

TRIAC(Through Hole/Non-isolated)

TMG3DQ60C

(Tj=150°C / Sensitive Gate)

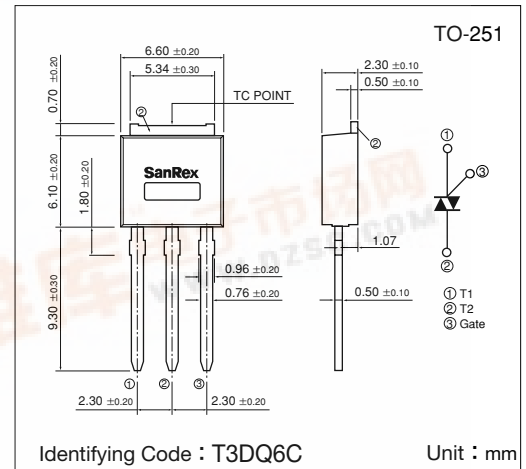
SanRex Triac **TMG3DQ60C** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

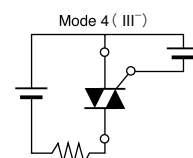
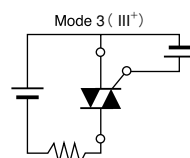
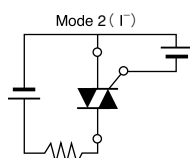
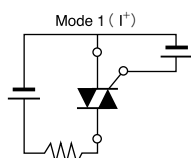
(Tj=25°C unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=136^\circ C$	3	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	27/30	A
I^2t	I^2t (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		0.39	g

Electrical Characteristics

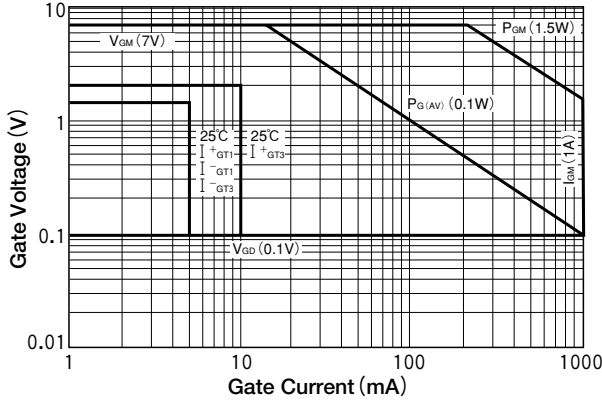
Symbol	Item	Reference	Ratings			Unit	
			Min.	Typ.	Max.		
IDRM	Repetitive Peak Off-State Current	VD=VDRM, Single phase, half wave, Tj=150°C			2	mA	
VTM	Peak On-State Voltage	It=4.5A, Inst. measurement			1.4	V	
IGT1 ⁺	1	VD=6V, RL=10Ω			5	mA	
IGT1 ⁻	2				5		
IGT3 ⁺	3				10		
IGT3 ⁻	4				5		
VGT1 ⁺	1		Gate Trigger Voltage			1.5	V
VGT1 ⁻	2					1.5	
VGT3 ⁺	3					2,0	
VGT3 ⁻	4					1.5	
VGD	Non-Trigger Gate Voltage	Tj=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	1			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

