

TRIAC(Through Hole / Isolated)

TMG40CQ60J

(T_j=150°C)

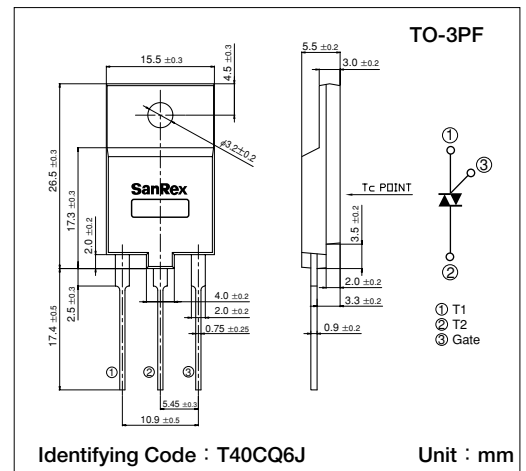
SanRex Triac TMG40CQ60J is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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)

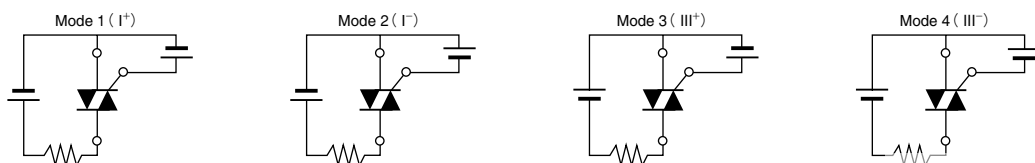
Symbol	Item	Reference	Ratings	Unit
V _{DRM}	Repetitive Peak Off-State Voltage		600	V
I _{T(RMS)}	R.M.S. On-State Current	T _c =98°C	40	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	380/420	A
I ² t	I ² t (for fusing)		730	A ² S
P _{GM}	Peak Gate Power Dissipation		10	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 ~ +150	°C
T _{stg}	Storage Temperature		-40 ~ +150	°C
	Mass		5.6	g

Electrical Characteristics

(T_j=25°C unless otherwise)

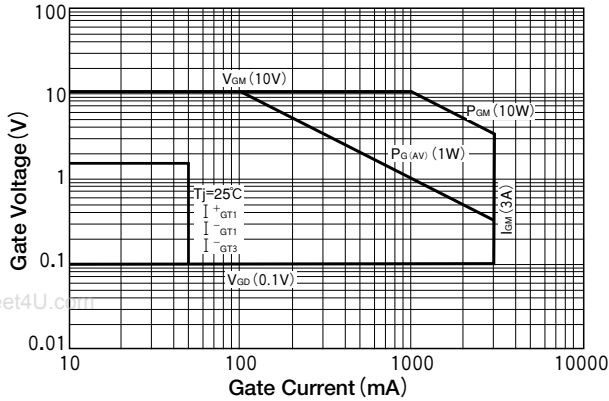
Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
IDRM	Repetitive Peak Off-State Current	$V_D=V_{D_{RM}}$, Single phase, half wave, $T_j=150^{\circ}\text{C}$			8	mA
V _{TM}	Peak On-State Voltage	$I_T=60\text{A}$, Inst. measurement			1.4	V
I_{GT1}^{+}	1	$V_D=6\text{V}$, $R_L=10\Omega$			50	mA
I_{GT1}^{-}	2				50	
I_{GT3}^{+}	3				—	
I_{GT3}^{-}	4				50	
V_{GT1}^{+}	1				1.5	V
V_{GT1}^{-}	2				1.5	
V_{GT3}^{+}	3				—	
V_{GT3}^{-}	4				1.5	
V _{GD}	Non-Trigger Gate Voltage	$T_j=150^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{D_{RM}}$	0.1			V
(dv/dt) _c	Critical Rate of Rise of Off-State Voltage at Commutation	$T_j=150^{\circ}\text{C}$, $(di/dt)_c=-20\text{A/ms}$, $V_D=\frac{2}{3}V_{D_{RM}}$	5			V/μs
I _H	Holding Current			30		mA
R _{th}	Thermal Resistance	Junction to case			1.1	°C/W

