

# TRIAC(Through Hole)

# TMG1C80

(Sensitive Gate)

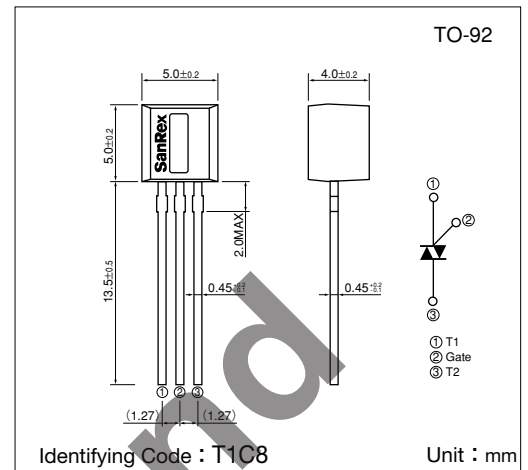
**SanRex** Triac TMG1C80 is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

### Typical Applications

- Home Appliances : Washing Machines, Vacuum Cleaners, Rice Cookers, Micro Wave Ovens, Hair Dryers, other control applications
- Industrial Use : SMPS, Copier Machines, Motor Controls, Dimmer, SSR, Heater Controls, Vending Machines, other control applications

### Features

- $I_{T(RMS)}=1A$
- High Surge Current
- Lead-Free Package



### Maximum Ratings

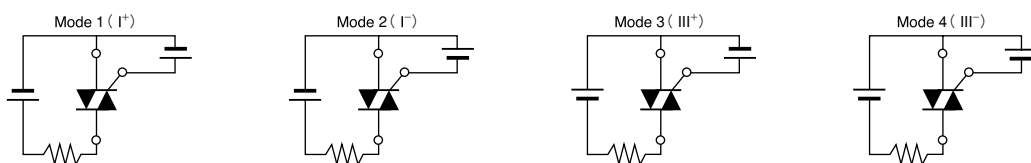
(Tj=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
$V_{DRM}$	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=58^\circ C$	1	A
$I_{TSM}$	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	9.1/10	A
$I^2t$	$I^2t$ (for fusing)		0.41	A <sup>2</sup> S
$P_{GM}$	Peak Gate Power Dissipation		1	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.1	W
$I_{GM}$	Peak Gate Current		0.5	A
$V_{GM}$	Peak Gate Voltage		6	V
$T_j$	Operating Junction Temperature		-40~+125	°C
$T_{stg}$	Storage Temperature		-40~+150	°C
	Mass		0.2	g

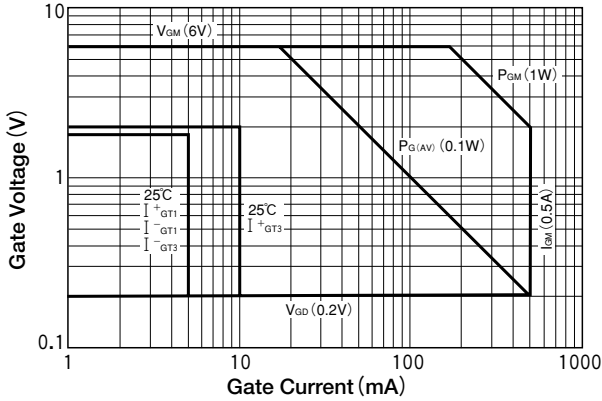
### Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D=V_{DRM}$ , Single phase, half wave, $T_j=125^\circ C$			0.5	mA
$V_{TM}$	Peak On-State Voltage	$I_T=1.5A$ , Inst. measurement			1.6	V
$I_{GT1}^+$	Gate Trigger Current	$V_D=6V$ , $R_L=10\Omega$			5	mA
$I_{GT1}^-$					5	
$I_{GT3}^+$					10	
$I_{GT3}^-$					5	
$V_{GT1}^+$	Gate Trigger Voltage	$V_D=6V$ , $R_L=10\Omega$			1.8	V
$V_{GT1}^-$					1.8	
$V_{GT3}^+$					2.0	
$V_{GT3}^-$					1.8	
$V_{GD}$	Non-Trigger Gate Voltage	$T_j=125^\circ C$ , $V_D=1/2V_{DRM}$	0.2			V
$[dv/dt]_c$	Critical Rate of Rise of Off-State Voltage at Commutation	$T_j=125^\circ C$ , $[di/dt]_c=-0.5A/ms$ , $V_D=400V$	2			V/ $\mu s$
$I_H$	Holding Current			4		mA
$R_{th(j-c)}$	Thermal Resistance	Junction to case			50	°C/W

