SMG12C60H

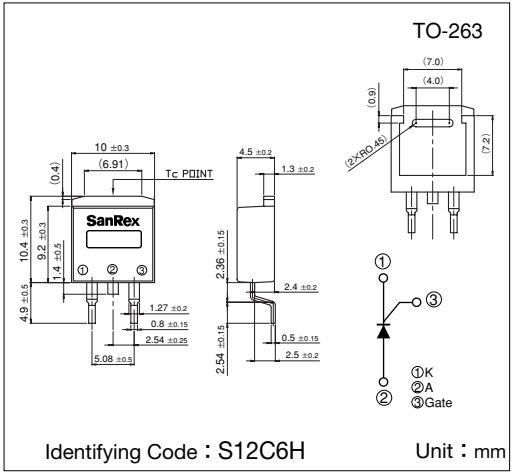
SanRex Thyristor **SMG12C60H** is designed for full wave AC control applications. It can be used as an ON/OFF function or for phase control operation.

Typical Applications

- Home Appliances : Electric Blankets, Starter for FL, other control applications
- Industrial Use : SMPS, Solenoid for Breakers, Motor Controls, Heater Controls, other control applications

Features

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



■Maximum Ratings

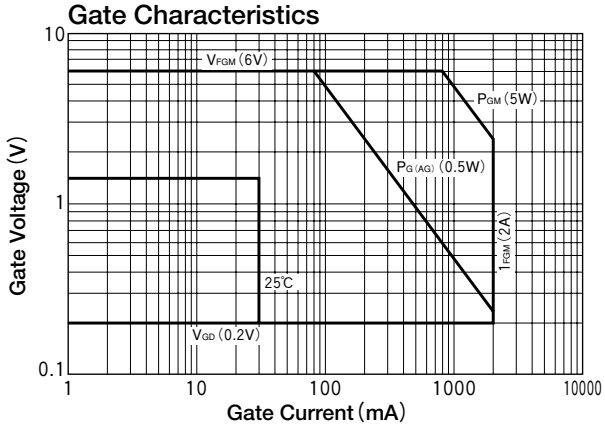
(T_j=25℃ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		600	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage		720	V
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(AV)}$	Average On-State Current	Single phase, half wave, 180°, conduction, Tc=94℃	12	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180°, conduction, Tc=94℃	18.8	A
I_{TSM}	Surge On-State Current	50Hz/60Hz, ½ cycle Peak value, non-repetitive	180/197	A
I^2t	I^2t		167	A^2S
P_{GM}	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
I_{FGM}	Peak Gate Current		2	A
V_{FGM}	Peak Gate Voltage (Forward)		6	V
V_{RGM}	Peak Gate Voltage (Reverse)		10	V
Tj	Operating Junction Temperature		−40～+125	℃
Tstg	Storage Temperature		−40～+150	℃
	Mass		1.2	g

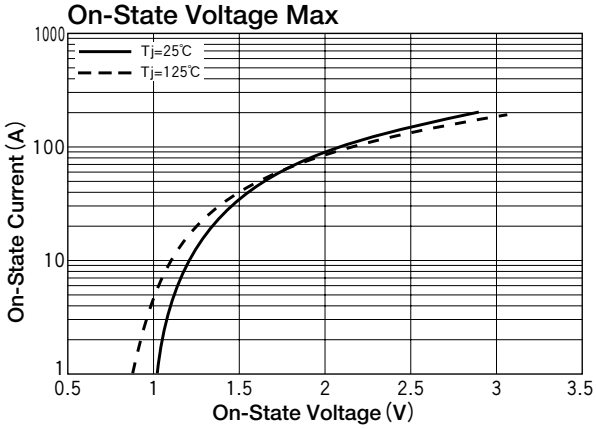
■Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-State Current	Tj=125℃, V_D=V_{DRM}			2	mA
I_{RRM}	Repetitive Peak Reverse Current	Tj=125℃, V_R=V_{RRM}			2	mA
V_{TM}	Peak On-State Voltage	I_T=35A, Inst. measurement			1.5	V
I_{GT}	Gate Trigger Current	V_D=6V, R_L=10Ω			30	mA
V_{GT}	Gate Trigger Voltage				1.4	V
V_{GD}	Non-Trigger Gate Voltage	Tj=125℃, V_D=½V_{DRM}	0.2			V
I_H	Holding Current			15		mA
Rth (j-c)	Thermal Resistance	Junction to case			1.8	℃/W

