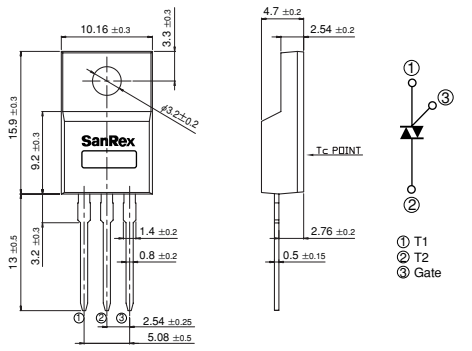
TRIAC(Through Hole / Isolated)

TMG25D60F

(Sensitive Gate)

SanRex Triac **TMG25D60F** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

TO-220F2



Identifying Code：T25D6F　　Unit：mm

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

- $I_{T(RMS)}$=25A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package

■Maximum Ratings

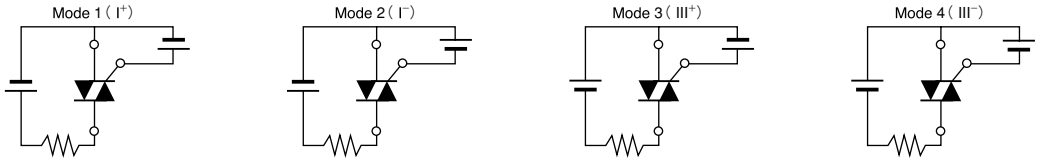
(Tj=25℃ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S. On-State Current	Tc=68℃	25	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	225/250	A
I^2t	I^2t (for fusing)		260	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		2.2	g

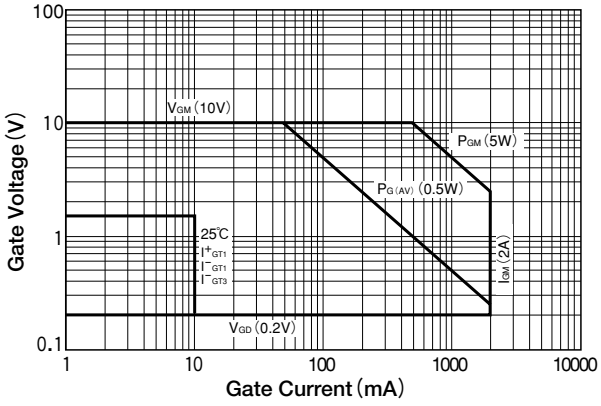
■Electrical Characteristics

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℃			5	mA
V_{TM}		Peak On-State Voltage	I_T=35A, Inst. measurement			1.4	V
I_{GT1}^{+}	1	Gate Trigger Current	V_D=6V, R_L=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	
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=−12.5A/ms, $V_D=\frac{2}{3}V_{DRM}$	10			V/μs
I_H		Holding Current			35		mA
Rth		Thermal Resistance	Junction to case			1.9	℃/W

