

TRIAC(Surface Mount Device / Non-isolated)

TMG2D80D

(Sensitive Gate)

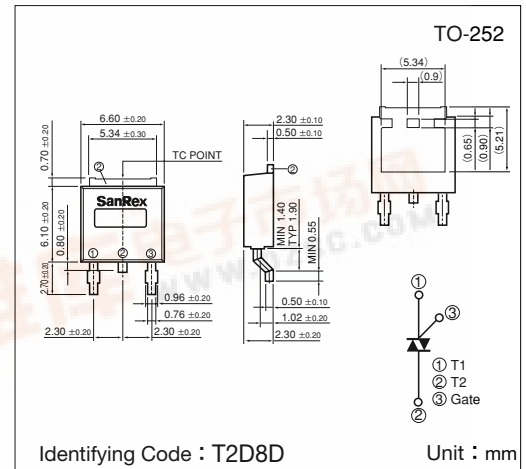
SanRex Triac **TMG2D80D** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

- $I_{T(RMS)}=2A$
- High Surge Current
- Lead-Free Package



Maximum Ratings

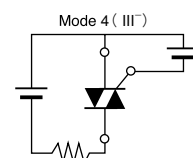
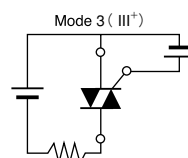
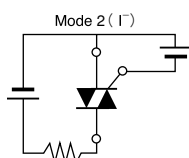
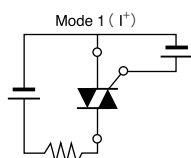
(Tj=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=109^\circ\text{C}$	2	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	18/20	A
I^2t	I^2t (for fusing)		1.67	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

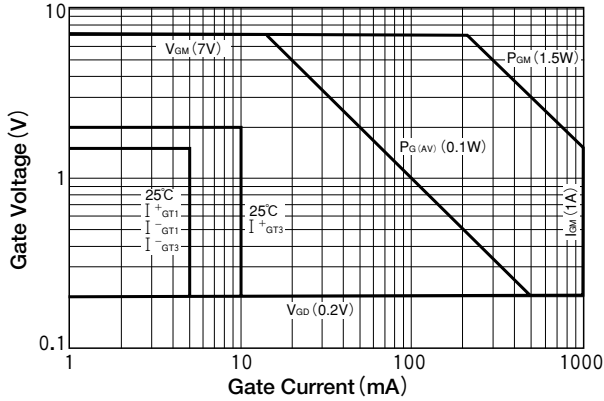
Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	VD=VDRM, Single phase, half wave, Tj=125℃			1	mA	
VTM	Peak On-State Voltage	It=3A, Inst. measurement			1.6	V	
IGT1 ⁺	1	VD=6V, RL=10Ω			5	mA	
IGT1 ⁻	2				5		
IGT3 ⁺	3				10		
IGT3 ⁻	4				5		
VGT1 ⁺	1		Gate Trigger Voltage			1.5	V
VGT1 ⁻	2					1.5	
VGT3 ⁺	3					2.0	
VGT3 ⁻	4					1.5	
VGD	Non-Trigger Gate Voltage	Tj=125℃, VD=½VDRM	0.2			V	
[dv/dt]c	Critical Rate of Rise of Off-State Voltage at Commutation	Tj=125℃, [di/dt]c=−1A/ms, VD=400V	3			V/μs	
IH	Holding Current			2		mA	
Rth(j-c)	Thermal Resistance	Junction to case			5.8	℃/W	
Rth(j-a)		Junction to ambient			60	℃/W	

