

TRIAC(Through Hole / Isolated)

TMG40C60J

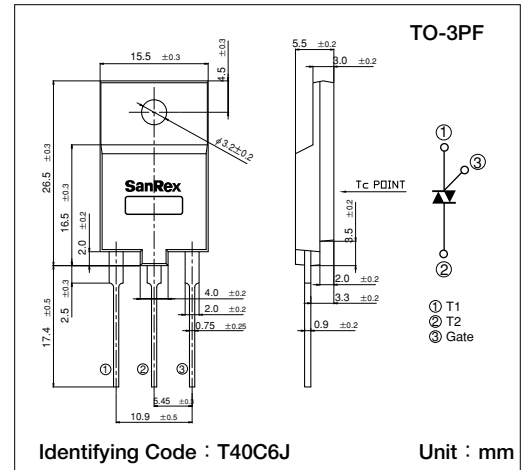
SanRex Triac TMG40C60J is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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)

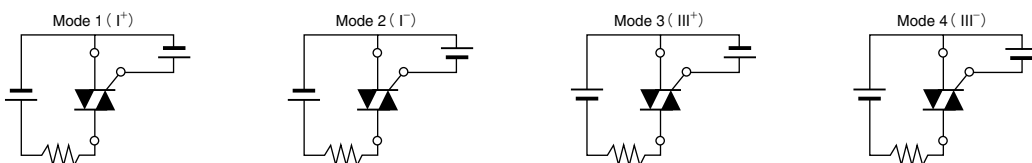
Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=73^\circ C$	40	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
I^2t	I^2t (for fusing)		730	A^2S
P_{GM}	Peak Gate Power Dissipation	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

Electrical Characteristics

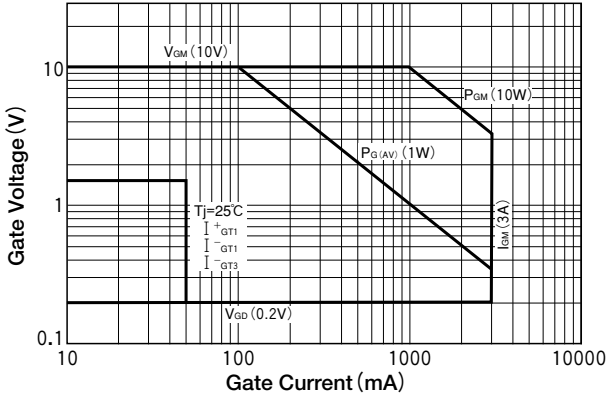
($T_j=25^\circ C$ unless otherwise)

