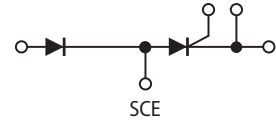
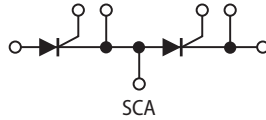


# Thyristor Diode Module

SCA 160/200DB  
SCE 160/200DB

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



## Applications

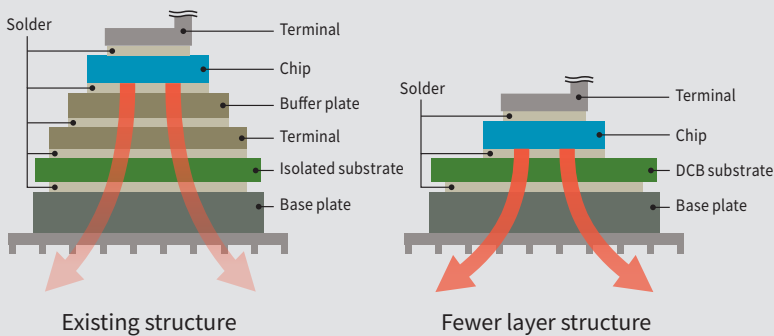
- ▶ Motor Drives
- ▶ Servo Controller
- ▶ Power Controller
- ▶ UPS
- ▶ Soft Starter
- ▶ Various Power Supplies



## Features

■ High heat dissipation thanks to fewer layer structure.

Reduces thermal stress on the thyristor and diode chips thus improving the power cycle capability.



■ High di/dt capability

Great protection against lightning surge and the like thanks to the unique gate design of its thyristor chip.

■ Lightweight

10% weight reduction by optimizing the internal design and materials.

■ Environmentally friendly

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

### Maximum Ratings

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

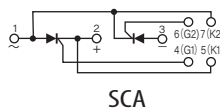
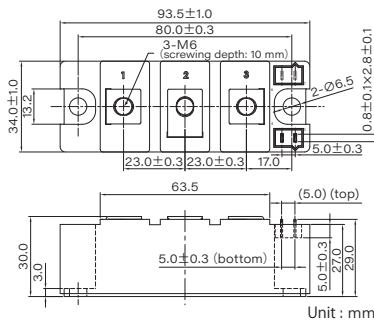
Item	Symbol	Unit	SCA160DB80 SCE160DB80	SCA160DB160 SCE160DB160	SCA200DB80 SCE200DB80	SCA200DB160 SCE200DB160
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	800	1600	800	1600
Non-Repetitive Peak Reverse Voltage	V <sub>RSM</sub>	V	960	1700	960	1700

Item	Symbol	Unit	Rating		Conditions	
Average On-state Current	I <sub>T(AV)</sub> I <sub>F(AV)</sub>	A	160 (T <sub>c</sub> =88°C)		200 (T <sub>c</sub> =83°C)	sin.Wave, 180°
RMS On-state Current	I <sub>T(RMS)</sub> I <sub>F(RMS)</sub>	A	251 (T <sub>c</sub> =88°C)		314 (T <sub>c</sub> =83°C)	sin.Wave, 180°
Surge On-state Current	I <sub>TSM</sub> I <sub>FSM</sub>	A	5400/5900		6000/6500	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	145000		180000	50Hz 10ms/60Hz 8.3ms sin.Wave
Critical Rate of Rise of On-state Current	di/dt	A/μs	500			T <sub>j</sub> =T <sub>jmax</sub> , I <sub>G</sub> =100mA, V <sub>D</sub> =1/2V <sub>DRM</sub> , di <sub>G</sub> /dt=0.1A/μs
Isolation Voltage	V <sub>ISO</sub>	V	3000			Terminals to Case, AC RMS 1 minute
Operating Junction Temperature	T <sub>j</sub>	°C	-40 ~ +125			
Storage Temperature	T <sub>stg</sub>	°C	-40 ~ +125			
Mass	—	g	190			Typical Value

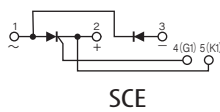
### Electrical Characteristics

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

Item	Symbol	Unit	Rating(Max.)		Conditions
Reverse Current	I <sub>R</sub>	mA	100		T <sub>j</sub> =T <sub>jmax</sub> , V <sub>R</sub> =V <sub>RRM</sub> , Per Leg
Off-state Current	I <sub>D</sub>	mA	100		T <sub>j</sub> =T <sub>jmax</sub> , V <sub>D</sub> =V <sub>RRM</sub> , Per Leg
On-state Voltage	V <sub>T</sub> , V <sub>F</sub>	V	1.4		I <sub>T</sub> =500A, Per Leg
Threshold Voltage	V <sub>(TO)</sub>	V	1.06		
Slope Resistance	r <sub>t</sub>	mΩ	0.67		
Gate Trigger Current	I <sub>GT</sub>	mA	100		I <sub>T</sub> =1A, V <sub>0</sub> =6V
Gate Trigger Voltage	V <sub>GT</sub>	V	3		I <sub>T</sub> =1A, V <sub>0</sub> =6V
Thermal Resistance	R <sub>th(j-c)</sub>	°C/W	0.17		Junction to Case(Per Leg)
Interface Thermal Resistance	R <sub>th(c-f)</sub>	°C/W	0.1		Case to Heat sink(Per Module) Thermal conductivity (Silicone grease)=9×10 <sup>-3</sup> (W/cm·°C)



SCA



SCE

- SanRex is a trademark or a registered trademark of Sansha Electric Manufacturing Co., Ltd.
- Appearance and specifications of products are subject to change without notice for improvement reasons.

### Other Products

Thyristor/Diode /PK/PD/SCA/SCE SERIES

**PK/PD series** 25A to 250A

25/45/70/  
90/110/130 A

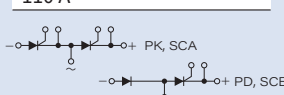
160/200 A

250 A

**SCA/SCE series** 55A to 240A

55/70/90/110 A

110 A



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