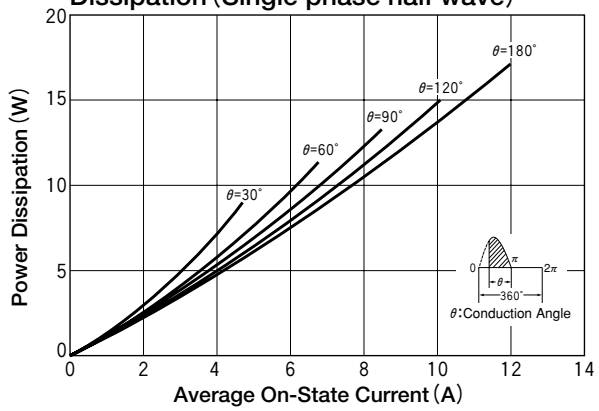
Gate Characteristics



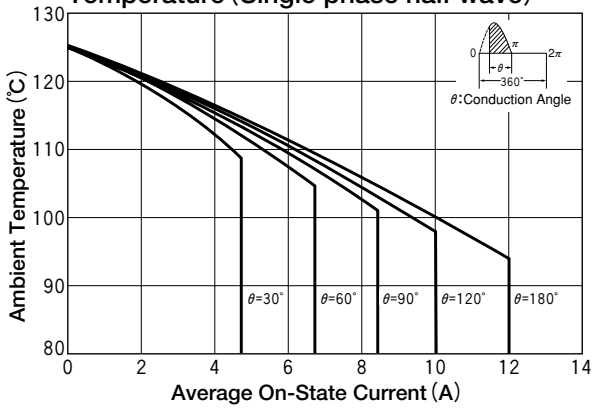
On-State Voltage Max



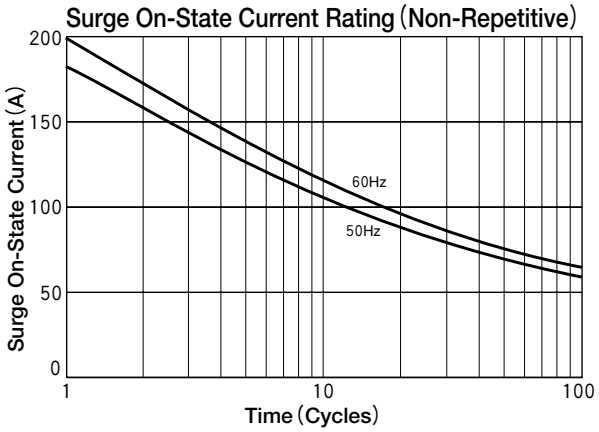
Average On-State Current vs Power Dissipation (Single phase half wave)



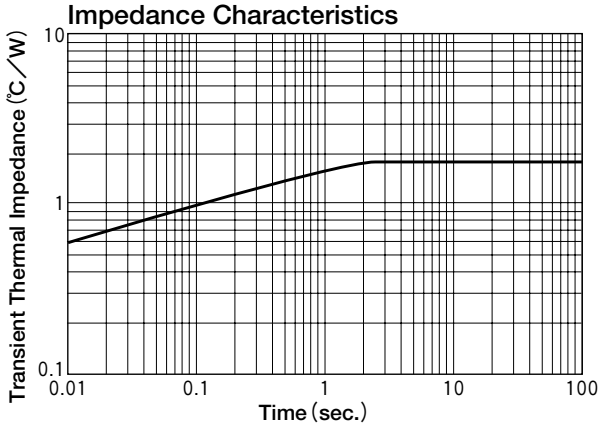
Average On-State Current vs Ambient Temperature (Single phase half wave)



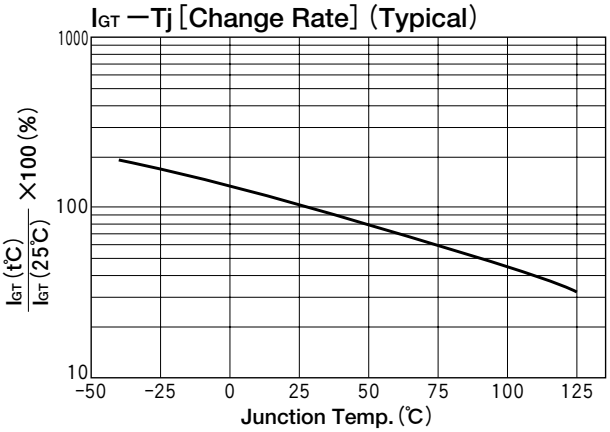
Surge On-State Current Rating (Non-Repetitive)



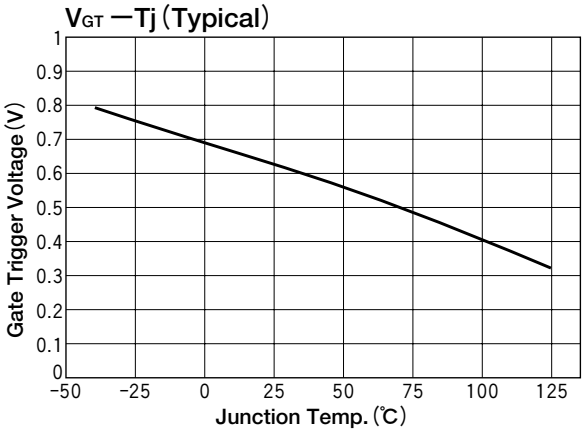
Maximum Transient Thermal Impedance Characteristics



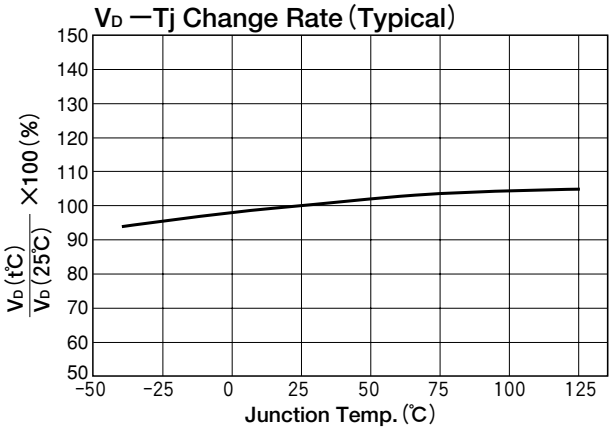
IGT —Tj [Change Rate] (Typical)



VGT —Tj (Typical)



V_D —Tj Change Rate (Typical)



V_R —Tj Change Rate (Typical)

