TRIAC(Surface Mount Device / Non-isolated)

TMG2DQ60D (Tj=150℃ / Sensitive Gate)

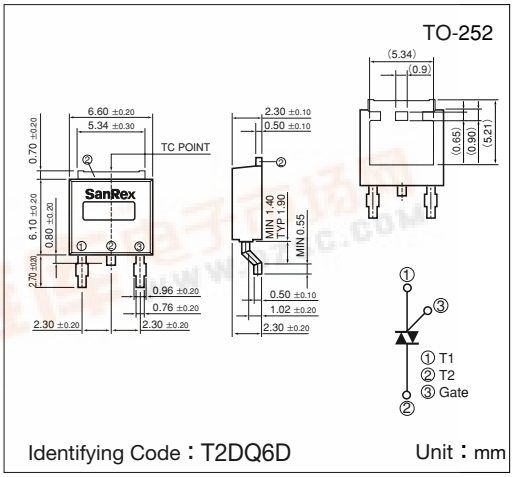
SanRex Triac **TMG2DQ60D** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

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

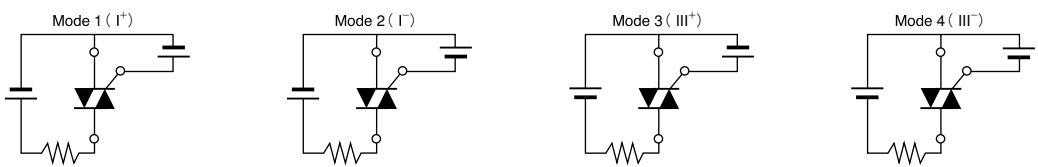
(Tj=25℃ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	Tc=134℃	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^2S
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
Tj	Operating Junction Temperature		−40～+150	℃
Tstg	Storage Temperature		−40～+150	℃
	Mass		0.32	g

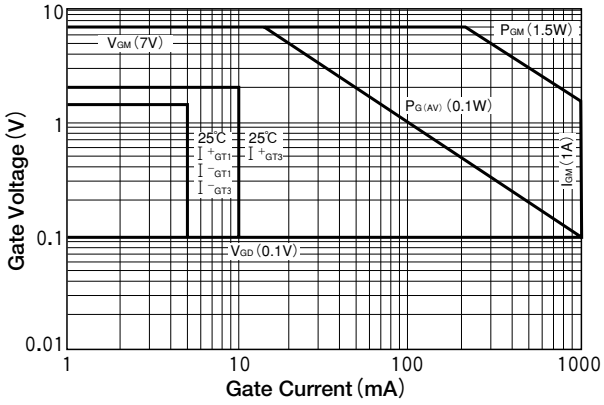
■Electrical Characteristics

Symbol		Item	Reference	Ratings			Unit
				Min.	Typ.	Max.	
I_{DRM}		Repetitive Peak Off-State Current	V_D=V_{DRM}, Single phase, half wave, Tj=150℃			1	mA
V_{TM}		Peak On-State Voltage	I_T=3A, Inst. measurement			1.6	V
I_{GT1}^{+}	1	Gate Trigger Current	V_D=6V, R_L=10Ω			5	mA
I_{GT1}^{-}	2					5	
I_{GT3}^{+}	3					10	
I_{GT3}^{-}	4					5	
V_{GT1}^{+}	1	Gate Trigger Voltage				1.5	V
V_{GT1}^{-}	2					1.5	
V_{GT3}^{+}	3					2.0	
V_{GT3}^{-}	4					1.5	
V_{GD}		Non-Trigger Gate Voltage	Tj=150℃, V_D=½V_{DRM}	0.1			V
(dv/dt)c		Critical Rate of Rise of Off-State Voltage at Commutation	Tj=150℃, (di/dt)c=−1A/ms, V_D=⅔V_{DRM}	1			V/μs
I_H		Holding Current			2		mA
Rth(j-c)		Thermal Resistance	Junction to case			5.8	℃/W
Rth(j-a)			Junction to ambient			60	℃/W

