

TRIAC(Through Hole / Isolated)

TMG12CQ60F

(T_j=150°C)

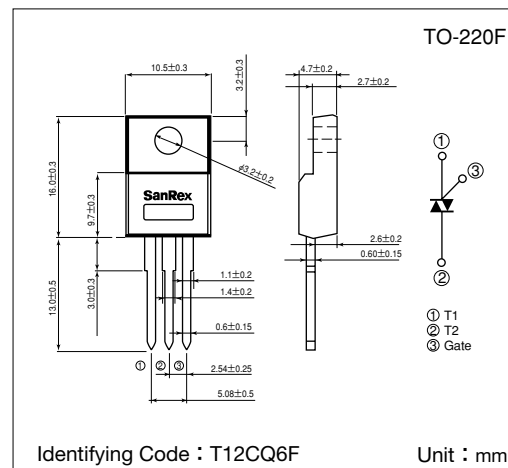
SanRex Triac TMG12CQ60F is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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)}=12A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package



Maximum Ratings

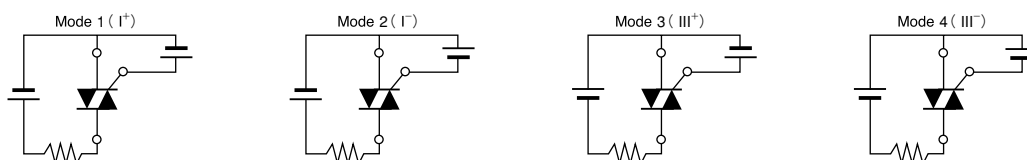
(T_j=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V _{DRM}	Repetitive Peak Off-State Voltage		600	V
I _{T(RMS)}	R.M.S. On-State Current	T _c =103°C	12	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	119/130	A
I ² t	I ² t (for fusing)		71	A ² S
P _{GM}	Peak Gate Power Dissipation		5	W
P _{G(AV)}	Average Gate Power Dissipation		0.5	W
I _{GM}	Peak Gate Current		2	A
V _{GM}	Peak Gate Voltage		10	V
V _{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	1500	V
T _j	Operating Junction Temperature		-40~+150	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		2	g

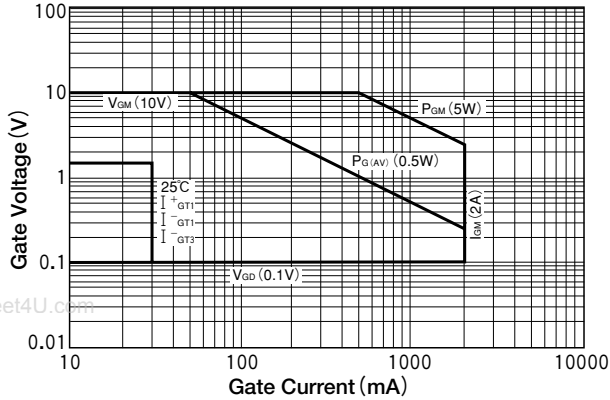
Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	VD=VDRM, Single phase, half wave, Tj=150°C			2	mA	
VTM	Peak On-State Voltage	IT=20A, Inst. measurement			1.4	V	
IGT1 ⁺	1	VD=6V, RL=10 Ω			30	mA	
IGT1 ⁻	2				30		
IGT3 ⁺	3				—		
IGT3 ⁻	4				30		
VGT1 ⁺	1		Gate Trigger Voltage			1.5	V
VGT1 ⁻	2					1.5	
VGT3 ⁺	3					—	
VGT3 ⁻	4					1.5	
VGD	Non-Trigger Gate Voltage	Tj=150°C, VD=1/2VDRM	0.1			V	
(dv/dt)c	Critical Rate of Rise of Off-State Voltage at Commutation	Tj=150°C, [di/dt]c=-6A/ms, VD=2/3VDRM	5			V/μs	
IH	Holding Current			20		mA	
Rth	Thermal Resistance	Junction to case			3.3	°C/W	

