

TRIAC (ISOLATED MOLD TYPE)

TG16C

UL:E76102(M)

SanRex Triac **TG16C** is isolated mold TRIAC suitable for wide range of applications like Copier Machines, Micro Wave Ovens, Solid State Switches, Motor Controls, Light Controls and Heater Controls.

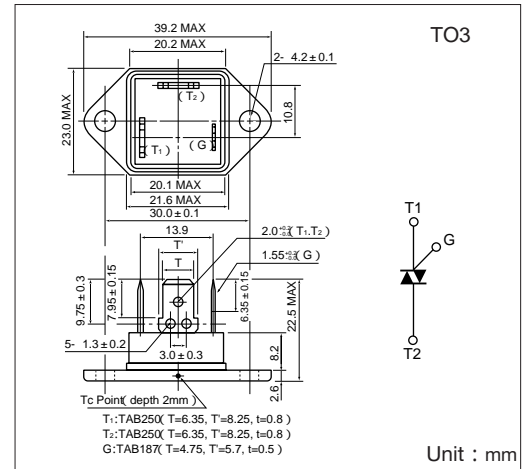
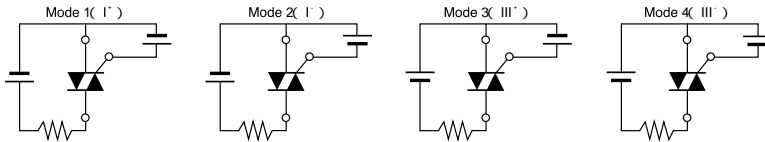
$I_T(AV)$ 16A

High surge capability 160A

Isolated Mounting(AC2500V)

Tab Terminals

Trigger mode of the triac



Maximum Ratings

($T_j=25$ unless otherwise specified)

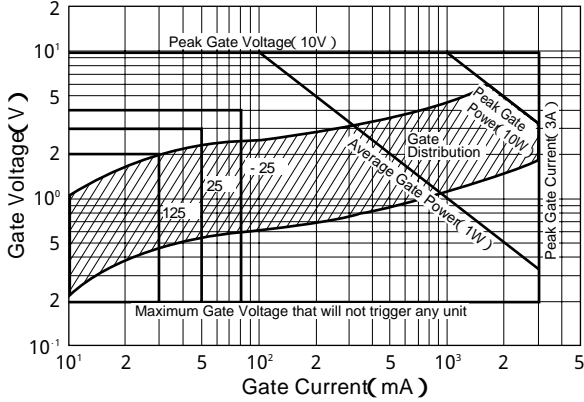
Symbol	Item	Ratings		Unit
		TG16C40	TG16C60	
V_{DRM}	Repetitive Peak Off-State Voltage	400	600	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c = 83$	16	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive	140/160	A
I^2t	I^2t	Value for one cycle of surge current	106	A ² S
P_{GM}	Peak Gate Power Dissipation		10	W
$P_{\alpha(AV)}$	Average Gate Power Dissipation		1	W
I_{GM}	Peak Gate Current		3	A
V_{GM}	Peak Gate Voltage		10	V
di/dt	Critical Rate of Rise of On-State Current	$I_G = 100mA, T_j = 25, V_D = 1/2 V_{DRM}, dlG/dt = 1A/\mu s$	50	A/ μs
T_j	Operating Junction Temperature		- 25 to + 125	
T_{stg}	Storage Temperature		- 40 to + 125	
V_{iso}	Isolation Breakdown Voltage (R.M.S.)	A.C.1 minute	2500	V
	Mounting Torque(M4)	Recommended Value 1.0 ~ 1.4 (10 ~ 14)	1.5 (15)	N·m (kgf·cm)
	Mass	Typical value (Excluding bolt, nut and wrapping material)	23	g