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	$^\circ C/W$	

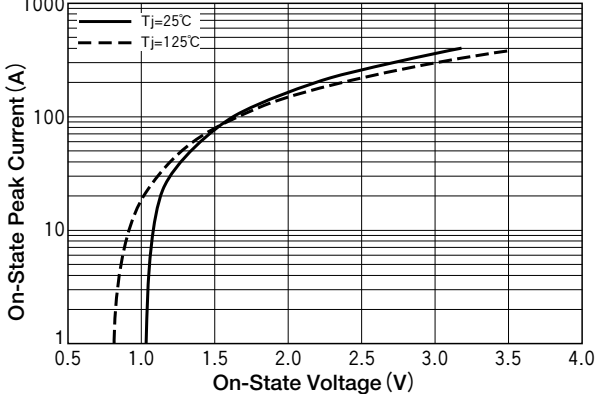
Trigger mode of the triac



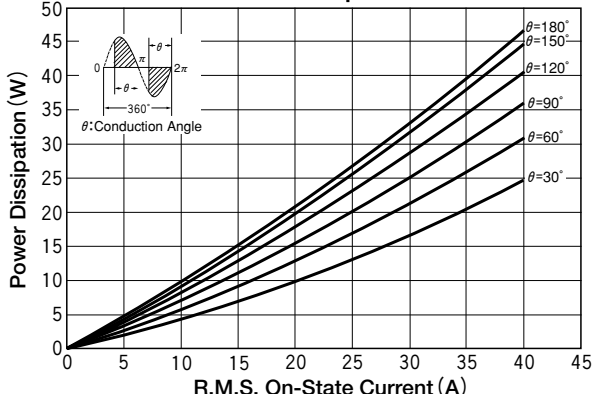
Gate Characteristics



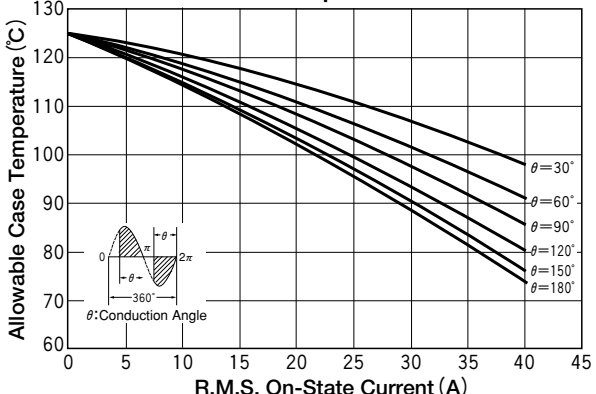
On-State Characteristics



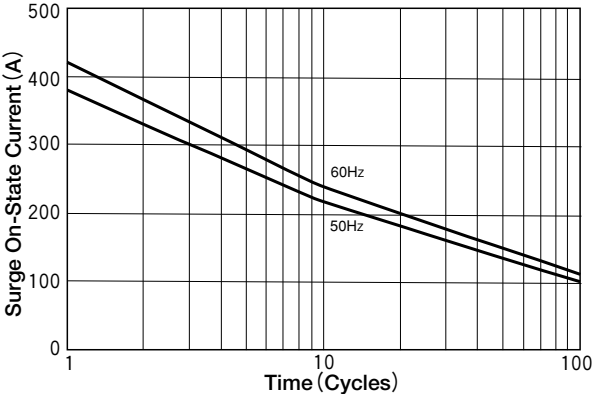
R.M.S. On-State Current vs Maximum Power Dissipation



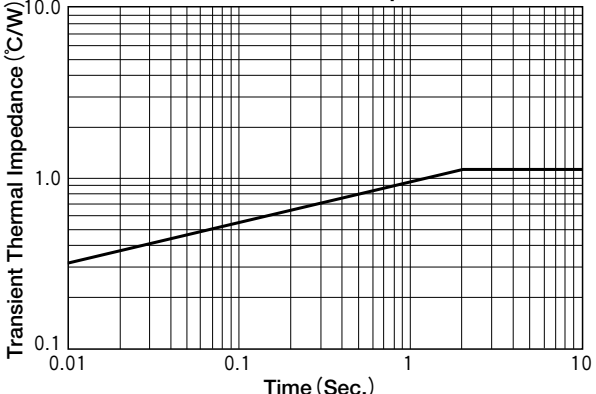
R.M.S. On-State vs Allowable Case Temperature



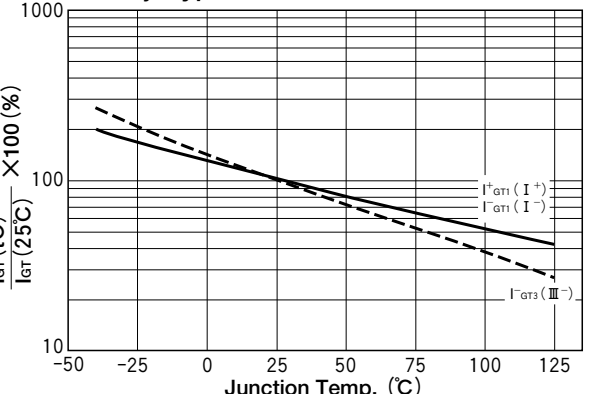
Surge On-State Current Rating (Non-Repetitive)



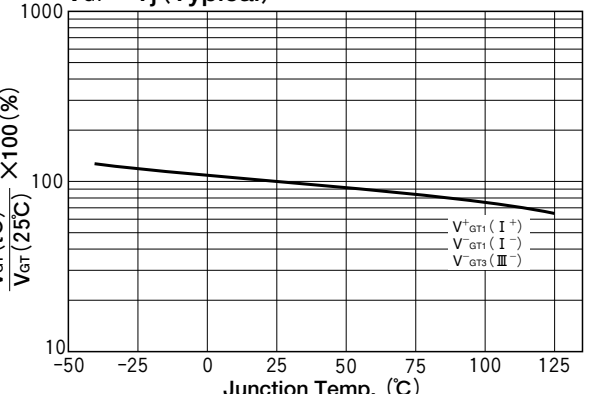
Transient Thermal Impedance



I_{GT} - T_J (Typical)



