

TRIAC(Surface Mount Device / Non-isolated)

TMG3DQ60D

(T_j=150°C / Sensitive Gate)

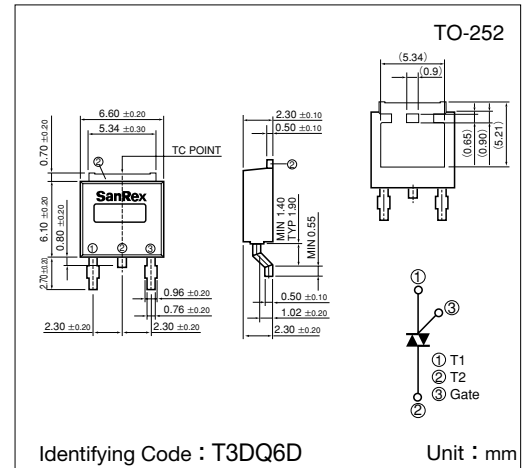
SanRex Triac TMG3DQ60D is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

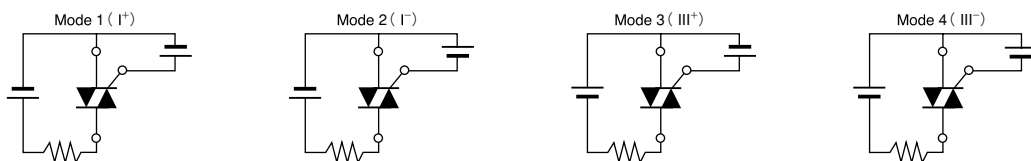
(T_j=25°C unless otherwise specified)

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

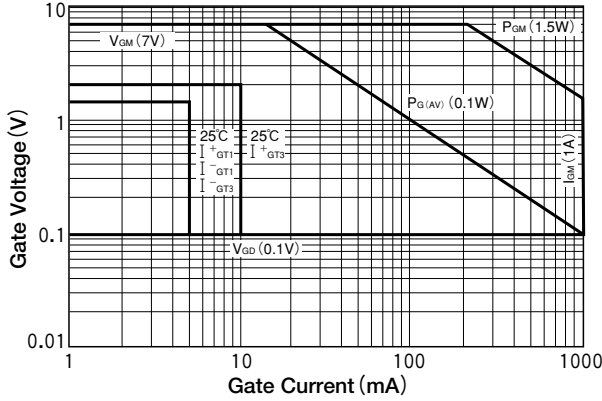
Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
I _{DRM}	Repetitive Peak Off-State Current	V _D =V _{DRM} , Single phase, half wave, T _j =150°C			2	mA	
V _{TM}	Peak On-State Voltage	I _T =4.5A, Inst. measurement			1.4	V	
I ⁺ _{GT1}	Gate Trigger Current	V _D =6V, R _L =10Ω			5	mA	
I ⁻ _{GT1}					5		
I ⁺ _{GT3}					10		
I ⁻ _{GT3}					5		
V ⁺ _{GT1}	Gate Trigger Voltage					1.5	V
V ⁻ _{GT1}						1.5	
V ⁺ _{GT3}						2.0	
V ⁻ _{GT3}						1.5	
V _{GD}	Non-Trigger Gate Voltage	T _j =150°C, V _D =1/2V _{DRM}	0.1			V	
[dv/dt] _c	Critical Rate of Rise of Off-State Voltage at Commutation	T _j =150°C, [di/dt] _c =-1.5A/ms, V _D =2/3V _{DRM}	1			V/μs	
I _H	Holding Current			2		mA	
R _{th(j-c)}	Thermal Resistance	Junction to case			3.8	°C/W	
R _{th(j-a)}		Junction to ambient			60		

