

# TRIAC ( ISOLATED MOLD TYPE )

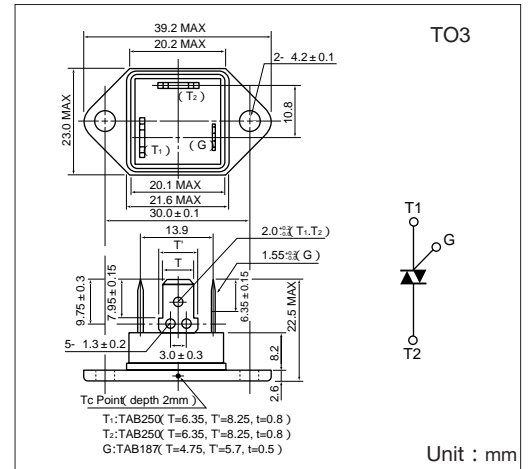
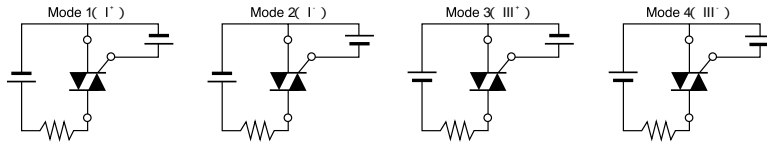
# TG16C

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

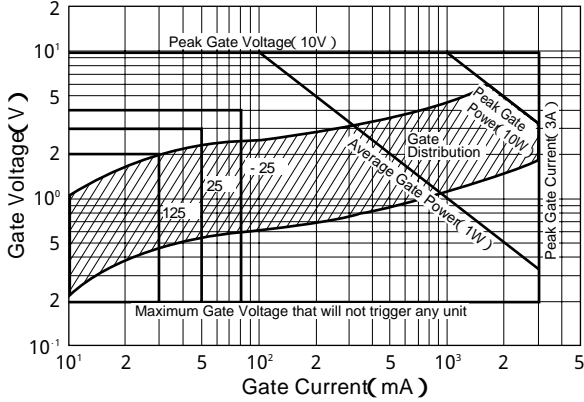
  

Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c = 83$	16	A
$I_{TSM}$	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive	140/160	A
$I^2t$	$I^2t$	Value for one cycle of surge current	106	A <sup>2</sup> S
$P_{GM}$	Peak Gate Power Dissipation		10	W
$P_{\alpha(AV)}$	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	$I_G = 100mA, T_j = 25, V_D = 1/2 V_{DRM}, dI_G/dt = 1A/\mu s$	50	A/ $\mu s$
$T_j$	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

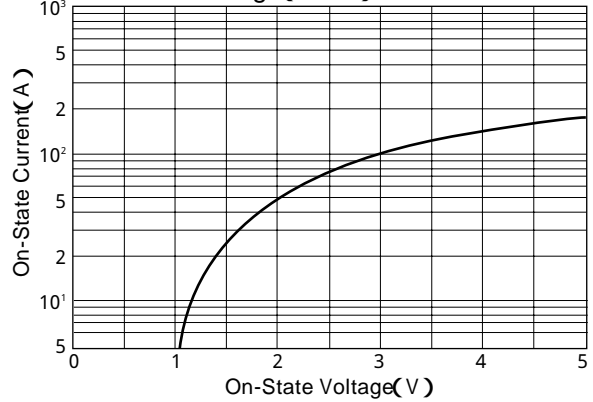
## Electrical Characteristics

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.	$I_{T(RMS)}, I_G = 100mA, V_D = 1/2 V_{DRM}, T_j = 25, dI_G/dt = 1A/\mu s$	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/ $\mu s$
$(dv/dt)_c$	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/ $\mu s$
$I_H$	Holding Current, typ.	$T_j = 25$	30	mA
$R_{th(j-c)}$	Thermal Impedance, max	Junction to case	2.0	/W

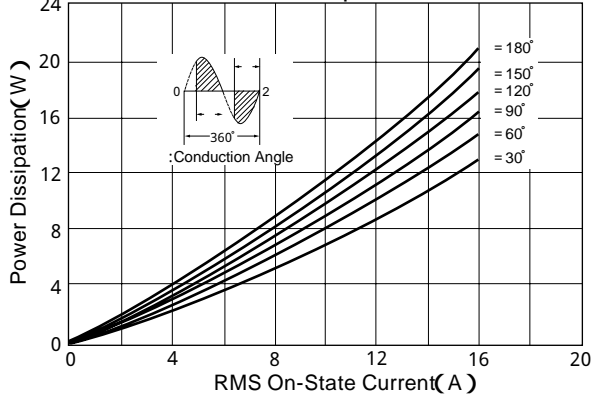
Gate Characteristics



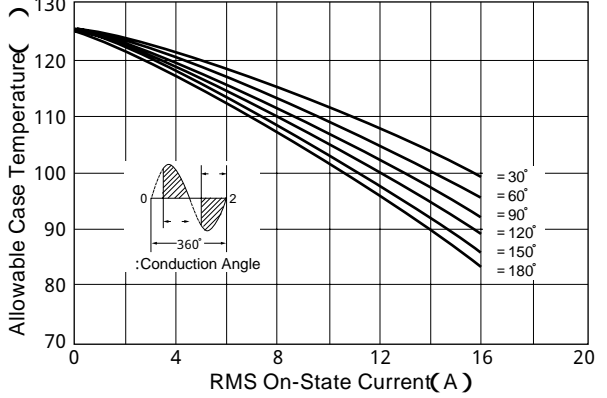
On-State Voltage (MAX)



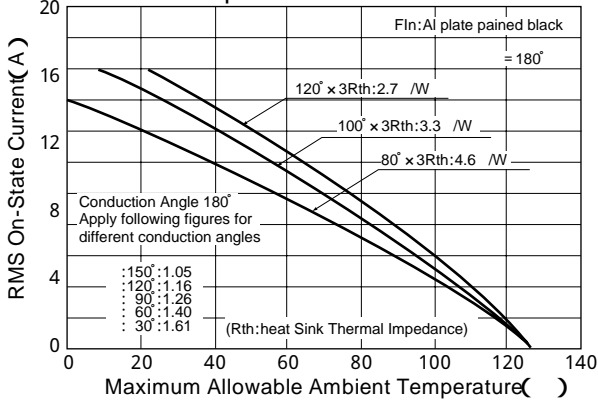
On State Current vs. Maximum Power Dissipation



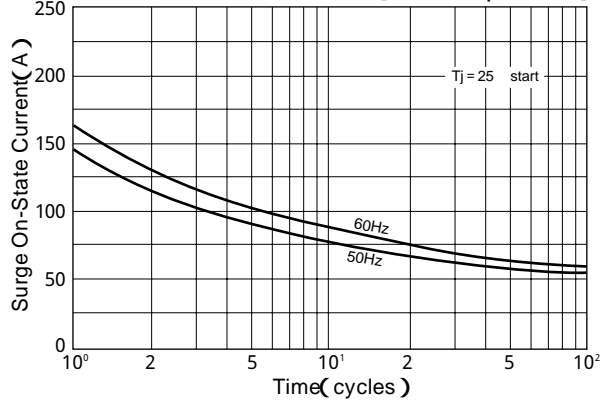
On State Current vs. Allowable Case Temperature



Ambient temp. vs. RMS On-State Current



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

