

TRIAC(Surface Mount Device / Non-isolated)**TMG1CQ60A****(Tj=150°C / Sensitive Gate)**

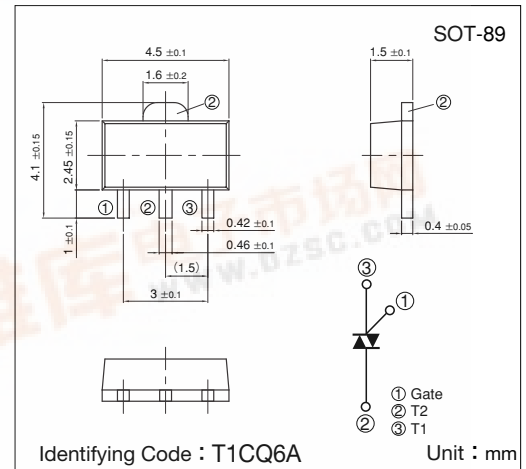
SanRex Triac **TMG1CQ60A** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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**

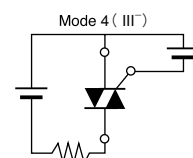
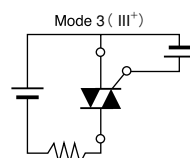
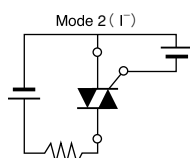
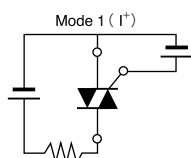
(Tj=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	Ta=63°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 ² 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~+150	°C
T_{stg}	Storage Temperature		-40~+150	°C
	Mass		0.05	g

Electrical Characteristics

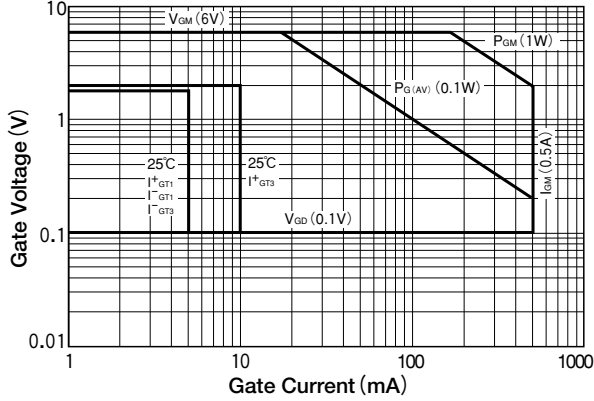
Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	$V_D=V_{DRM}$, Single phase, half wave, $T_J=150^{\circ}\text{C}$			1	mA	
VTM	Peak On-State Voltage	$I_T=1.5\text{A}$, Inst. measurement			1.6	V	
I_{GT1}^{+}	1	$V_D=6\text{V}$, $R_L=10\Omega$			5	mA	
I_{GT1}^{-}	2				5		
I_{GT3}^{+}	3				10		
I_{GT3}^{-}	4				5		
V_{GT1}^{+}	1		Gate Trigger Voltage			1.8	V
V_{GT1}^{-}	2					1.8	
V_{GT3}^{+}	3					2.0	
V_{GT3}^{-}	4					1.8	
VGD	Non-Trigger Gate Voltage	$T_J=150^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.1			V	
$[\text{d}v/\text{d}t]_c$	Critical Rate of Rise of Off-State Voltage at Commutation	$T_J=150^{\circ}\text{C}$, $[\text{d}i/\text{d}t]_c=-0.5\text{A/ms}$, $V_D=\frac{2}{3}V_{DRM}$	1			$\text{V}/\mu\text{s}$	
IH	Holding Current			4		mA	
Rth(j-a)	Thermal Resistance	Junction to ambient			65	$^{\circ}\text{C}/\text{W}$	