Trigger mode of the triac

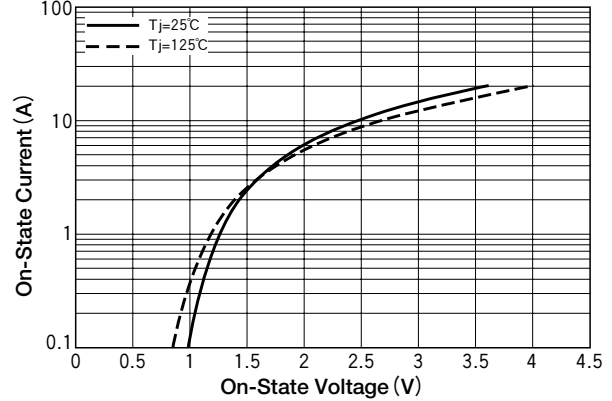


TMG2D80D

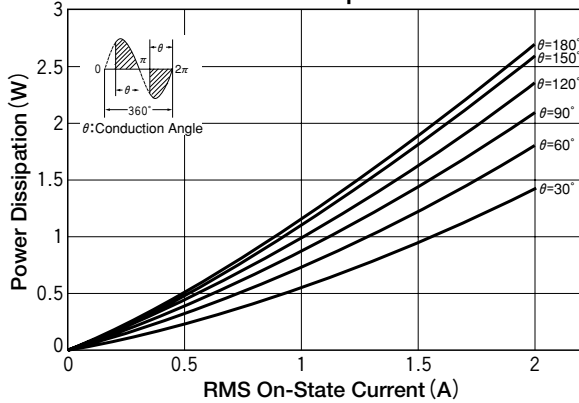
Gate Characteristics



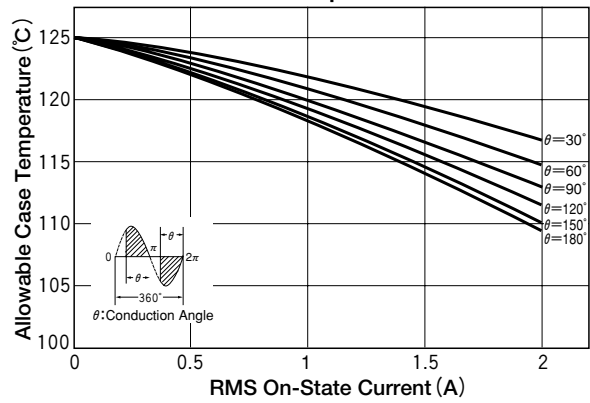
On-State Characteristics (MAX)



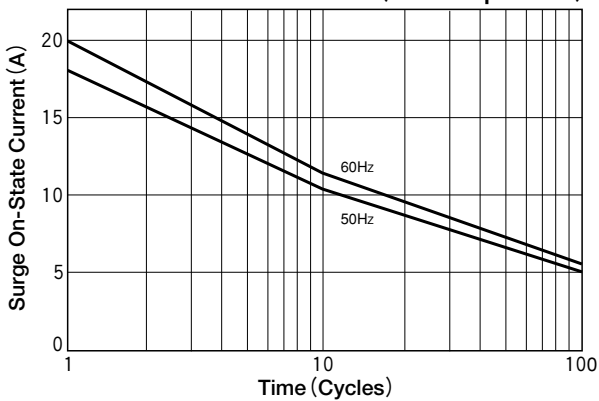
RMS On-State Current vs Maximum Power Dissipation



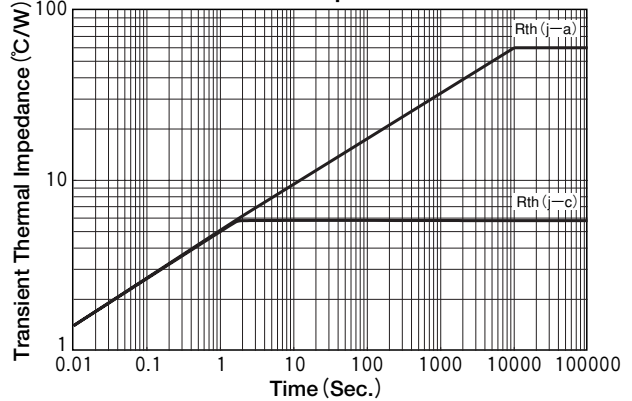
RMS On-State vs Allowable Case Temperature



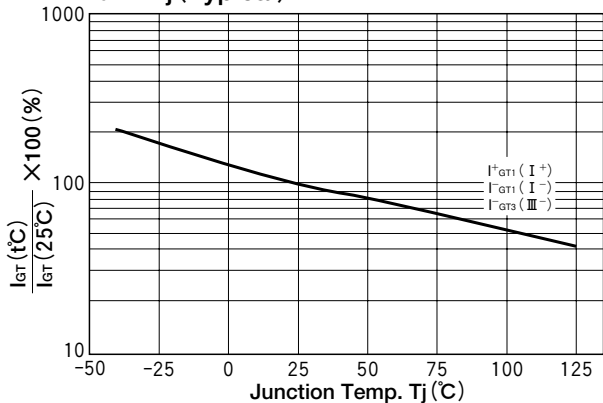
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_J$ (Typical)



$V_{GT} - T_J$ (Typical)

