

# TRIAC(Through Hole / Isolated)

## TMG8C80F

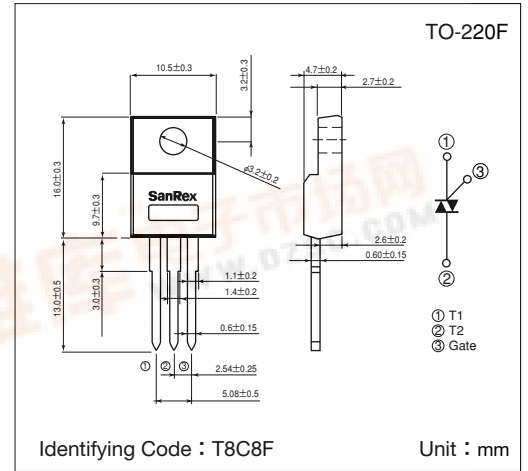
**SanRex** Triac **TMG8C80F** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

### 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

- $I_{T(RMS)}=8A$
- High Surge Current
- Low Voltage Drop
- Lead-Free Package



### Maximum Ratings

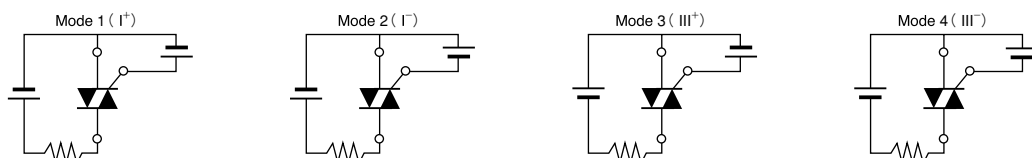
( $T_j=25^\circ C$  unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
$V_{DRM}$	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=89^\circ C$	8	A
$I_{TSM}$	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	80/88	A
$I^2t$	$I^2t$ (for fusing)		32	$A^2S$
$P_{GM}$	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
$I_{GM}$	Peak Gate Current		2	A
$V_{GM}$	Peak Gate Voltage		10	V
$V_{ISO}$	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	1500	V
$T_j$	Operating Junction Temperature		$-40 \sim +125$	$^\circ C$
$T_{stg}$	Storage Temperature		$-40 \sim +150$	$^\circ C$
	Mass		2	g

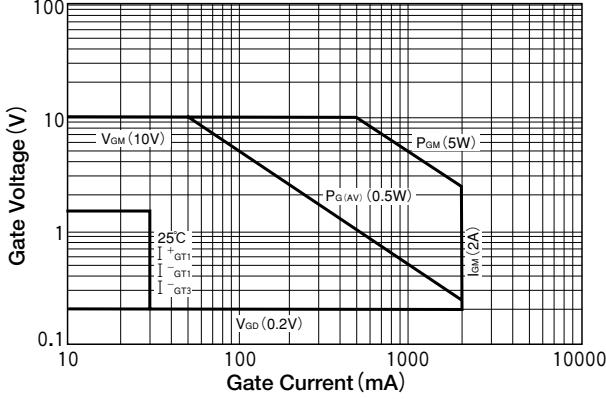
### Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D=V_{DRM}$ , Single phase, half wave, $T_j=125^\circ C$			2	mA	
$V_{TM}$	Peak On-State Voltage	$I_T=12A$ , Inst. measurement			1.4	V	
$I_{GT1}^+$	Gate Trigger Current	$V_D=6V, R_L=10\Omega$			30	mA	
$I_{GT1}^-$			2		30		
$I_{GT3}^+$			3		—		
$I_{GT3}^-$			4		30		
$V_{GT1}^+$	Gate Trigger Voltage					1.5	V
$V_{GT1}^-$			2			1.5	
$V_{GT3}^+$			3			—	
$V_{GT3}^-$			4			1.5	
$V_{GD}$	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	$T_j=125^\circ C, [di/dt]_c=-4A/ms, V_D=400V$	10			$V/\mu s$	
$I_H$	Holding Current			15		mA	
$R_{th}$	Thermal Resistance	Junction to case			3.7	$^\circ C/W$	