Trigger mode of the triac

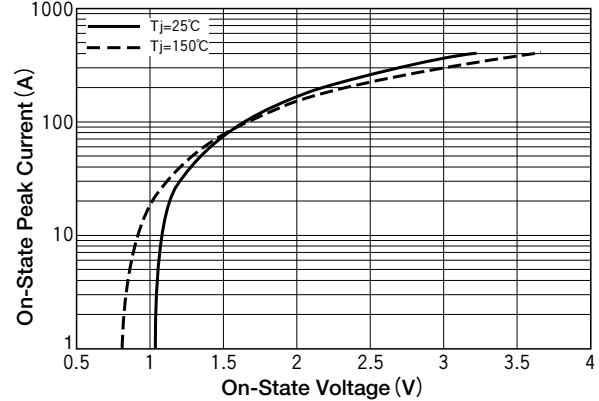


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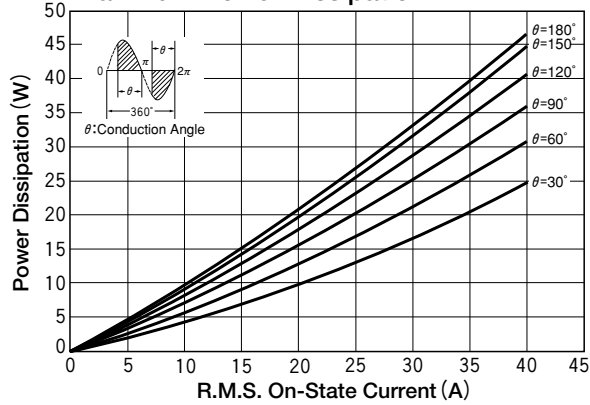
Gate Characteristics



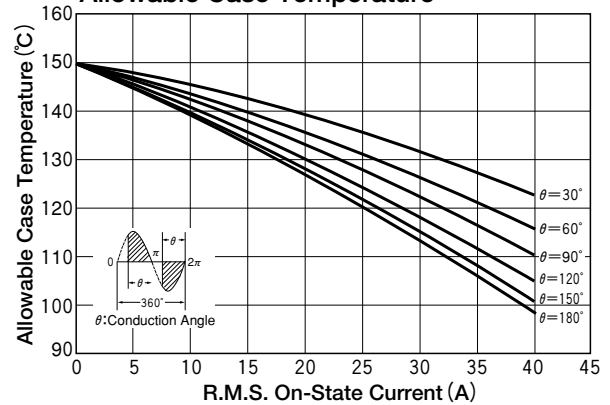
On-State Characteristics



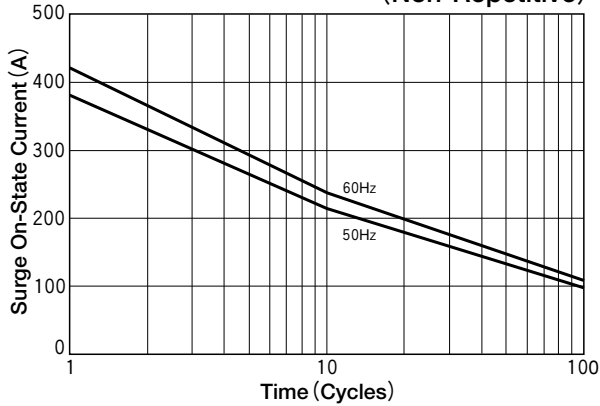
R.M.S. On-State Current vs Maximum Power Dissipation



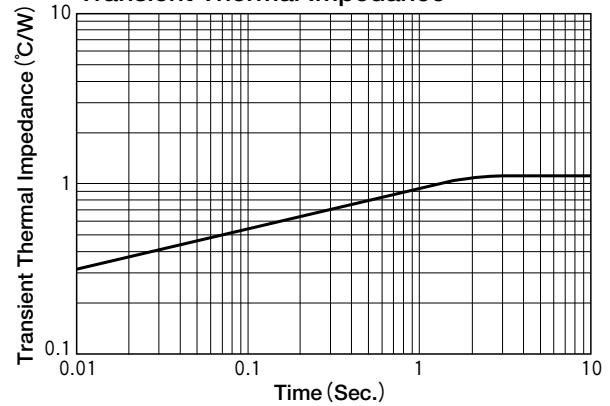
R.M.S. On-State Current vs Allowable Case Temperature



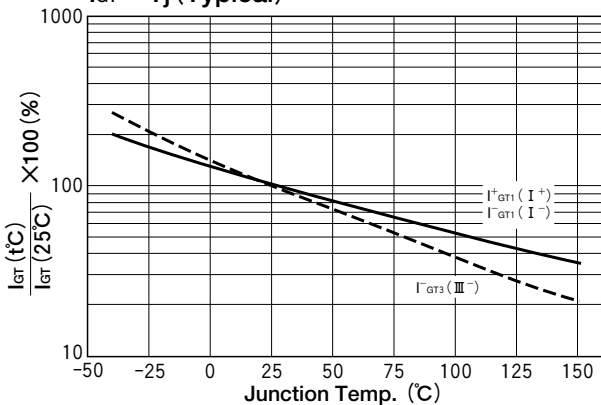
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_j$ (Typical)



$V_{GT} - T_j$ (Typical)

