

Thyristor/Thyristor Thyristor/Diode

SCA160AA, SCE160AA

$I_{T(AV)} = 160A$, $V_{RRM} = 800 - 1800V$

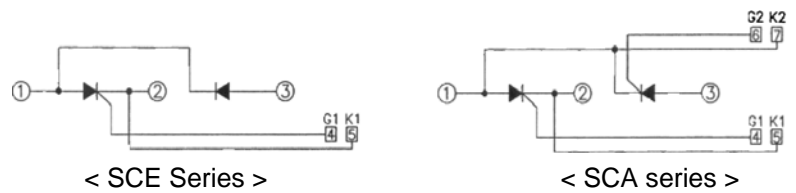
SanRex Thyristor/Thyristor (SCA series), Thyristor/Diode (SCE series) are designed for general purpose high voltage applications. **The modules are in an Isolated Industrial Standard Package.**

Features

- * Glass-passivated Junctions Feature
- * High Surge Current ($I_{TSM}=5900A$)
- * 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



Internal schematic diagram

< Maximum Ratings >

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

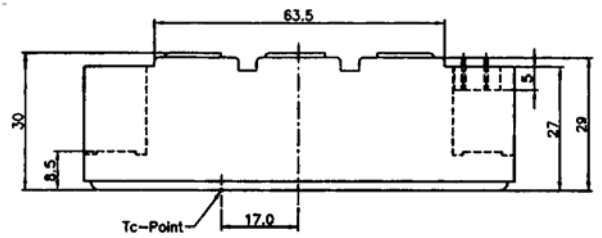
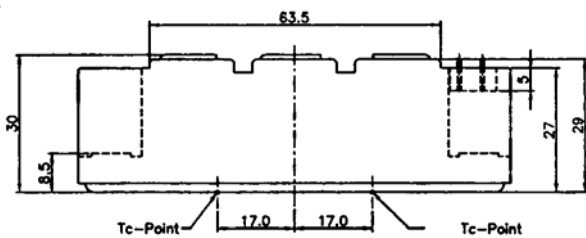
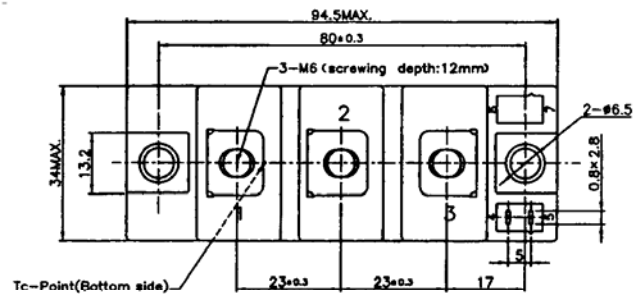
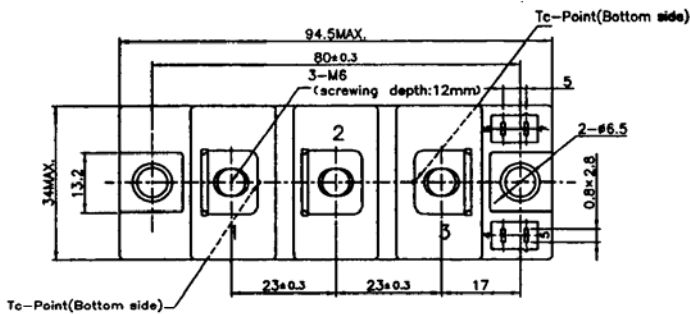
Symbol	Item	Ratings				Unit
		SCA160AA80 SCE160AA80	SCA160AA120 SCE160AA120	SCA160AA160 SCE160AA160	SCA160AA180 SCE160AA180	
V_{RRM}	Repetitive Peak Reverse Voltage	800	1200	1600	1800	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	960	1300	1700	1900	V
V_{DRM}	Repetitive Peak Off-state Voltage	800	1200	1600	1800	V
$I_{T(AV)}$	Average On-state Current	$T_C = 88^\circ C$			160	A
$I_{T(RMS)}$	R.M.S. On-state Current	$T_C = 88^\circ C$			251	A
I_{TSM}	Surge On-state Current	1/2 cycle, 50Hz/60Hz, Peak value, Non-repetitive			5400/5900	A
$I^2 t$	$I^2 t$ (for fusing)	Value for one cycle surge current			145000	A ² s
P_{GM}	Peak Gate Power Dissipation				10	W
$P_{G(AV)}$	Average Gate Power Dissipation				3	W
I_{FGM}	Peak Gate Current				3	A
V_{FGM}	Peak Gate Voltage (Forward)				10	V
V_{RGM}	Peak Gate Voltage (Reverse)				5	V
di/dt	Critical Rate of Rise of On-state Current	$I_G=100mA$, $V_D=1/2V_{DRM}$, $dig/dt=0.1A/Fs$			200	A/F s
V_{ISO}	Isolation Breakdown Voltage	A.C. 1 minute			3000	
T_j	Operating Junction Temperature				-40 to +125	°C
T_{stg}	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

Thyristor/Thyristor, Thyristor/Diode Module SCA160AA, SCE160AA series

< Electrical Characteristics >

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

Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak Off-state Current	$T_j = 125^\circ\text{C}, V_D = V_{DRM}$	100	mA
I_{RRM}	Repetitive Peak Reverse Current	$T_j = 125^\circ\text{C}, V_R = V_{RRM}$	100	mA
V_{TM}	Peak On-State Voltage	$I_T = 500\text{A}$	1.4	V
$V_T(T_0)$	Threshold Voltage	$T_j = 25^\circ\text{C}$	1.0	V
		$T_j = 125^\circ\text{C}$	0.85	
rt	Slope Resistance	$T_j = 25^\circ\text{C}$	1.0	M Ohm
		$T_j = 125^\circ\text{C}$	1.3	
I_{GT}	Gate Trigger Current	$V_D=6\text{V}, I_T=1\text{A}$	100	mA
V_{GT}	Gate Trigger Voltage	$V_D=6\text{V}, I_T=1\text{A}$	3	V
$V_{G,D}$	Non-Trigger Gate Voltage	$T_j = 125^\circ\text{C}, V_D=1/2V_{DRM}$	0.25	V
dv/dt	Critical Rate of Rise of Off-state Voltage	$T_j = 125^\circ\text{C}, V_D=2/3V_{DRM}$	1000	V/Fs
Rth(j-c)	Thermal Resistance	Junction to case	0.17	$^\circ\text{C/W}$



< SCA series : Thyristor/Thyristor >

< SCE series : Thyristor/Diode >

* Dimensions in millimeters (1mm=0.0394")