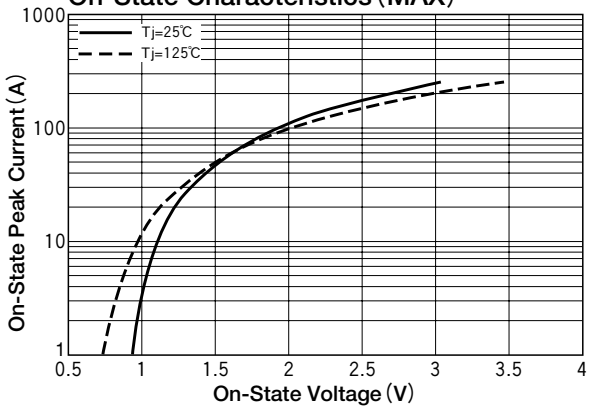
Trigger mode of the triac



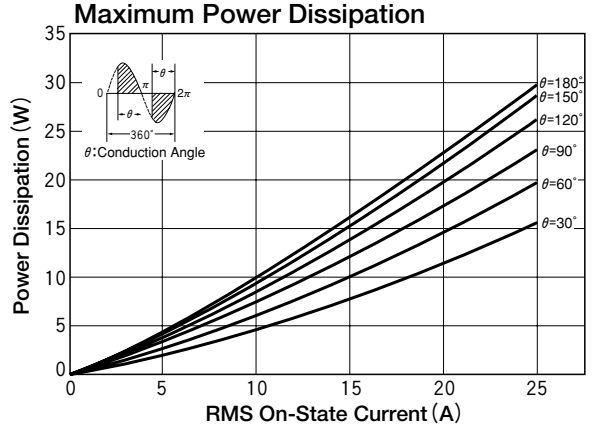
Gate Characteristics



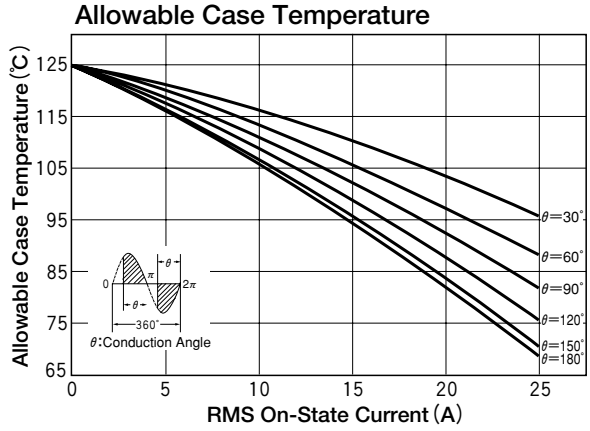
On-State Characteristics (MAX)



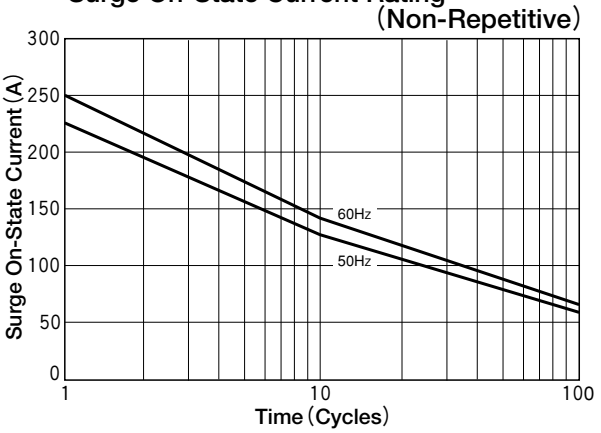
RMS On-State Current vs Maximum Power Dissipation



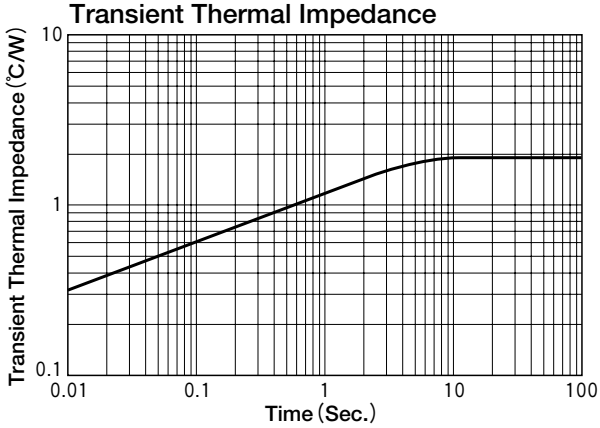
RMS On-State vs Allowable Case Temperature



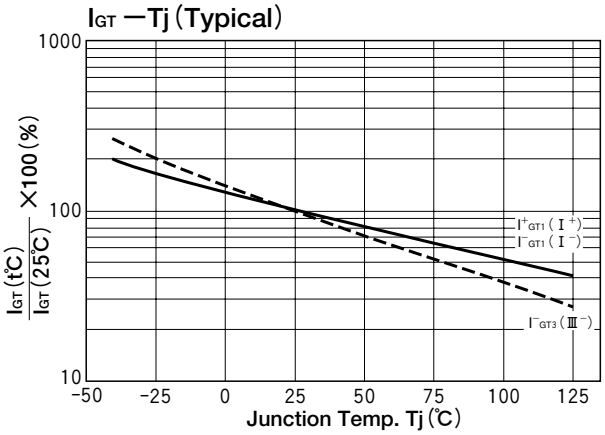
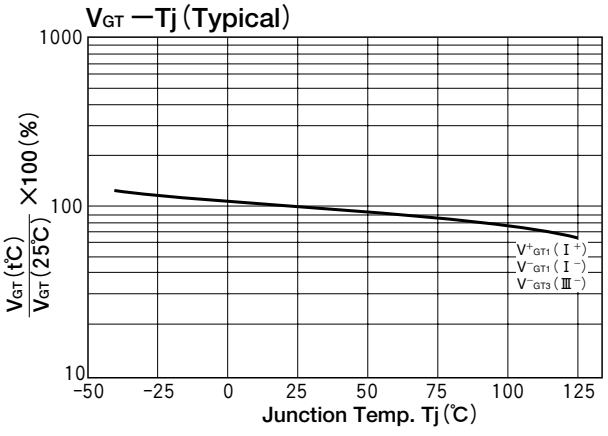
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



IGT —Tj (Typical)



VGT —Tj (Typical)