak Reverse Current	I <sub>RRM</sub>	mA			50	V <sub>R</sub> =V <sub>RRM</sub> , T <sub>j</sub> =150°C
Forward Voltage Drop	V <sub>FM</sub>	V		1.40	1.70	I <sub>F</sub> =200A, Inst. measurement
Reverse Recovery Time	t <sub>rr</sub>	ns		210	360	I <sub>F</sub> =200A, V <sub>R</sub> =300V, -di/dt=400A/μs
Reverse recovery peak current	i <sub>rr</sub>	A		35	50	
Softness	t <sub>b</sub> /t <sub>a</sub>			1.0		
Threshold Voltage	V <sub>T(To)</sub>	V			0.98	T <sub>j</sub> =150°C
Slope Resistance	r <sub>t</sub>	mΩ			3.0	T <sub>j</sub> =150°C
Thermal Resistance	R <sub>th(j-c)</sub>	°C/W			0.19	Junction to case, per 1/2 module
Interface Thermal Resistance	R <sub>th(c-f)</sub>	°C/W			0.09	case to heatsink (per Module) per one module Thermal conductivity of silicon grease = 7 × 10 <sup>-3</sup> [W/cm · °C]



## Other products

Soft Recovery / Fast Recovery Diode

<b>DCA series</b> 100/150/200A 	<b>DBA series</b> 200A 
<b>FRS series</b> 150/200/300/400A 	<b>DKR Series</b> 200/300/400A 

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