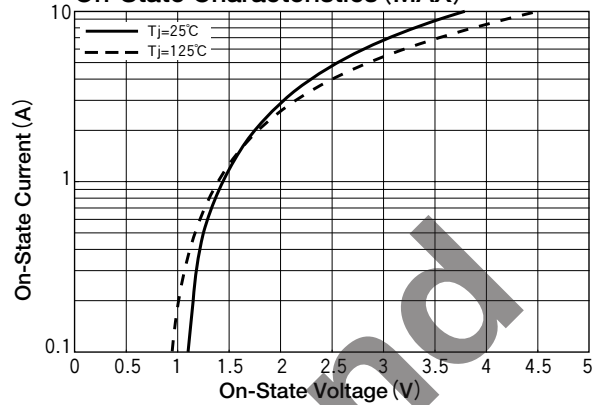
Trigger mode of the triac



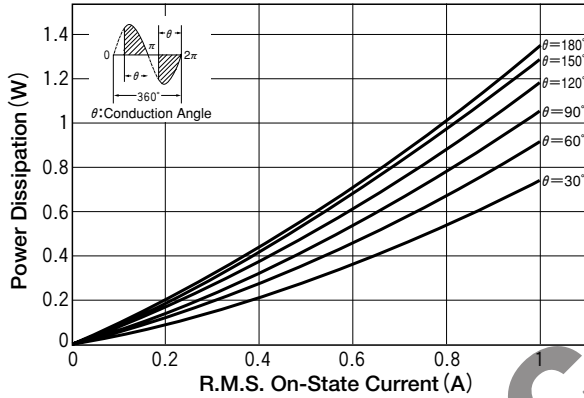
Gate Characteristics



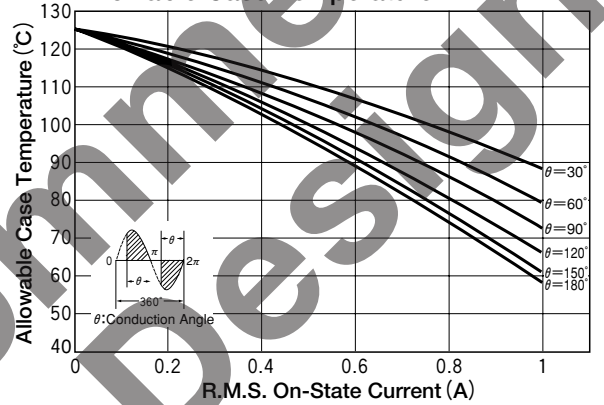
On-State Characteristics (MAX)



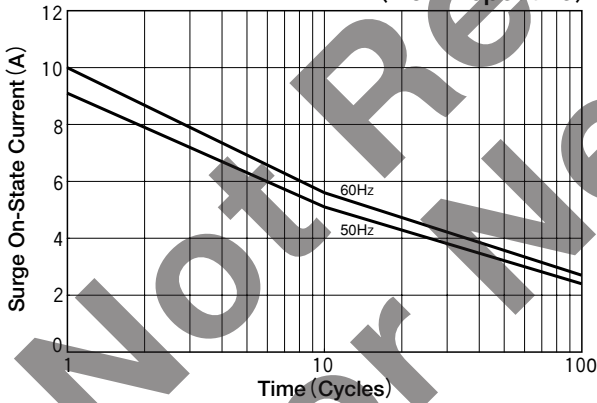
R.M.S. On-State Current vs Maximum Power Dissipation



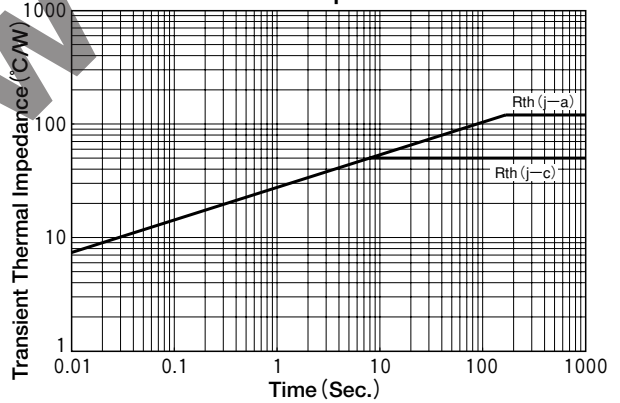
R.M.S. On-State vs Allowable Case Temperature



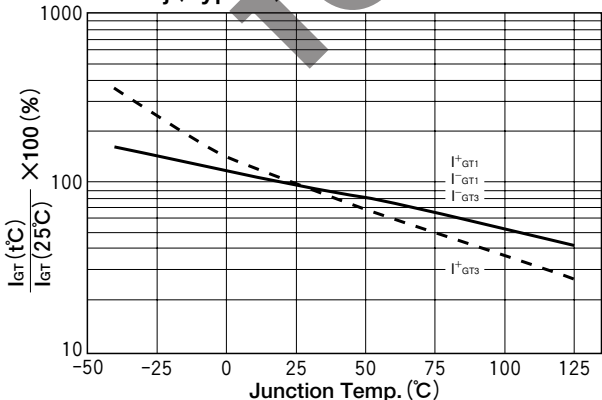
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_j$  (Typical)



$V_{GT} - T_j$  (Typical)

