

TRIAC(Surface Mount Device / Non-isolated)

TMG1CQ60A

(Tj=150°C / Sensitive Gate)

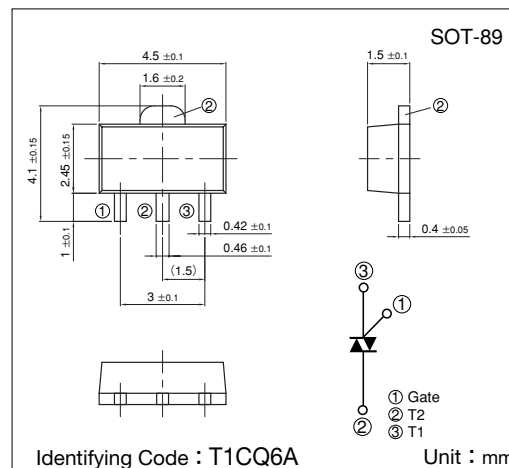
SanRex Triac TMG1CQ60A is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

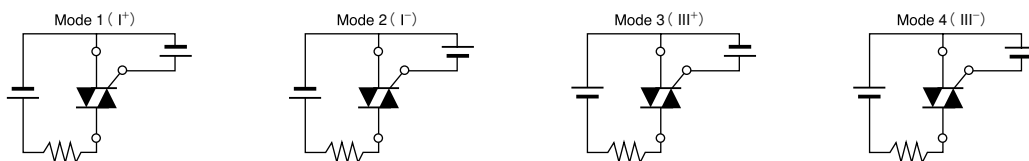
(Tj=25°C unless otherwise specified)

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 ² t	I ² t (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

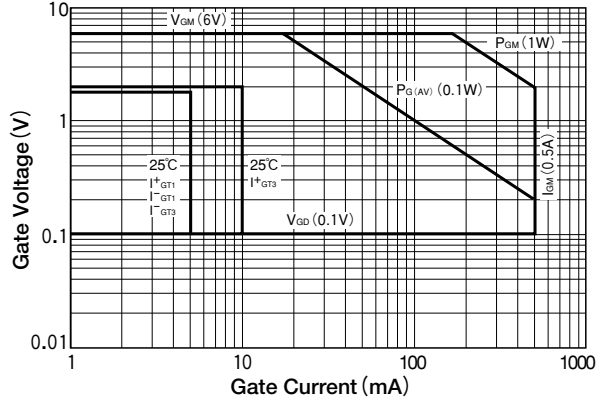
Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	VD=VDRM, Single phase, half wave, Tj=150°C			1	mA	
VTM	Peak On-State Voltage	IT=1.5A, Inst. measurement			1.6	V	
IGT1 ⁺	1	VD=6V, RL=10 Ω			5	mA	
IGT1 ⁻	2				5		
IGT3 ⁺	3				10		
IGT3 ⁻	4				5		
VGT1 ⁺	1		Gate Trigger Voltage			1.8	V
VGT1 ⁻	2					1.8	
VGT3 ⁺	3					2.0	
VGT3 ⁻	4					1.8	
VGD	Non-Trigger Gate Voltage	Tj=150°C, VD=½VDRM	0.1			V	
[dv/dt]c	Critical Rate of Rise of Off-State Voltage at Commutation	Tj=150°C, [di/dt]c=−0.5A/ms, VD=⅔VDRM	1			V/μs	
IH	Holding Current			4		mA	
Rth(j-a)	Thermal Resistance	Junction to ambient			65	°C/W	