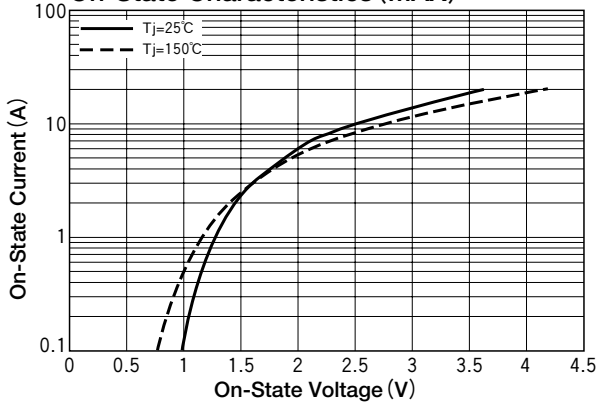
Trigger mode of the triac



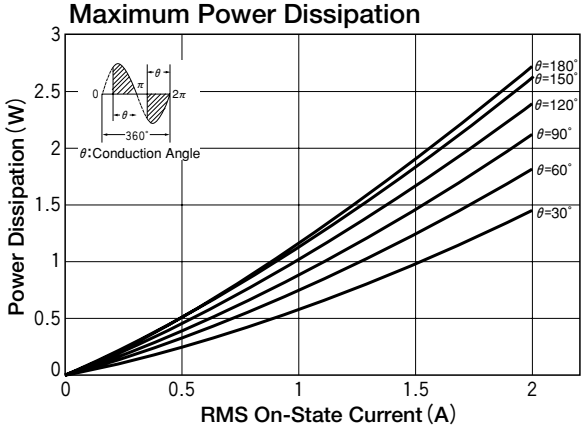
Gate Characteristics



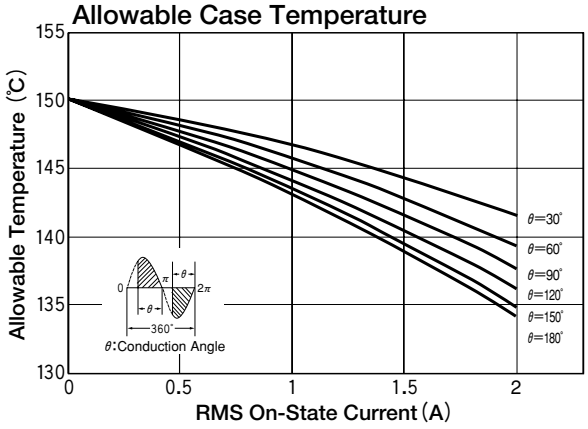
On-State Characteristics (MAX)



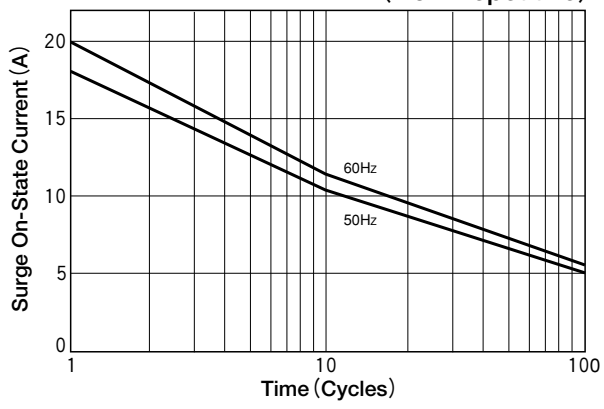
RMS On-State Current vs Maximum Power Dissipation



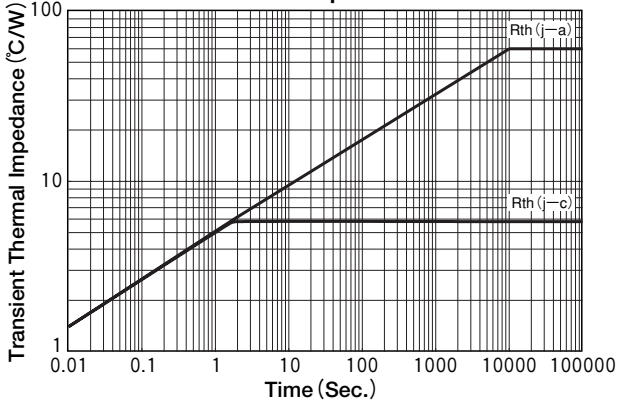
RMS On-State vs Allowable Case Temperature



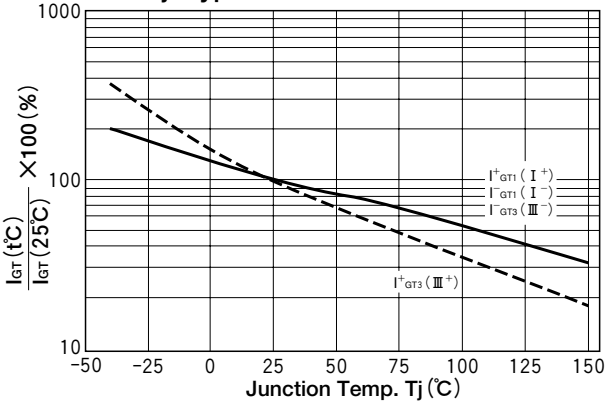
Surge On-State Current Rating (Non-Repetitive)



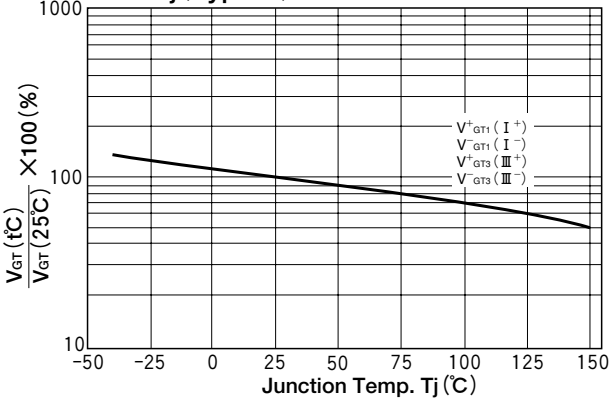
Transient Thermal Impedance



IGT −Tj (Typical)



VGT −Tj (Typical)



RMS On-State vs
Allowable Ambient Temperature