

TRIAC(Through Hole/Non-isolated)

TMG5D80C

(Sensitive Gate)

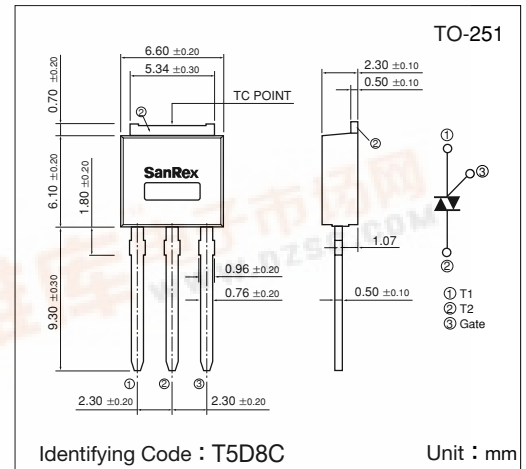
SanRex Triac **TMG5D80C** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

- $I_{T(RMS)}=5A$
- High Surge Current
- Low Voltage Drop
- Lead-Free Package



Maximum Ratings

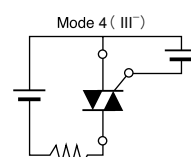
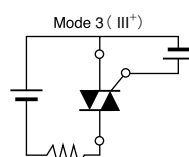
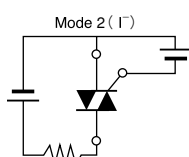
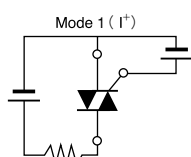
($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=107^\circ\text{C}$	5	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	50/55	A
I^2t	I^2t (for fusing)		12.6	A^2S
P_{GM}	Peak Gate Power Dissipation		3	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.3	W
I_{GM}	Peak Gate Current		2	A
V_{GM}	Peak Gate Voltage		10	V
T_j	Operating Junction Temperature		$-40 \sim +125$	$^\circ\text{C}$
T_{stg}	Storage Temperature		$-40 \sim +150$	$^\circ\text{C}$
	Mass		0.39	g

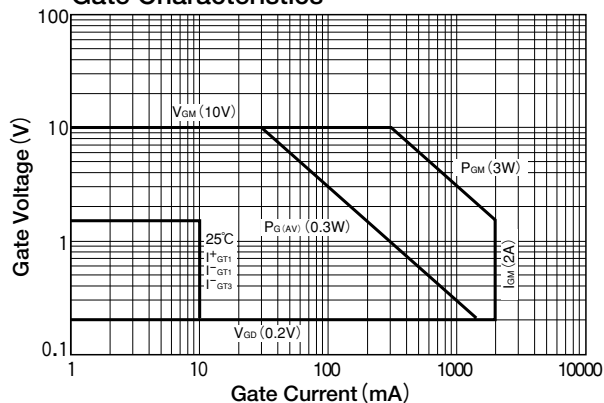
Electrical Characteristics

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=7A, Inst. measurement			1.4	V
I_{GT1}^{+}	1	Gate Trigger Current	VD=6V, RL=10Ω			10	mA
I_{GT1}^{-}	2					10	
I_{GT3}^{+}	3					—	
I_{GT3}^{-}	4					10	
V_{GT1}^{+}	1	Gate Trigger Voltage				1.5	V
V_{GT1}^{-}	2					1.5	
V_{GT3}^{+}	3					—	
V_{GT3}^{-}	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=−2.5A/ms, VD=400V	5			V/μs
IH	Holding Current				10		mA
Rth(j-c)	Thermal Resistance		Junction to case			3.0	℃/W