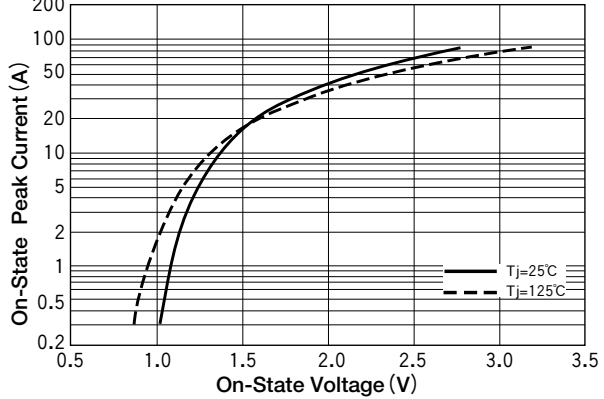
Trigger mode of the triac



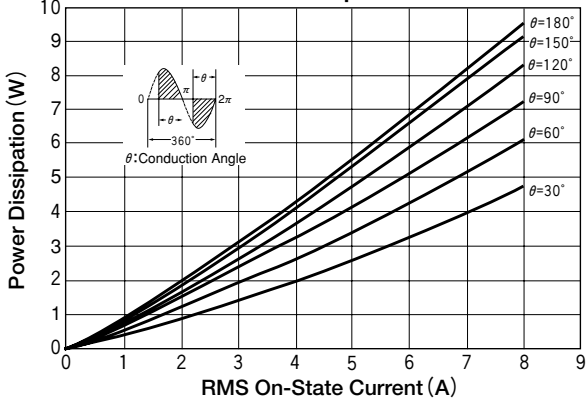
**Gate Characteristics**



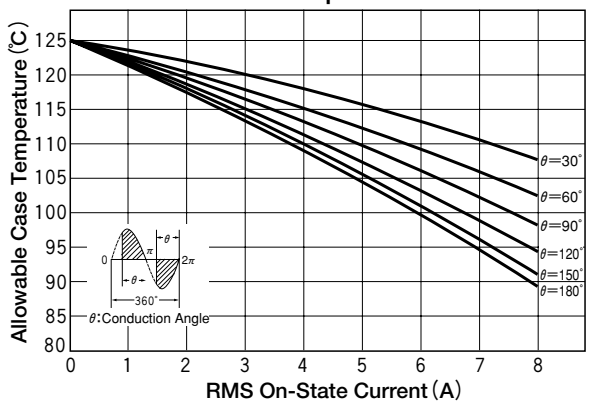
**On-State Characteristics (MAX)**



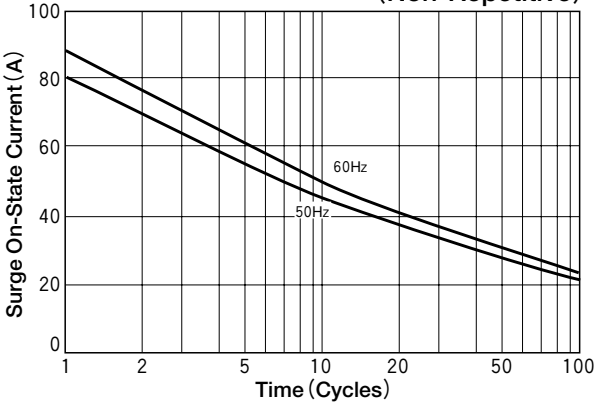
**RMS On-State Current vs Maximum Power Dissipation**



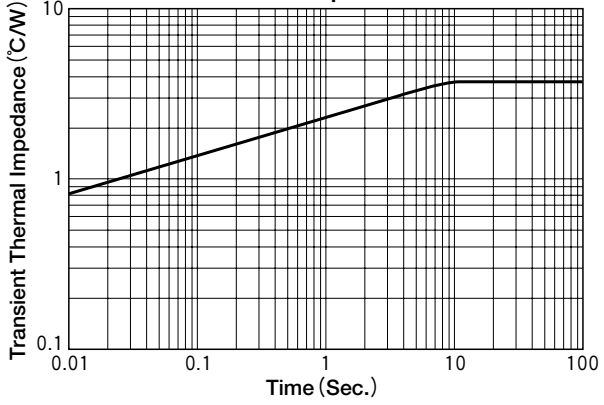
**RMS On-State vs Allowable Case Temperature**



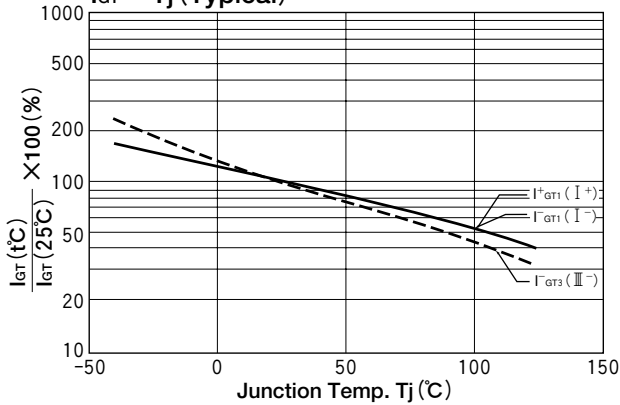
**Surge On-State Current Rating (Non-Repetitive)**



**Transient Thermal Impedance**



**I\_GT - Tj (Typical)**



**V\_GT - Tj (Typical)**

