TRIAC(Through Hole / Isolated)

TMG12C60F2

SanRex Triac **TMG12C60F2** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

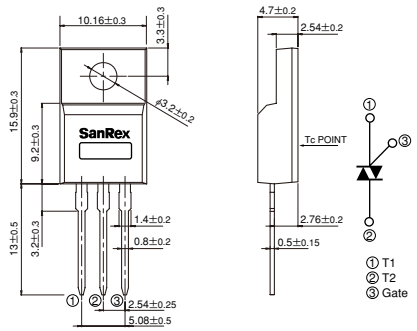
Typical Applications

- 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

- $I_{T(RMS)}$=12A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package

TO-220F2



Identifying Code：T12C6F2 Unit：mm

■Maximum Ratings

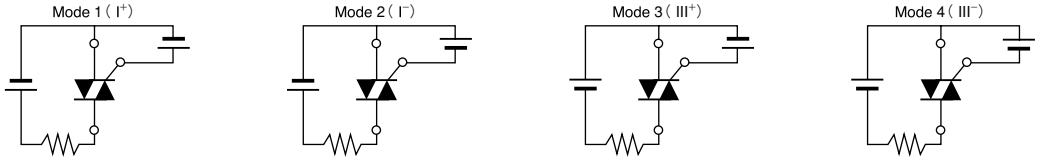
(Tj=25℃ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	Tc=79℃	12	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	119/130	A
I^2t	I^2t (for fusing)		71	A^2S
P_{GM}	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
I_{GM}	Peak Gate Current		2	A
V_{GM}	Peak Gate Voltage		10	V
V_{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	1500	V
Tj	Operating Junction Temperature		−40～+125	℃
Tstg	Storage Temperature		−40～+150	℃
	Mass		2	g

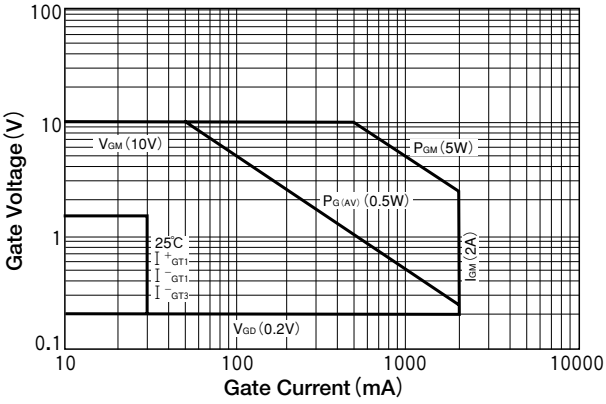
■Electrical Characteristics

Symbol		Item	Reference	Ratings			Unit
				Min.	Typ.	Max.	
I_{DRM}		Repetitive Peak Off-State Current	$V_D=V_{DRM}$, Single phase, half wave, Tj=125℃			2	mA
V_{TM}		Peak On-State Voltage	I_T=20A, Inst. measurement			1.4	V
I_{GT1}^{+}	1	Gate Trigger Current	V_D=6V, R_L=10Ω			30	mA
I_{GT1}^{-}	2					30	
I_{GT3}^{+}	3					—	
I_{GT3}^{-}	4					30	
V_{GT1}^{+}	1	Gate Trigger Voltage				1.5	V
V_{GT1}^{-}	2					1.5	
V_{GT3}^{+}	3					—	
V_{GT3}^{-}	4					1.5	
V_{GD}		Non-Trigger Gate Voltage	Tj=125℃, $V_D=\frac{1}{2}V_{DRM}$	0.2			V
〔dv/dt〕c		Critical Rate of Rise of Off-State Voltage at Commutation	Tj=125℃, 〔di/dt〕c=−6A/ms, $V_D=\frac{2}{3}V_{DRM}$	10			V/μs
I_H		Holding Current			20		mA
Rth		Thermal Resistance	Junction to case			3.3	℃/W

