

## Thyristor/Thyristor Thyristor/Diode

### SCA200AA, SCE200AA

$I_{T(AV)} = 200A$ ,  $V_{RRM} = 800 - 1800V$

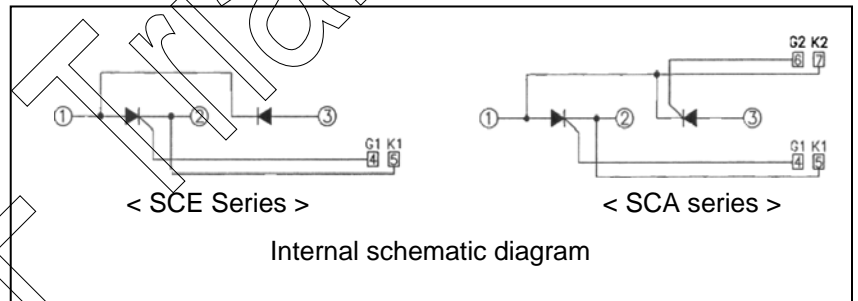
**SanRex Thyristor/Thyristor (SCA series), Thyristor/Diode (SCE series)** are designed for general purpose high voltage applications. **The modules are an Isolated Industrial Standard Package.**

#### Features

- \* Glass-passivated Junctions Feature
- \* High Surge Current ( $I_{TSM}=6500A$ )
- \* Low On-State Voltage Drop ( $V_{TM}=1.4V$ )
- \* UL E76102 approved
- \* RoHS compliance

#### Typical Applications

- \* Welders
- \* Uninterruptible Power Supplies (UPS)
- \* Temperature and Lighting Controls
- \* Soft Starters
- \* Battery Chargers



#### < Maximum Ratings >

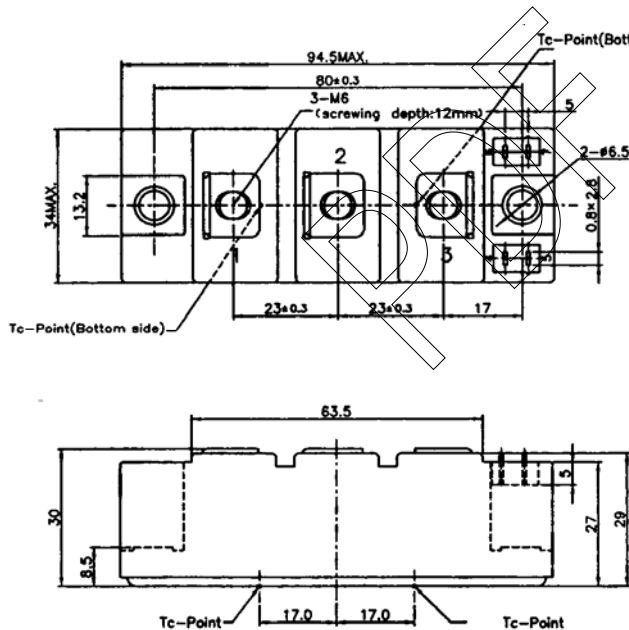
$T_j = 25^\circ C$  (unless otherwise noted) per diode

Symbol	Item		Ratings				Unit
			SCA200AA80 SCE200AA80	SCA200AA120 SCE200AA120	SCA200AA160 SCE200AA160	SCA200AA180 SCE200AA180	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage		800	1200	1600	1800	V
V <sub>RSM</sub>	Non-Repetitive Peak Reverse Voltage		960	1300	1700	1900	V
V <sub>DRM</sub>	Repetitive Peak Off-state Voltage		800	1200	1600	1800	V
I <sub>T(AV)</sub>	Average On-state Current		T <sub>C</sub> = 82°C			200	A
I <sub>T(RMS)</sub>	R.M.S. On-state Current		T <sub>C</sub> = 82°C			314	A
I <sub>TSM</sub>	Surge On-state Current		1/2 cycle, 50Hz/60Hz, Peak value, Non-repetitive			6000/6500	A
I <sup>2</sup> t	I <sup>2</sup> t (for fusing)		Value for one cycle surge current			180000	A <sup>2</sup> s
P <sub>GM</sub>	Peak Gate Power Dissipation					10	W
P <sub>G(AV)</sub>	Average Gate Power Dissipation					3	W
I <sub>FGM</sub>	Peak Gate Current					3	A
V <sub>FG M</sub>	Peak Gate Voltage (Forward)					10	V
V <sub>RG M</sub>	Peak Gate Voltage (Reverse)					5	V
di/dt	Critical Rate of Rise of On-state Current		I <sub>G</sub> =100mA, V <sub>D</sub> =1/2V <sub>DRM</sub> , dig/dt=0.1A/F s			200	A/F s
V <sub>ISO</sub>	Isolation Breakdown Voltage		A.C. 1 minute			3000	
T <sub>j</sub>	Operating Junction Temperature					-40 to +125	°C
T <sub>stg</sub>	Storage Temperature					-40 to +125	°C
	Mounting Torque	Mounting M6	Recommended Value 2.5 to 3.9			4.7	N*m
		Terminals M6	Recommended Value 2.5 to 3.9			4.7	
	Mass		Typical Value			210	g