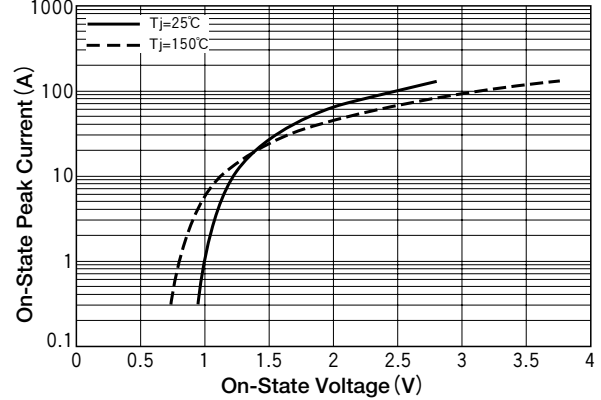
Trigger mode of the triac



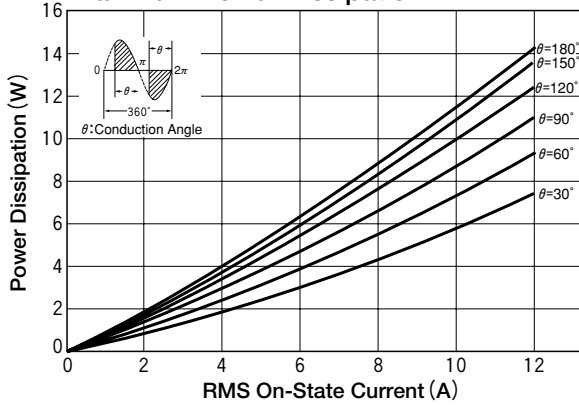
Gate Characteristics



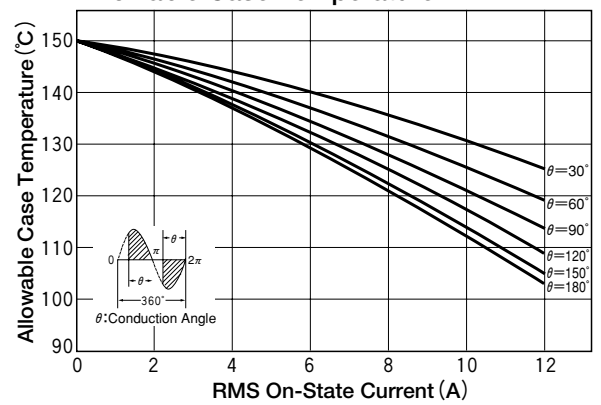
On-State Characteristics (MAX)



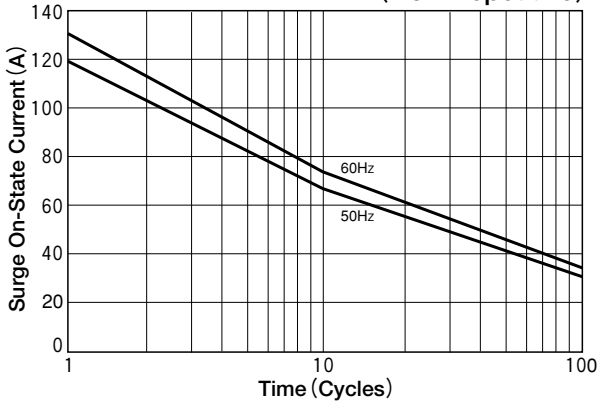
RMS On-State Current vs Maximum Power Dissipation



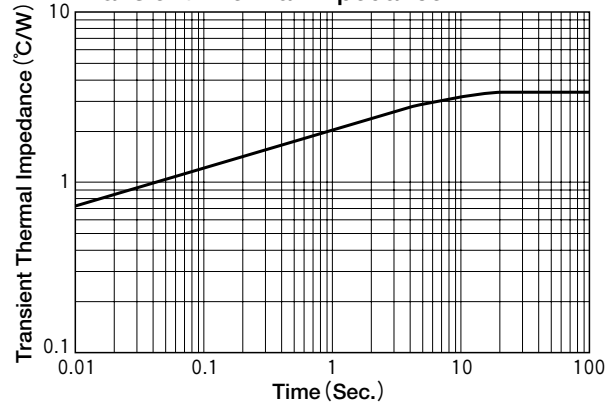
RMS On-State vs Allowable Case Temperature



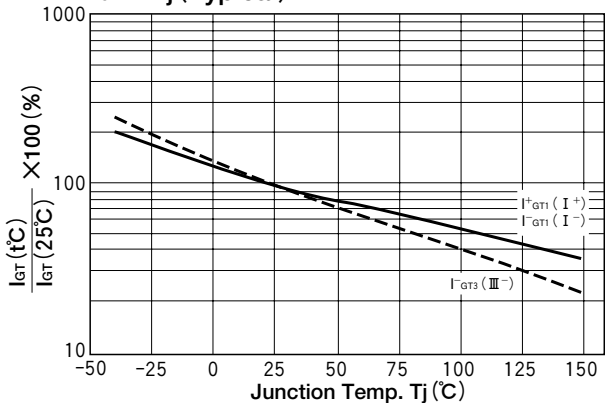
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



I_{GT} - T_J (Typical)



V_{GT} - T_J (Typical)

