

TRIAC(Surface Mount Device / Non-isolated)

TMG3D60D

(Sensitive Gate)

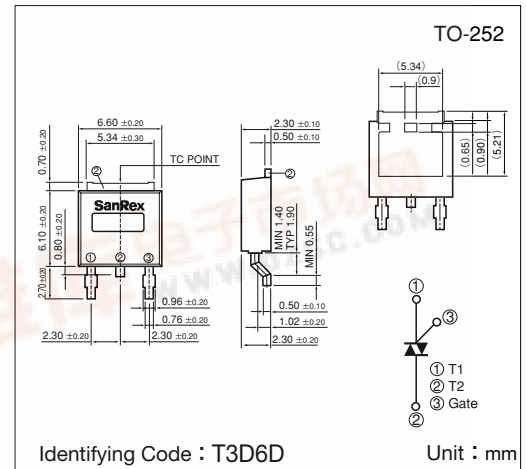
SanRex Triac **TMG3D60D** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

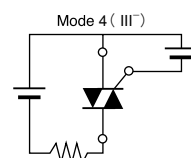
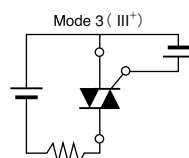
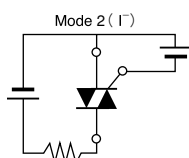
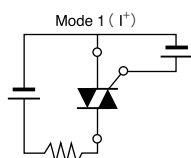
(T_j=25°C unless otherwise specified)

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 =111°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~+125	°C
T _{stg}	Storage Temperature		-40~+150	°C
	Mass		0.32	g

Electrical Characteristics

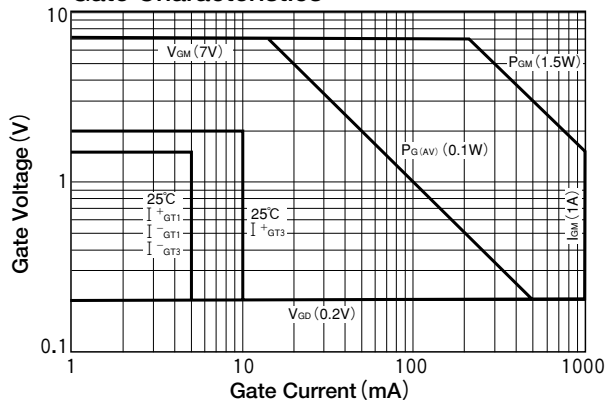
Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
I _{DRM}	Repetitive Peak Off-State Current	V _D =V _{DRM} , Single phase, half wave, T _j =125℃			1	mA
V _{TM}	Peak On-State Voltage	I _T =4.5A, Inst. measurement			1.4	V
I _{GT1} ⁺	1 2 3 4 Gate Trigger Current	V _D =6V, R _L =10Ω			5	mA
I _{GT1} ⁻					5	
I _{GT3} ⁺					10	
I _{GT3} ⁻					5	
V _{GT1} ⁺	1 2 3 4 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 =125℃, V _D = $\frac{1}{2}$ V _{DRM}	0.2			V
[dv/dt] _c	Critical Rate of Rise of Off-State Voltage at Commutation	T _j =125℃, [di/dt] _c =-1.5A/ms, V _D = $\frac{2}{3}$ V _{DRM}	5			V/μs
I _H	Holding Current			2		mA
R _{th} (j-c)	Thermal Resistance	Junction to case			3.8	℃/W
R _{th} (j-a)		Junction to ambient			60	

