

# TRIAC(Through Hole / Isolated)

# TMG40C60J

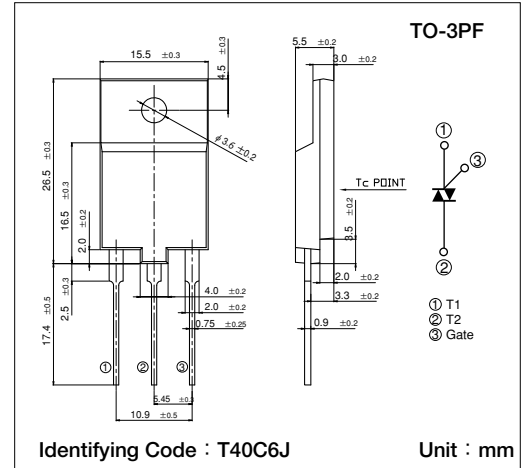
**SanRex** Triac TMG40C60J is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

### Typical Applications

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

### Features

- $I_{T(RMS)}=40A$
- High Surge Current
- Lead-Free Package



### Maximum Ratings

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

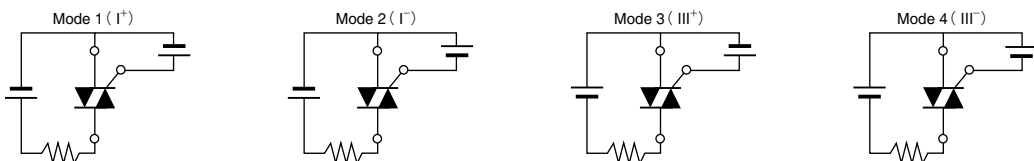
Symbol	Item	Reference	Ratings	Unit
$V_{DRM}$	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=73^\circ C$	40	A
$I_{TSM}$	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
$I^2t$	$I^2t$ (for fusing)		730	$A^2S$
$P_{GM}$	Peak Gate Power Dissipation		10	W
$P_{G(AV)}$	Average Gate Power Dissipation		1	W
$I_{GM}$	Peak Gate Current		3	A
$V_{GM}$	Peak Gate Voltage		10	V
$V_{ISO}$	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	1500	V
$T_j$	Operating Junction Temperature		-40 ~ +125	$^\circ C$
$T_{stg}$	Storage Temperature		-40 ~ +150	$^\circ C$
	Mass		5.6	g

### Electrical Characteristics

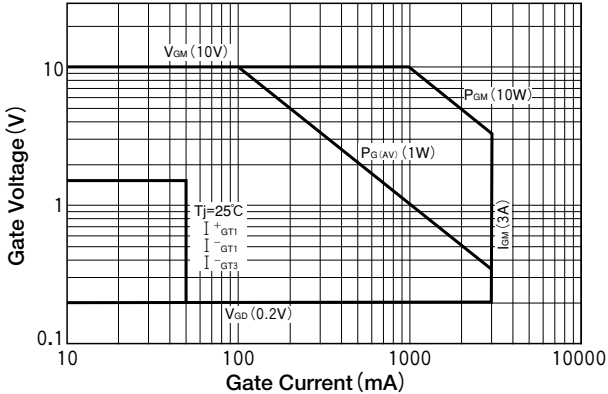
( $T_j=25^\circ C$  unless otherwise)

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D=V_{DRM}$ , Single phase, half wave, $T_j=125^\circ C$			5	mA	
$V_{TM}$	Peak On-State Voltage	$I_T=60A$ , Inst. measurement			1.4	V	
$I_{GT1}^+$	Gate Trigger Current	$V_D=6V$ , $R_L=10\Omega$			50	mA	
$I_{GT1}^-$					50		
$I_{GT3}^+$					—		
$I_{GT3}^-$					50		
$V_{GT1}^+$	Gate Trigger Voltage					1.5	V
$V_{GT1}^-$						1.5	
$V_{GT3}^+$						—	
$V_{GT3}^-$						1.5	
$V_{GD}$	Non-Trigger Gate Voltage	$T_j=125^\circ C$ , $V_D=1/2 V_{DRM}$	0.2			V	
$(dv/dt)_c$	Critical Rate of Rise of Off-State Voltage at Commutation	$T_j=125^\circ C$ , $(di/dt)_c=-20A/ms$ , $V_D=2/3 V_{DRM}$	10			$V/\mu s$	
$I_H$	Holding Current			30		mA	
$R_{th}$	Thermal Resistance	Junction to case			1.1	$^\circ C/W$	