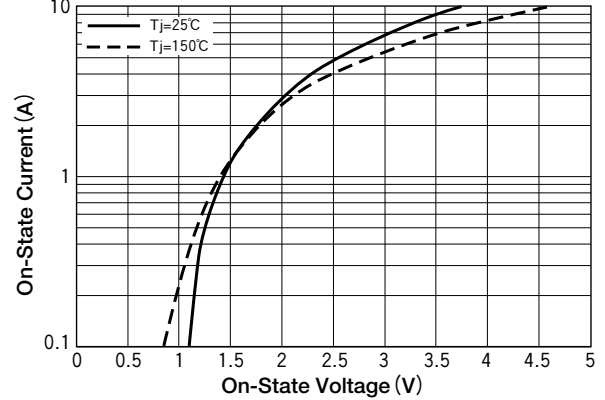
Trigger mode of the triac



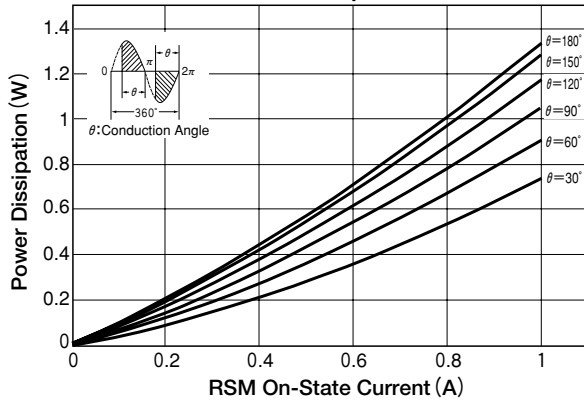
Gate Characteristics



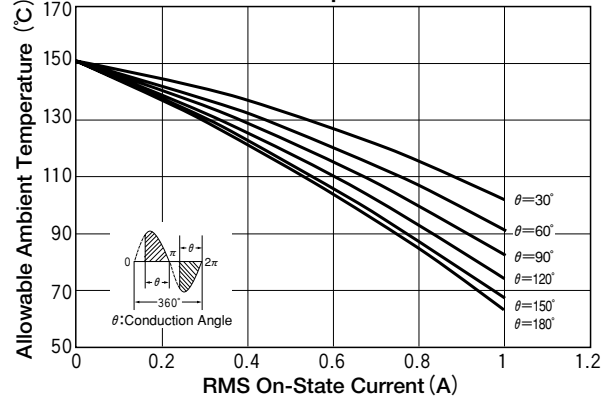
Maximum On-State Characteristics



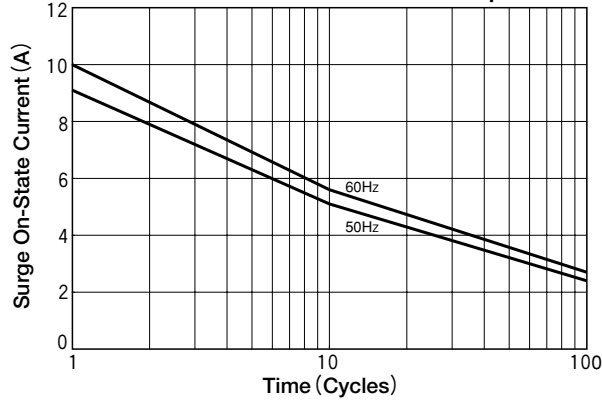
RMS On-State Current vs Maximum Power Dissipation



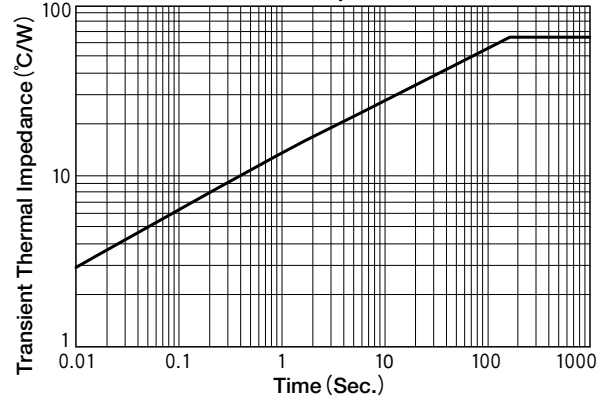
RMS On-State vs Allowable Case Temperature



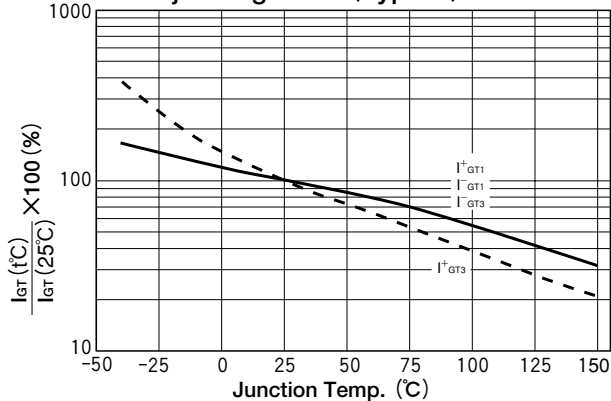
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



I_GT - T_J Change Rate (Typical)



V_GT - T_J (Typical)

