

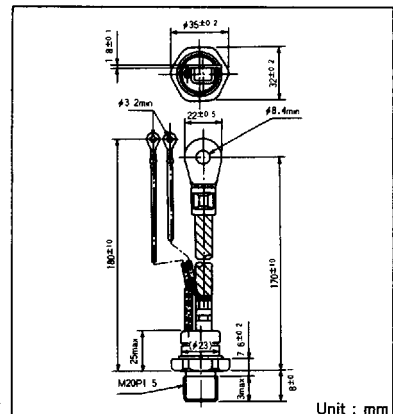
THYRISTOR

SC100C

T-25-19

For general phase control applications such as speed controls, light controls and welders etc.

- General power use
- $I_T = 100A$, $I_{T(RMS)} = 160A$
- High voltage up to 1200V
- High surge current of 2200A
- Stud type



Unit : mm

Maximum Ratings

Symbol	Item	SC100C-40	SC100C-60	SC100C-80	SC100C-100	SC100C-120	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	400	600	800	1000	1200	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	480	720	960	1100	1300	V
V_{DRM}	Repetitive Peak Off-State Voltage	400	600	800	1000	1200	V

Symbol	Item	Conditions		Ratings	Unit
I _{T(AV)}	Average On-State Current	Single phase, half wave, 180° conduction, T _c : 93°C		100	A
I _{T(RMS)}	R.M.S On-State Current	Single phase, half wave, 180° conduction, T _c : 93°C		160	A
I _{TSM}	Surge On-State Current	1½ cycle, 50Hz/60Hz, peak value, non-repetitive		2,000/2,200	A
I ² t	I ² t	Value for one cycle of surge current		20,100	A²S
P _{GM}	Peak Gate Power Dissipation			10	W
P _{G(AV)}	Average Gate Power Dissipation			1	W
I _{FGM}	Peak Gate Current			3	A
V _{FGM}	Peak Gate Voltage(Forwad)			10	V
V _{RGM}	Peak Gate Voltage(Reverse)			5	V
di/dt	Critical Rate of Rise of On-State Current	SC100C-40~60	I _G = 100mA, T _j = 25°C, V _D = ½ V _{DRM} , di _G /dt = 0.1A/μs	50	A/μs
		SC100C-80~120		200	
T _j	Operating Junction Temperature			-30~+125	°C
T _{stg}	Storage Temperature			-30~+125	°C
	Mounting Torque	Recommended Value 160kgf·cm		200	kgf·cm
	Mass	Excluding nut, washer 67g and wrapping material 28g		200	g

Electrical Characteristics

Symbol	Item	Conditions		Ratings	Unit
I_{DRM}	Repetitive Peak Off-State Current, max.	at V_{DRM} , single phase, half wave, $T_j = 125^\circ C$		15	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	at V_{DRM} , single phase, half wave, $T_j = 125^\circ C$		15	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 314A, $T_j = 25^\circ C$ Inst. measurement		1.6	V
I_{GT}/V_{GT}	Gate Trigger Current/Voltage, max.	$T_j = 25^\circ C$, $I_T = 1A$, $V_D = 6V$		100/3	mA/V
V_{GD}	Non-Trigger Gate, Voltage, min.	$T_j = 125^\circ C$, $V_D = 1/2 V_{DRM}$		0.25	V
t_{gt}	Turn On Time, max	$I_T = 100A$, $I_G = 100mA$, $T_j = 25^\circ C$, $V_D = 2/3 V_{DRM}$, $dI_G/dt = 0.1A/\mu s$		10	μs
dv/dt	Critical Rate of Rise of On-State Voltage, min.	SC100C-40~60	$T_j = 125^\circ C$, $V_D = 2/3 V_{DRM}$	100	V/ μs
		SC100C-80~120	$T_j = 125^\circ C$, $V_D = 2/3 V_{DRM}$	200	
I_H	Holding Current, typ.	$T_j = 25^\circ C$		70	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case		0.2	$^\circ C/W$

* mark : Thyristor and Diode part. No mark : Thyristor part

