

TRIAC(Surface Mount Device / Non-isolated)

TMG3CQ60D

(T_j=150°C)

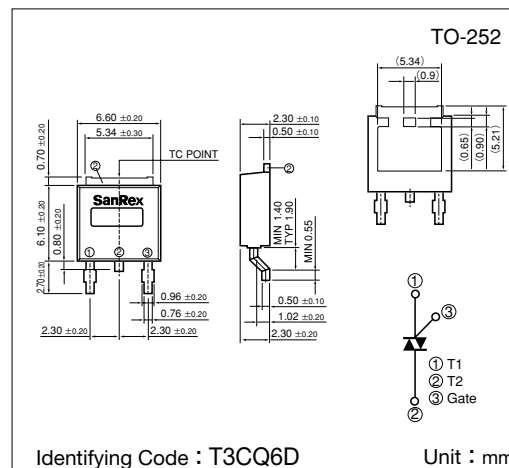
SanRex Triac TMG3CQ60D is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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)}=3A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package



Maximum Ratings

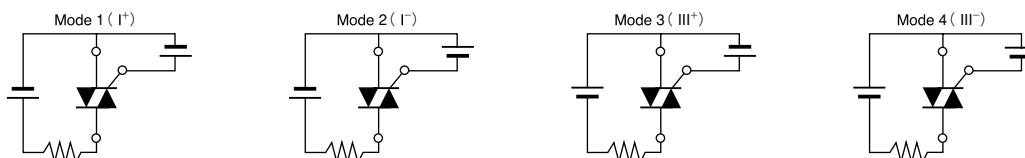
(T_j=25°C unless otherwise specified)

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 =136°C	3	A
I _{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	27/30	A
I ² _t	I ² _t (for fusing)		3.7	A ² S
P _{GM}	Peak Gate Power Dissipation		1.5	W
P _{G(AV)}	Average Gate Power Dissipation		0.1	W
I _{GM}	Peak Gate Current		1	A
V _{GM}	Peak Gate Voltage		7	V
T _j	Operating Junction Temperature		-40~+150	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		0.32	g

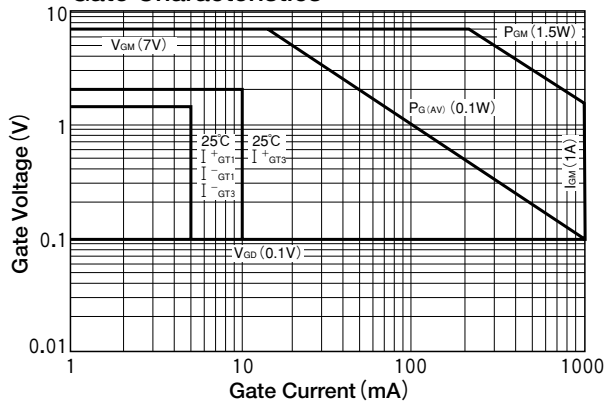
Electrical Characteristics

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=4.5A, Inst. measurement			1.4	V
IGT1 ⁺	1	Gate Trigger Current	VD=6V, RL=10 Ω			15	mA
IGT1 ⁻	2					15	
IGT3 ⁺	3					—	
IGT3 ⁻	4					15	
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=½VDRM	0.1			V
(dv/dt)c	Critical Rate of Rise of Off-State Voltage at Commutation		Tj=150°C, [di/dt]c=−1.5A/ms, VD=⅔VDRM	5			V/μs
IH	Holding Current				2		mA
Rth(j-c)	Thermal Resistance		Junction to case			3.8	°C/W
Rth(j-a)			Junction to ambient			60	