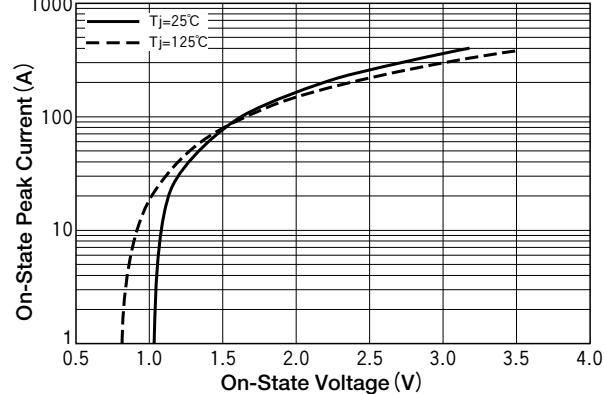
Trigger mode of the triac



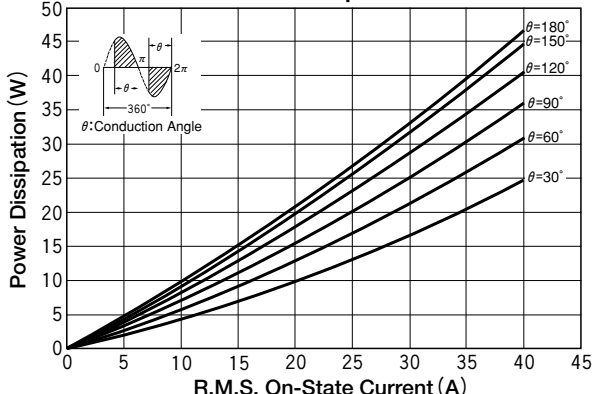
**Gate Characteristics**



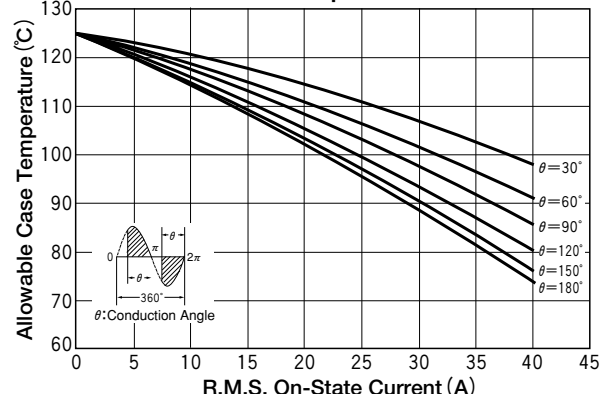
**On-State Characteristics**



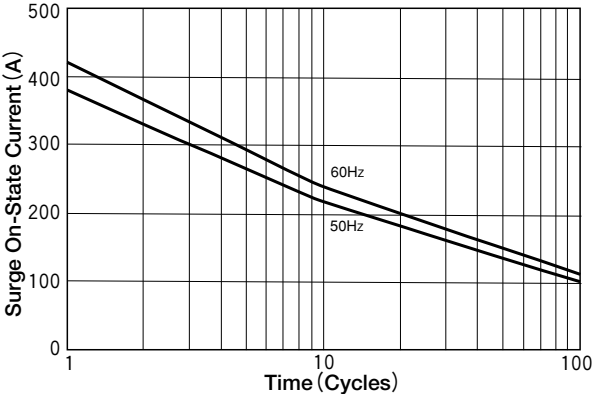
**R.M.S. On-State Current vs Maximum Power Dissipation**



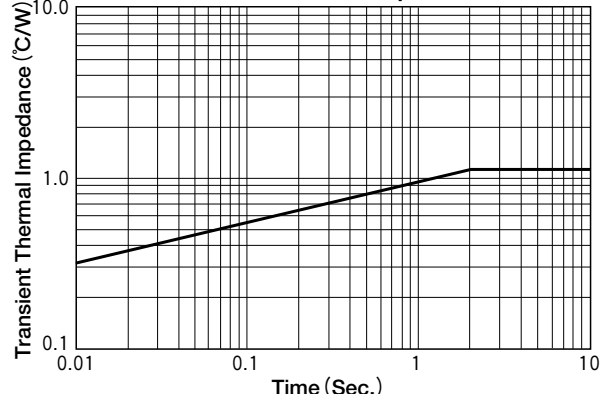
**R.M.S. On-State vs Allowable Case Temperature**



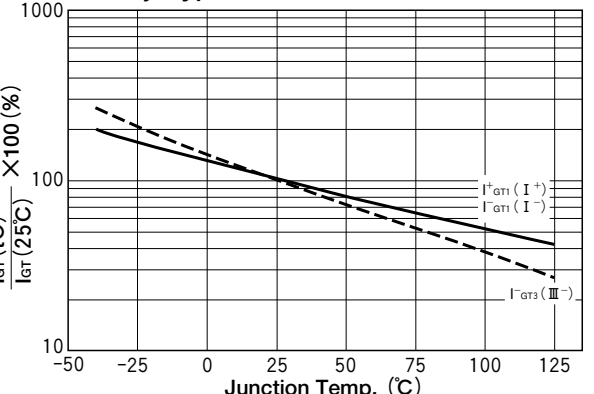
**Surge On-State Current Rating (Non-Repetitive)**



**Transient Thermal Impedance**



**I<sub>GT</sub> - T<sub>J</sub> (Typical)**



**V<sub>GT</sub> - T<sub>J</sub> (Typical)**