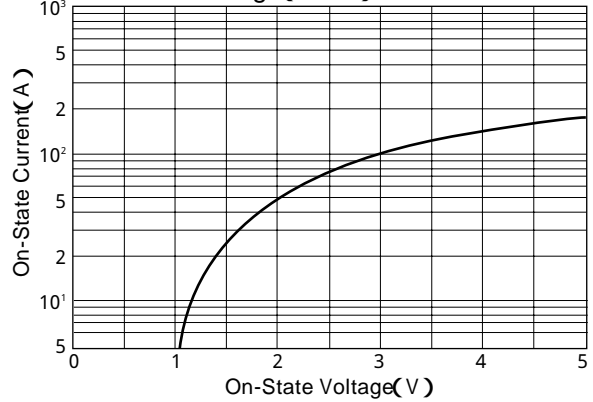
Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Reptitive Peak Off-State Current, max	$V_D = V_{DRM}$, Single phase, half wave, $T_j = 125$	3	mA
V_{TM}	Peak On-State Voltage, max	On-State Current ($2 \times I_{T(RMS)}$), Inst. measurement	1.5	V
I_{GT1}^+	Gate Trigger Current, max	$T_j = 25, I_T = 1A, V_D = 6V$	50	mA
I_{GT1}^-		$T_j = 25, I_T = 1A, V_D = 6V$	50	
I_{GT3}^+			-	
I_{GT3}^-		$T_j = 25, I_T = 1A, V_D = 6V$	50	
V_{GT1}^+	Gate Trigger Voltage, max	$T_j = 25, I_T = 1A, V_D = 6V$	3	V
V_{GT1}^-		$T_j = 25, I_T = 1A, V_D = 6V$	3	
V_{GT3}^+			-	
V_{GT3}^-		$T_j = 25, I_T = 1A, V_D = 6V$	3	
V_{GD}	Non-Trigger Gate Voltage, min	$T_j = 125, V_D = 1/2 V_{DRM}$	0.2	V
t_{gt}	Turn On Time, max.	$I_{T(RMS)}, I_G = 100mA, V_D = 1/2 V_{DRM}, T_j = 25, dlG/dt = 1A/\mu s$	10	V
dv/dt	Critical Rate of Rise on-State Voltage, min.	$T_j = 125, V_D = 2/3 V_{DRM}$, Exponential wave.	50	V/ μs
$(dv/dt)_c$	Critical Rate of Rise off-State Voltage at commutation, min	$T_j = 125, V_D = 2/3 V_{DRM}, (di/dt)_c = 8A/ms$	6	V/ μs
I_H	Holding Current, typ.	$T_j = 25$	30	mA
$R_{th(j-c)}$	Thermal Impedance, max	Junction to case	2.0	/W

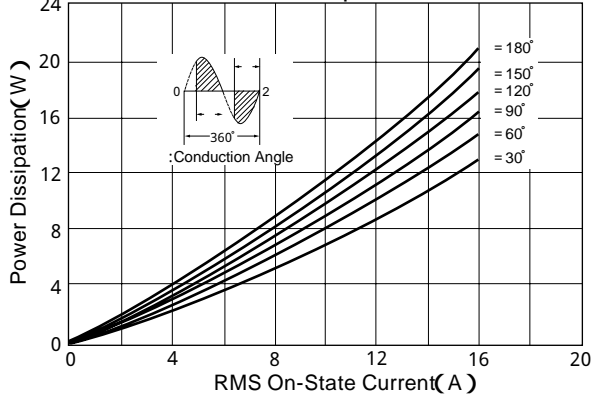
Gate Characteristics



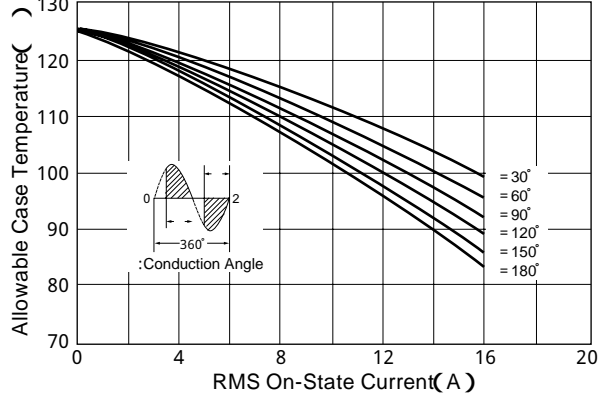
On-State Voltage (MAX)



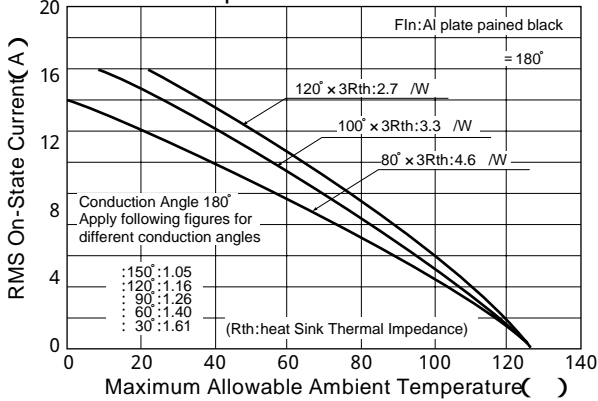
On State Current vs. Maximum Power Dissipation



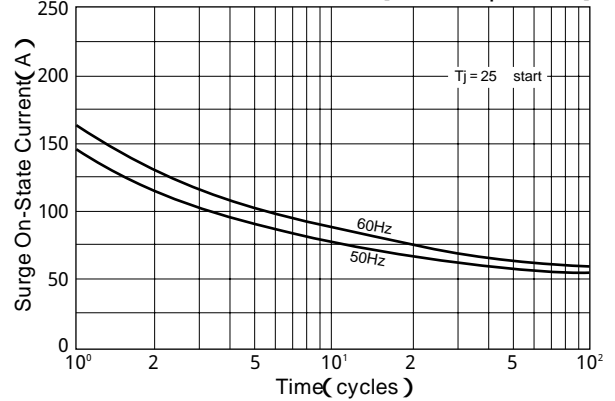
On State Current vs. Allowable Case Temperature



Ambient temp. vs. RMS On-State Current



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