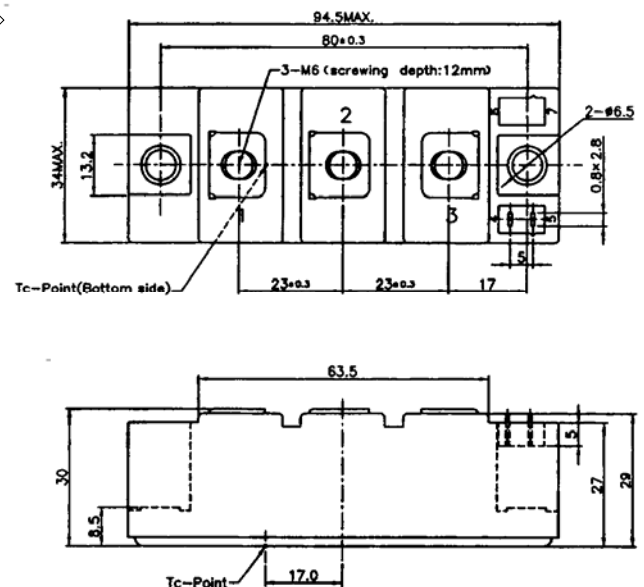
### < Electrical Characteristics >

$T_j = 25^\circ\text{C}$  (unless otherwise noted) per diode

Symbol	Item	Conditions	Ratings	Unit
$I_{\text{DRM}}$	Repetitive Peak Off-state Current	$T_j = 125^\circ\text{C}$ , $V_D = V_{\text{DRM}}$	100	mA
$I_{\text{RRM}}$	Repetitive Peak Reverse Current	$T_j = 125^\circ\text{C}$ , $V_R = V_{\text{RRM}}$	100	mA
$V_{\text{TM}}$	Peak On-State Voltage	$I_T = 600\text{A}$	1.4	V
$V_{\text{T(T0)}}$	Threshold Voltage	$T_j = 25^\circ\text{C}$	1.0	V
		$T_j = 125^\circ\text{C}$	0.85	V
rt	Slope Resistance	$T_j = 25^\circ\text{C}$	0.8	M Ohm
		$T_j = 125^\circ\text{C}$	1.1	
$I_{\text{GT}}$	Gate Trigger Current	$V_D = 6\text{V}$ , $I_T = 1\text{A}$	100	mA
$V_{\text{GT}}$	Gate Trigger Voltage	$V_D = 6\text{V}$ , $I_T = 1\text{A}$	3	V
$V_{\text{GD}}$	Non-Trigger Gate Voltage	$T_j = 125^\circ\text{C}$ , $V_D = 1/2 V_{\text{DRM}}$	0.25	V
dv/dt	Critical Rate of Rise of Off-state Voltage	$T_j = 125^\circ\text{C}$ , $V_D = 2/3 V_{\text{DRM}}$	1000	V/Fs
$R_{\text{th(j-c)}}$	Thermal Resistance	Junction to case	0.155	$^\circ\text{C/W}$



< SCA series : Thyristor/Thyristor >



< SCE series : Thyristor/Diode >

\* Dimensions in millimeters (1mm=0.0394")