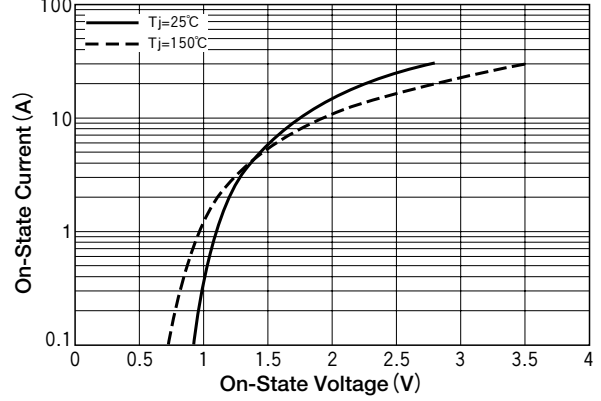


TMG3DQ60C

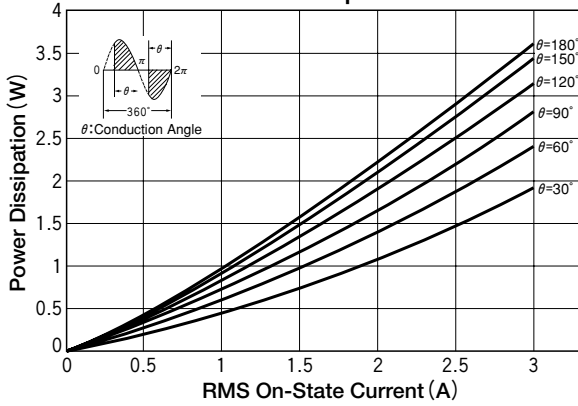
Gate Characteristics



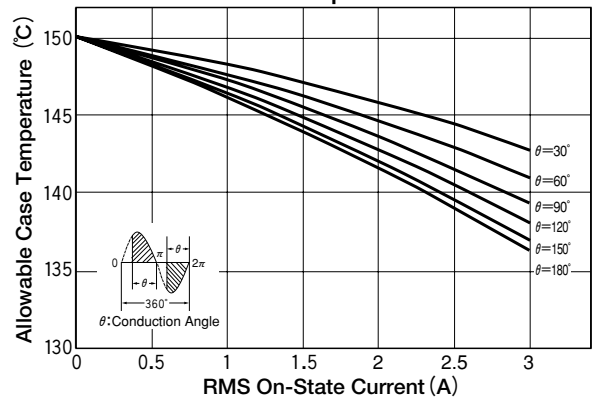
On-State Characteristics (MAX)



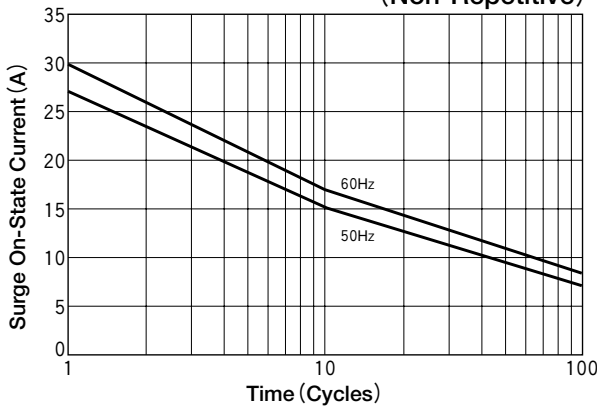
RMS On-State Current vs Maximum Power Dissipation



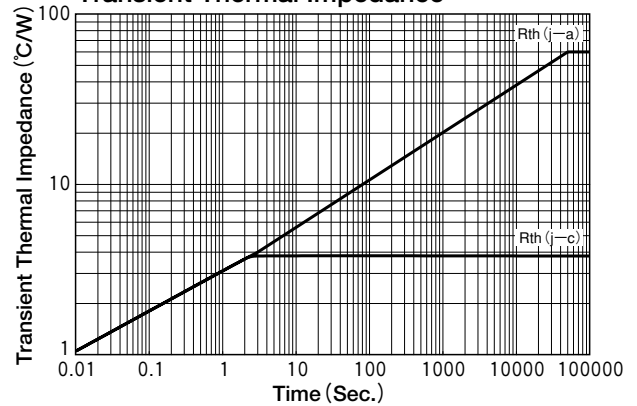
RMS On-State vs Allowable Case Temperature



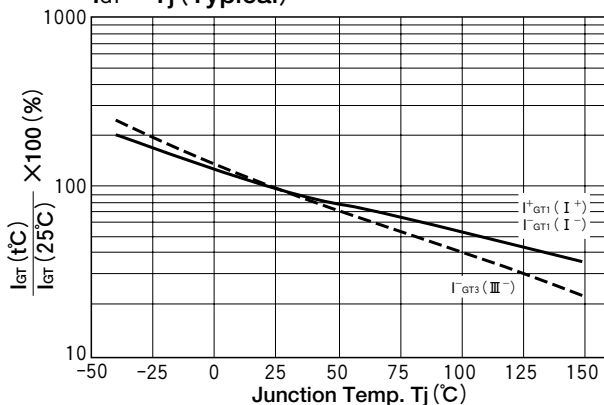
Surge On-State Current Rating (Non-Repetitive)



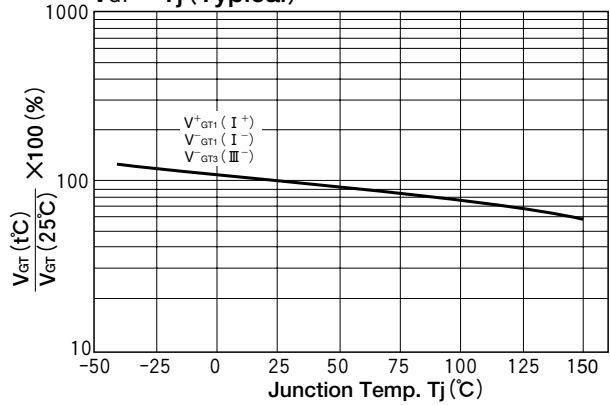
Transient Thermal Impedance



$I_{GT} - T_j$ (Typical)



$V_{GT} - T_j$ (Typical)



R.M.S On-State vs
Allowable Ambient Temperature