V_{GT} - T_J (Typical)



TRIAC(Through Hole / Isolated)

TMG40C80J

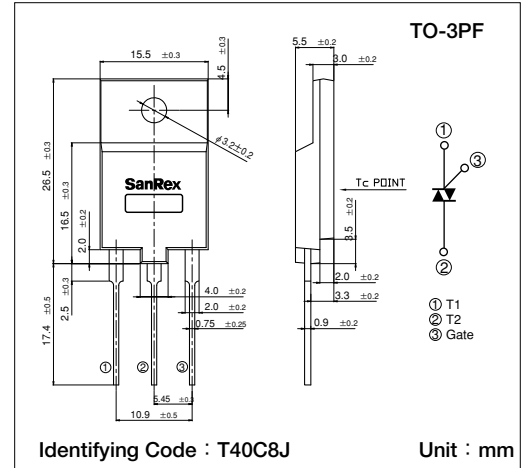
SanRex Triac TMG40C80J is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

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



Maximum Ratings

(T_j=25°C unless otherwise)

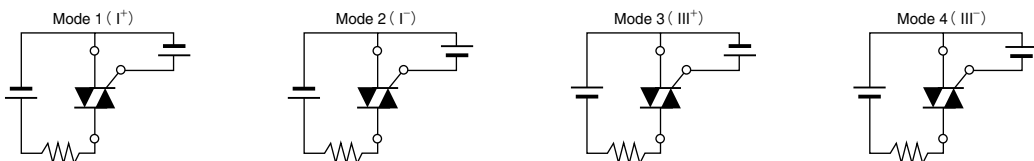
Symbol	Item	Reference	Ratings	Unit
V _{DRM}	Repetitive Peak Off-State Voltage		800	V
I _{T(RMS)}	R.M.S. On-State Current	T _c =73°C	40	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
I ² t	I ² t (for fusing)		730	A ² S
P _{GM}	Peak Gate Power Dissipation		10	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	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		5.6	g

Electrical Characteristics

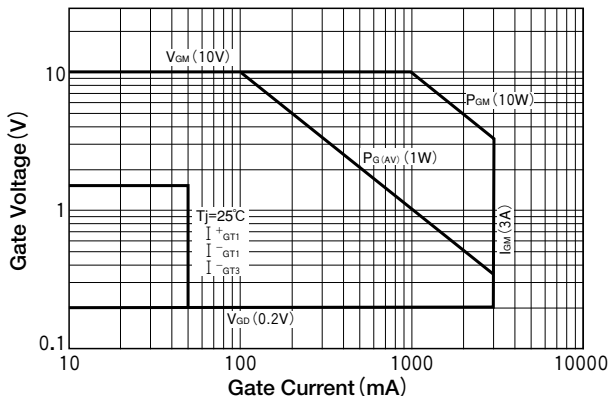
(T_j=25°C unless otherwise)

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°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 =10Ω			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°C, V _D =½V _{DRM}	0.2			V	
[dv/dt] _c	Critical Rate of Rise of Off-State Voltage at Commutation	T _j =125°C, [di/dt] _c =-20A/ms, V _D =400V	10			V/μs	
I _H	Holding Current			30		mA	
R _{th}	Thermal Resistance	Junction to case			1.1	°C/W	