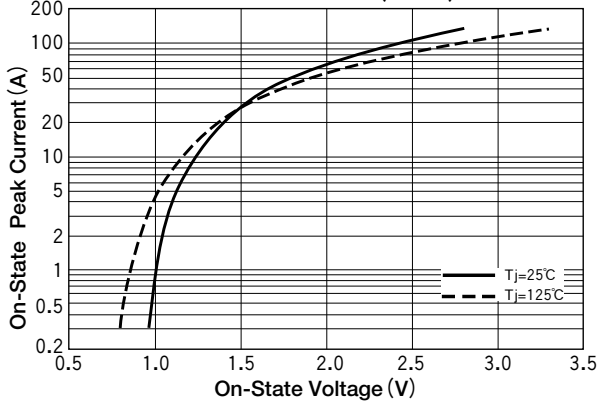
Trigger mode of the triac



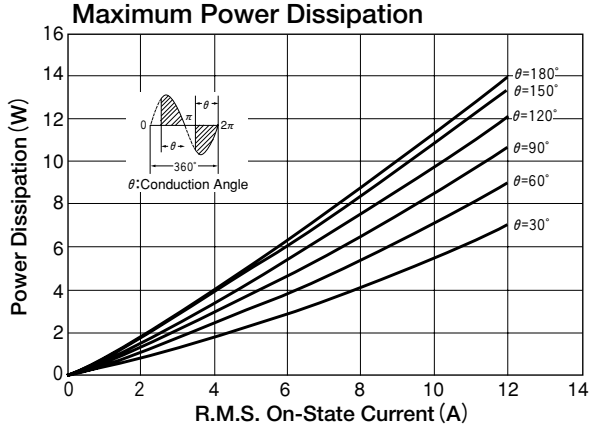
Gate Characteristics



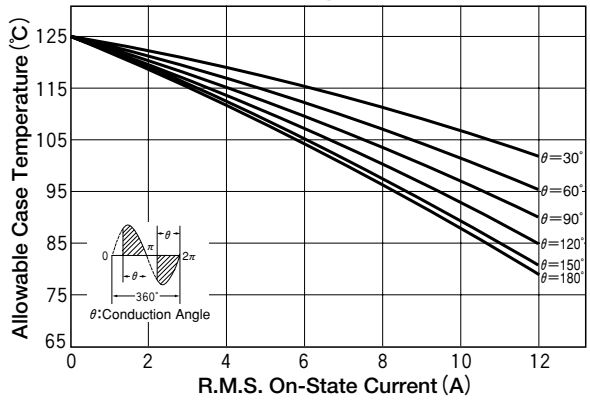
On-State Characteristics (MAX)



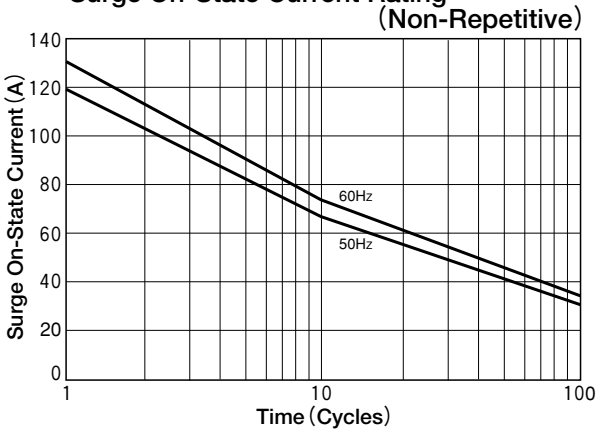
R.M.S. On-State Current vs Maximum Power Dissipation



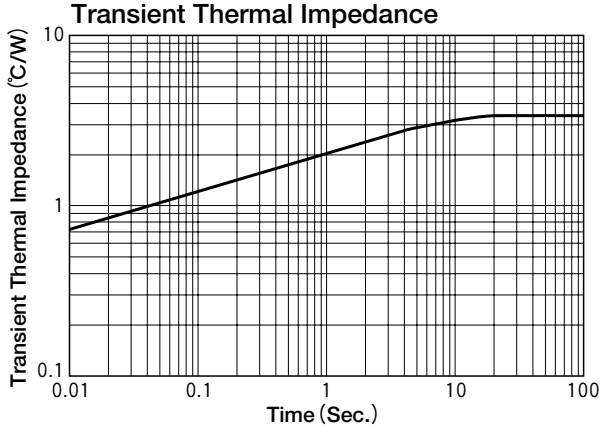
R.M.S. On-State vs Allowable Case Temperature



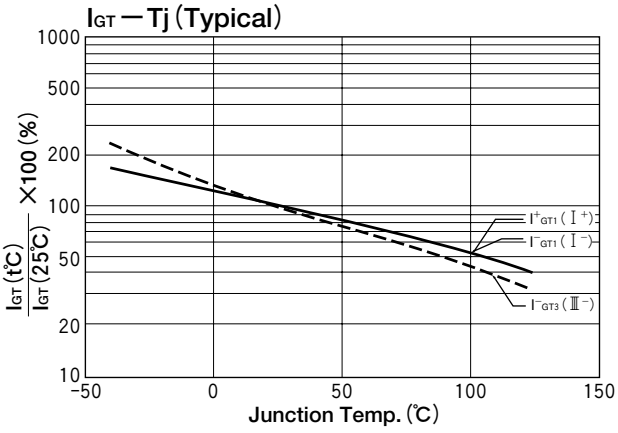
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



IGT — Tj (Typical)



VGT — Tj (Typical)