Trigger mode of the triac

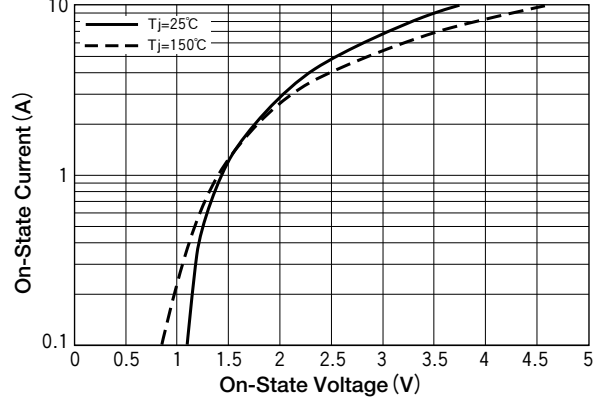


TMG1CQ60A

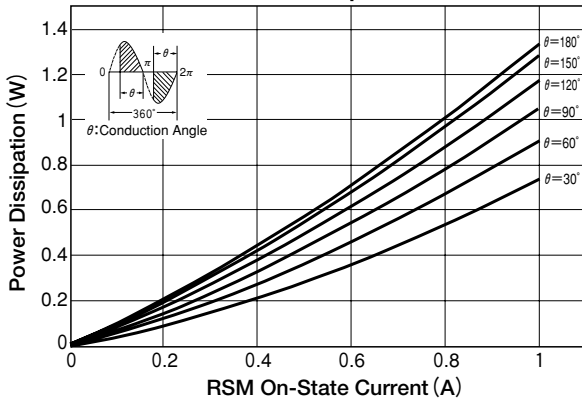
Gate Characteristics



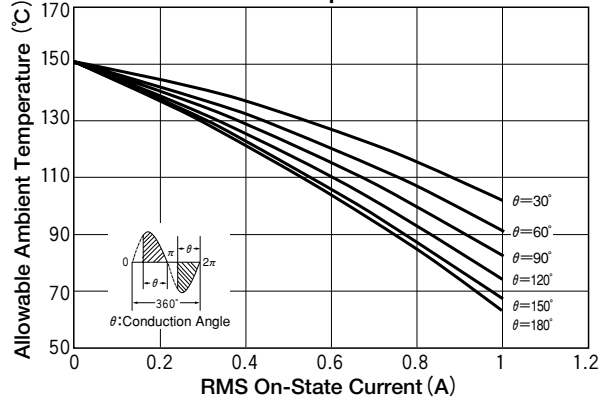
Maximum On-State Characteristics



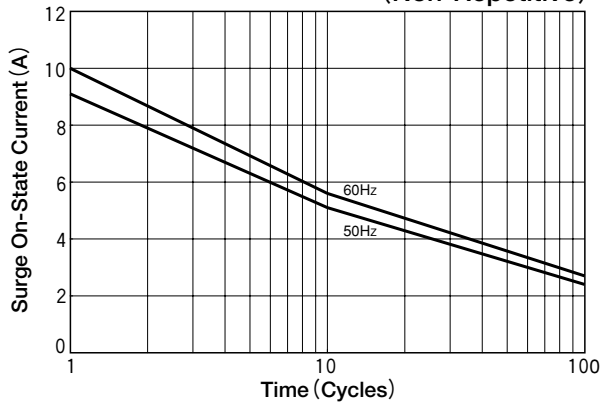
RMS On-State Current vs Maximum Power Dissipation



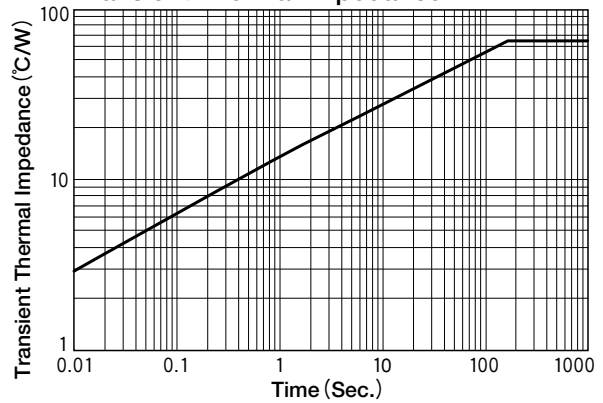
RMS On-State vs Allowable Case Temperature



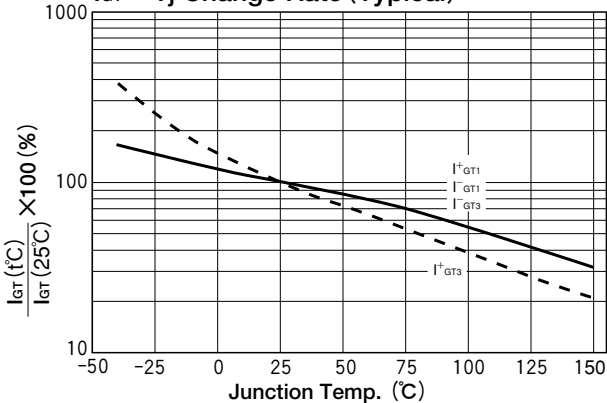
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_J$ Change Rate (Typical)



$V_{GT} - T_J$ (Typical)