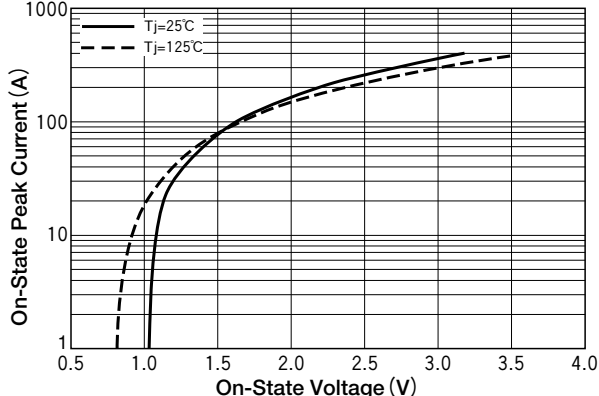
Trigger mode of the triac



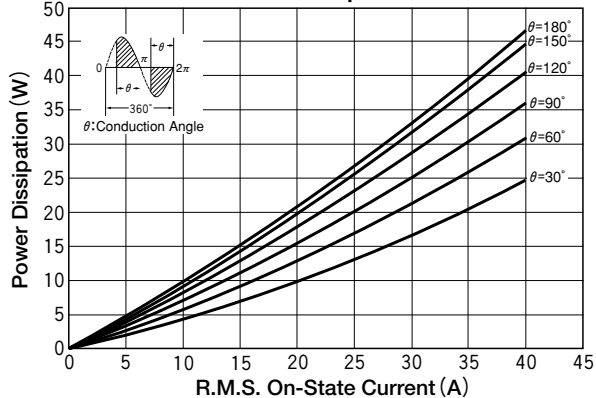
Gate Characteristics



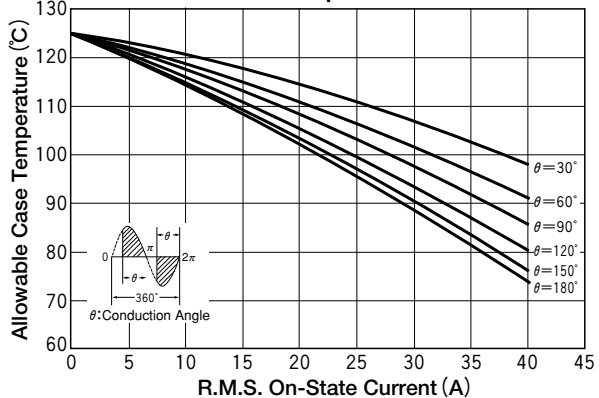
On-State Characteristics



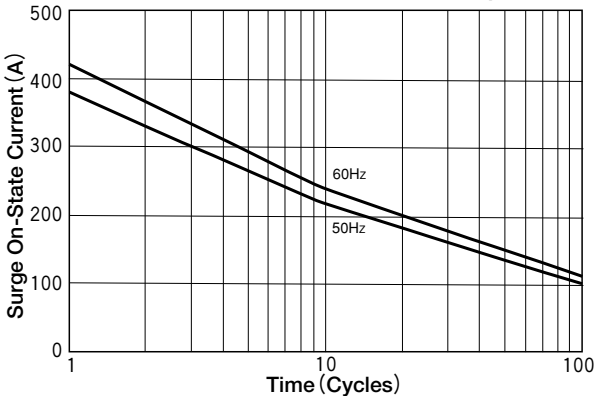
R.M.S. On-State Current vs Maximum Power Dissipation



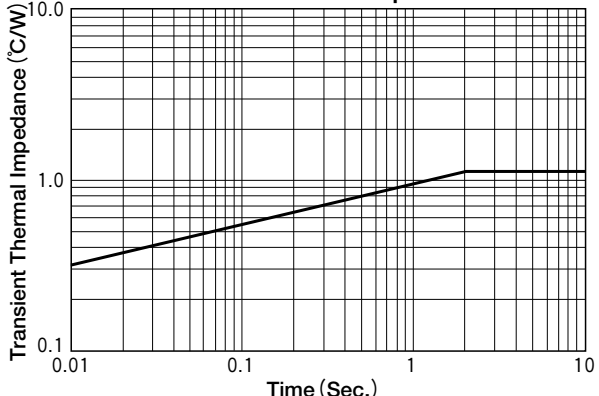
R.M.S. On-State vs Allowable Case Temperature



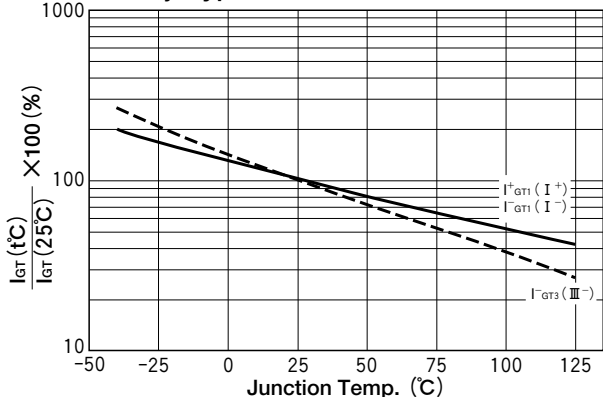
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



I_{GT} - T_j (Typical)



V_{GT} - T_j (Typical)