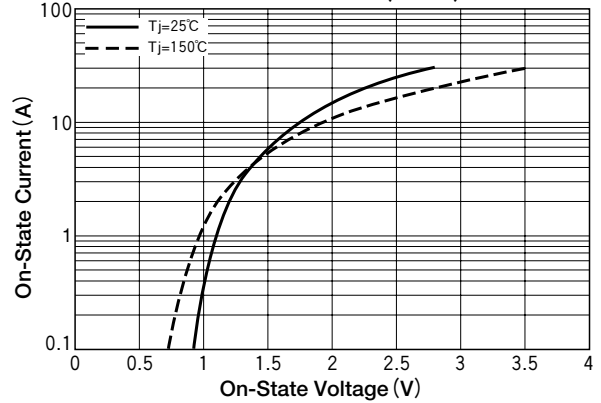
Trigger mode of the triac



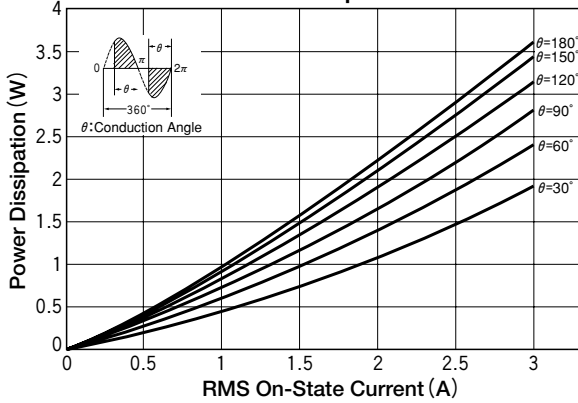
Gate Characteristics



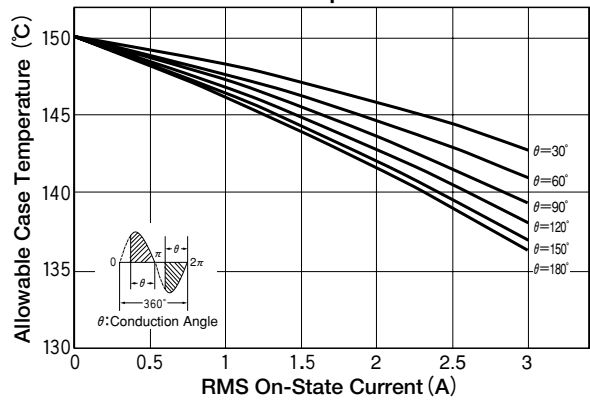
On-State Characteristics (MAX)



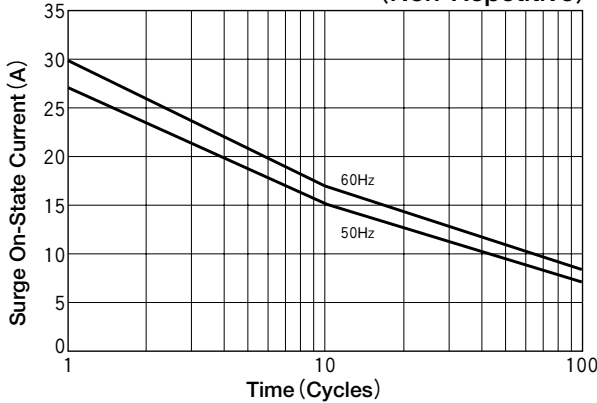
RMS On-State Current vs Maximum Power Dissipation



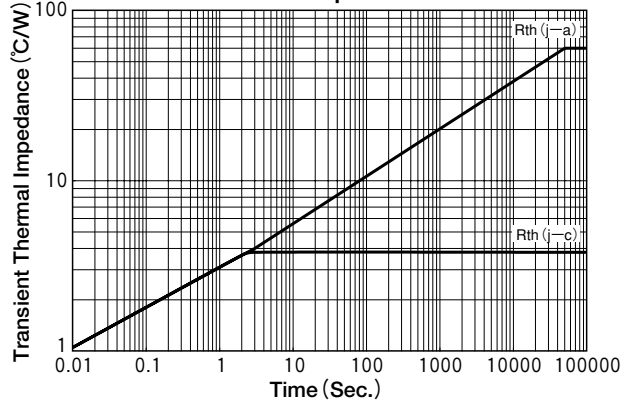
RMS On-State vs Allowable Case Temperature



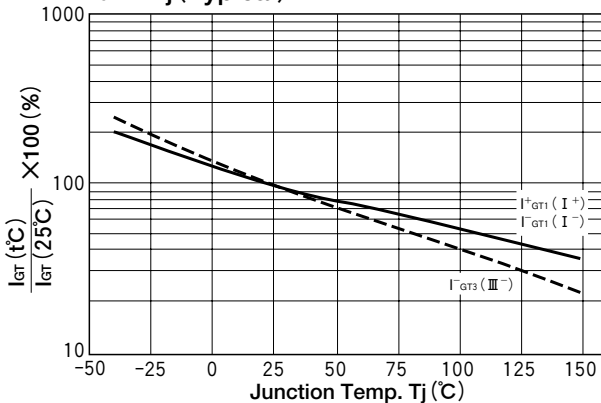
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_j$ (Typical)



$V_{GT} - T_j$ (Typical)