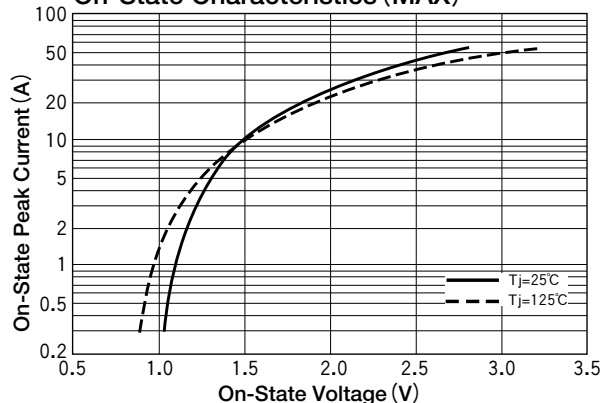
Trigger mode of the triac



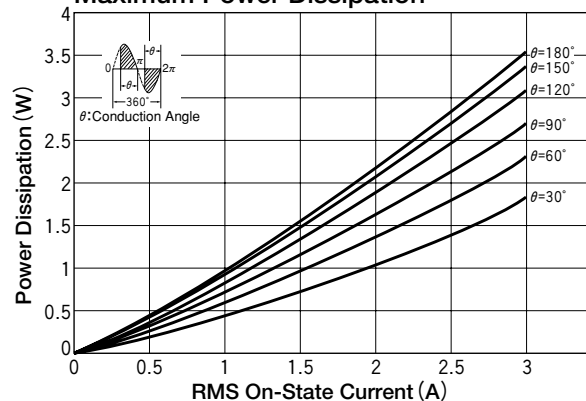
Gate Characteristics



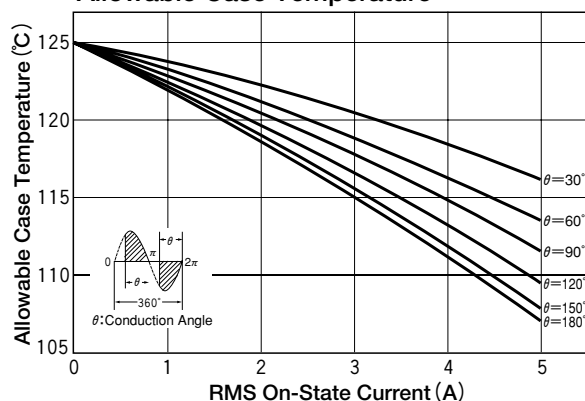
On-State Characteristics (MAX)



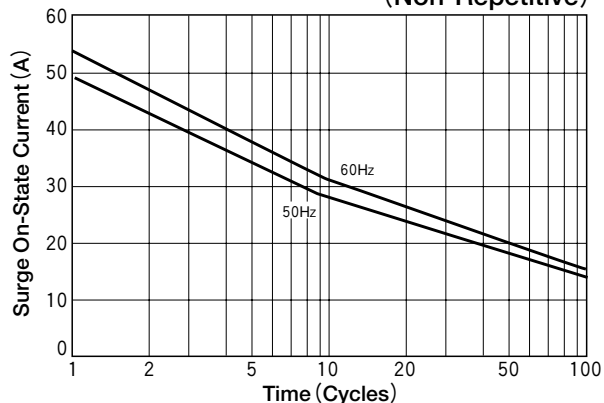
RMS On-State Current vs Maximum Power Dissipation



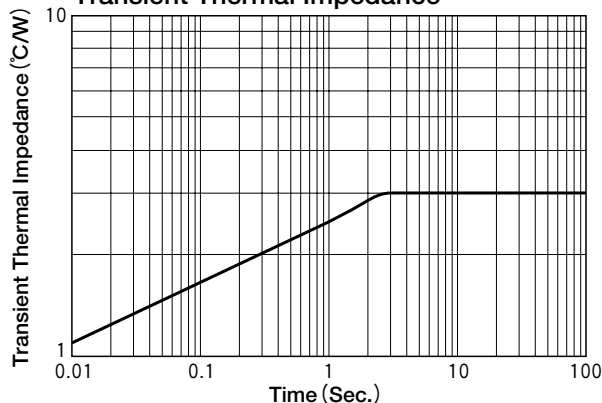
RMS On-State vs Allowable Case Temperature



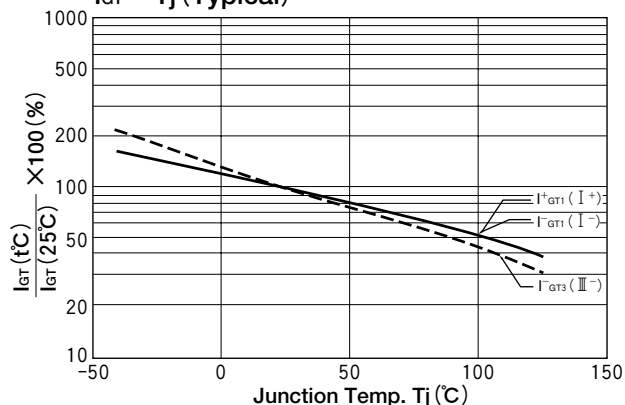
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



$I_{GT} - T_J$ (Typical)



$V_{GT} - T_J$ (Typical)