Trigger mode of the triac

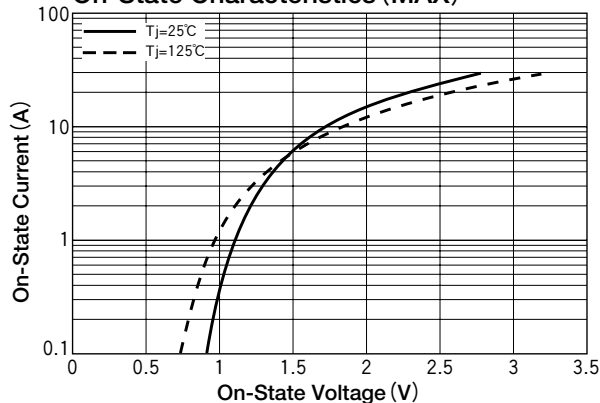


TMG3D60D

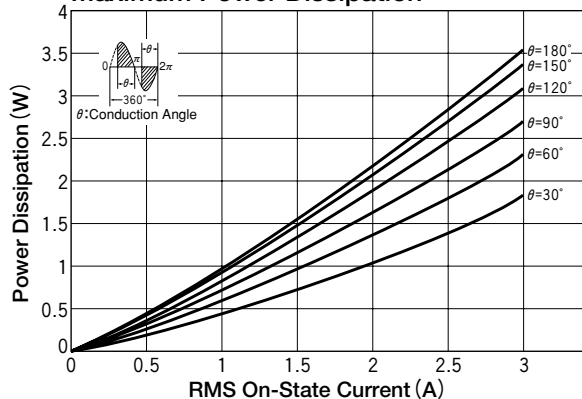
Gate Characteristics



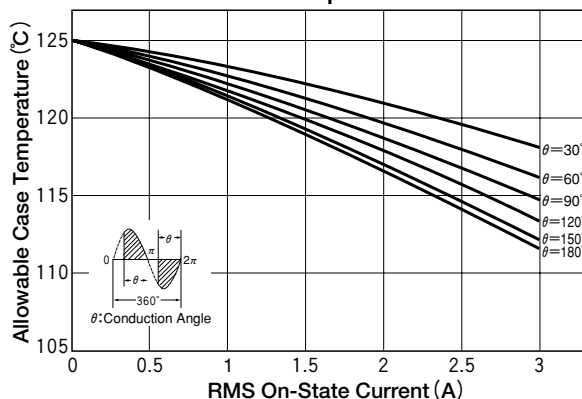
On-State Characteristics (MAX)



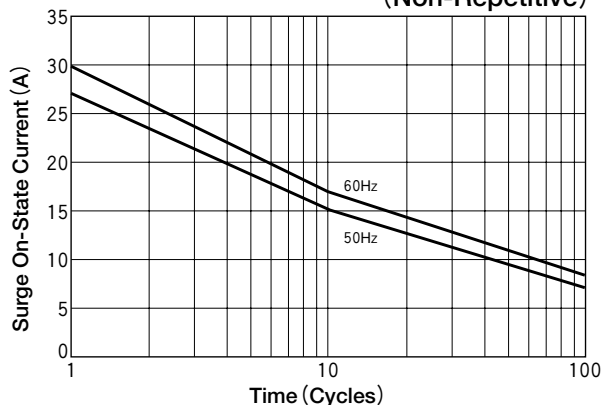
RMS On-State Current vs Maximum Power Dissipation



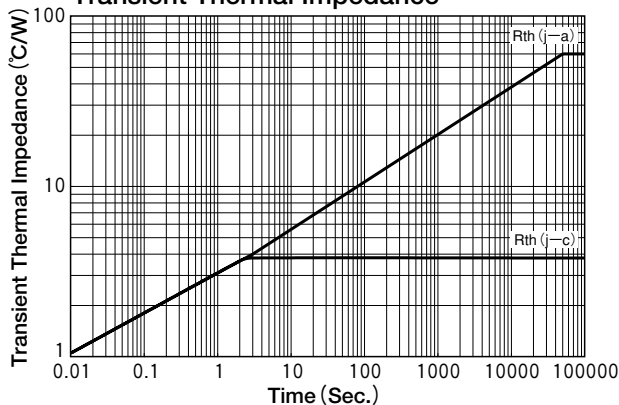
RMS On-State vs Allowable Case Temperature



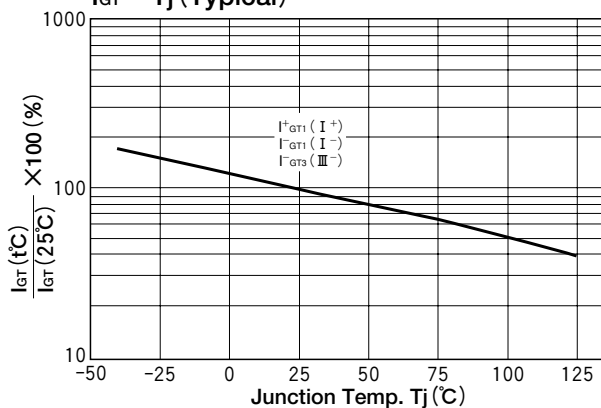
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_J$ (Typical)



$V_{GT} - T_J$ (Typical)