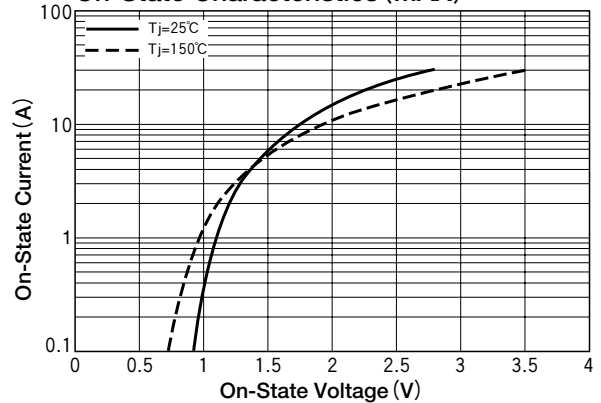
Trigger mode of the triac



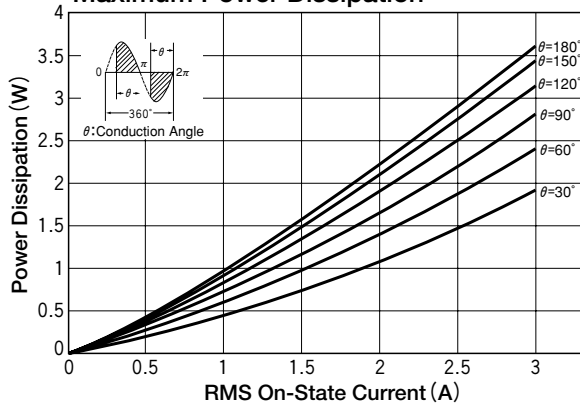
Gate Characteristics



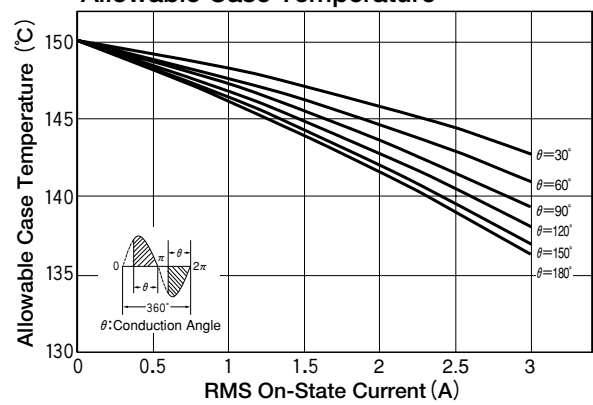
On-State Characteristics (MAX)



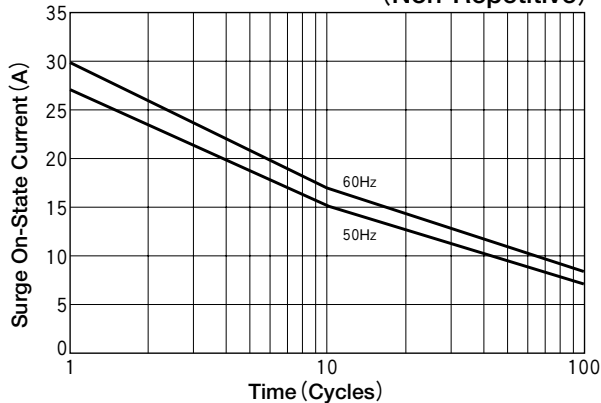
RMS On-State Current vs Maximum Power Dissipation



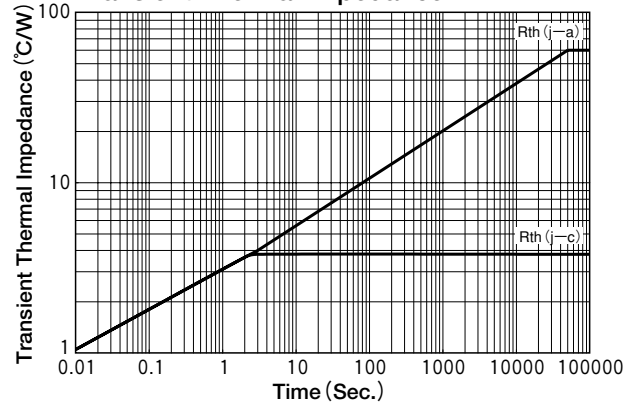
RMS On-State vs Allowable Case Temperature



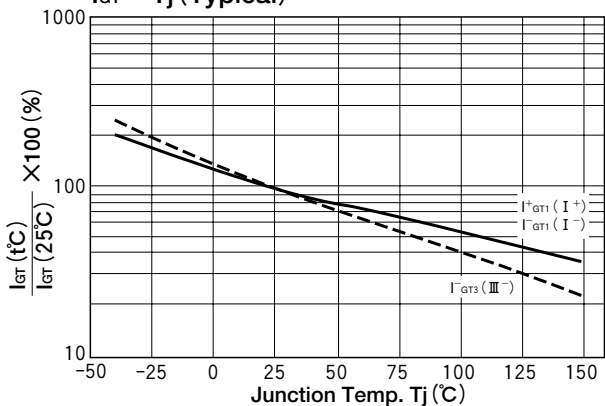
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_J$ (Typical)



$V_{GT} - T_J$ (Typical)

