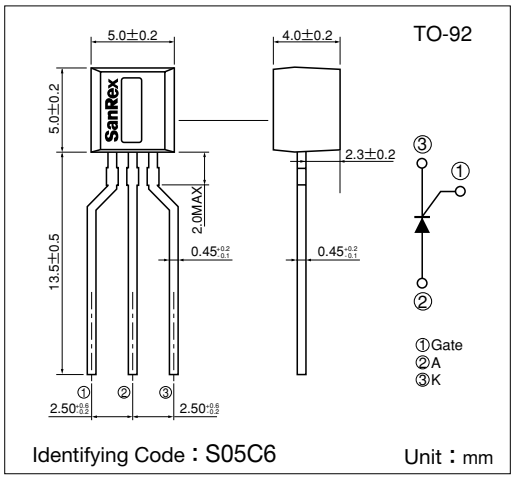
THYRISTOR(Through Hole)

SMG05C60

(Sensitive Gate)

SanRex Thyristor **SMG05C60** 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

- $I_{T(AV)}$=0.5A
- High Surge Current
- Low Voltage Drop

■Maximum Ratings

(Tj=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, Ta=39℃	0.5	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180°, conduction, Ta=39℃	0.78	A
I_{TSM}	Surge On-State Current	50/60Hz, ½ cycle Peak value, non-repetitive	18/20	A
I^2t	I^2t		1.65	A^2S
P_{GM}	Peak Gate Power Dissipation		0.5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.1	W
I_{FGM}	Peak Gate Current		0.3	A
V_{FGM}	Peak Gate Voltage (Forward)		6	V
V_{RGM}	Peak Gate Voltage (Reverse)		6	V
Tj	Operating Junction Temperature		−40～+125	℃
Tstg	Storage Temperature		−40～+150	℃
	Mass		0.2	g

■Electrical Characteristics

Symbol	Item	Reference	Ratings			Unit
			Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-State Current	Tj=125℃, V_D=V_{DRM}, R_{GK}=1kΩ			0.5	mA
I_{RRM}	Repetitive Peak Reverse Current	Tj=125℃, V_R=V_{RRM}, R_{GK}=1kΩ			0.5	mA
V_{TM}	Peak On-State Voltage	I_T=1.5A, Inst. measurement			1.2	V
I_{GT}	Gate Trigger Current	V_D=6V, R_L=100Ω			100	μA
V_{GT}	Gate Trigger Voltage				0.8	V
V_{GD}	Non-Trigger Gate Voltage	Tj=125℃, V_D=½V_{DRM}, R_{GK}=1kΩ	0.2			V
I_H	Holding Current			300		μA
Rth(j-a)	Thermal Resistance	Junction to ambient			150	℃/W

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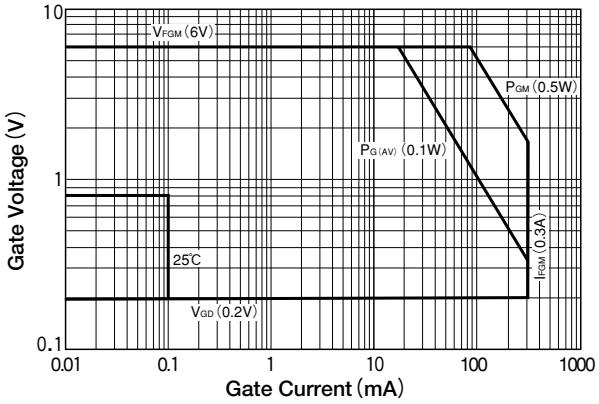
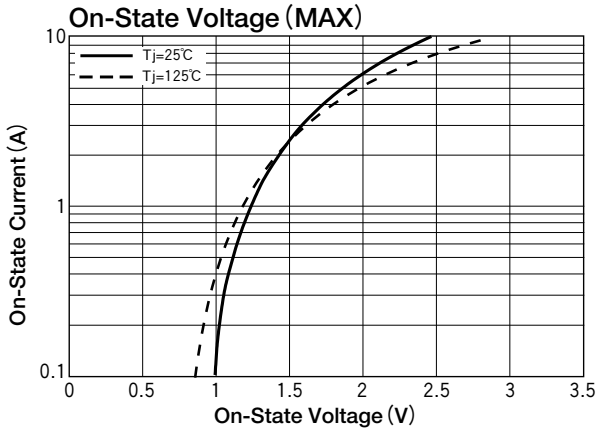
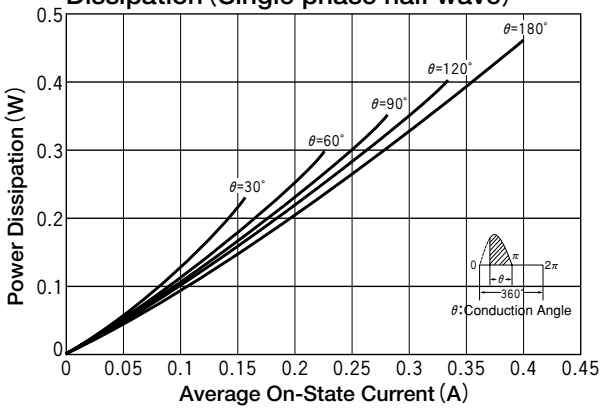
Gate Characteristics



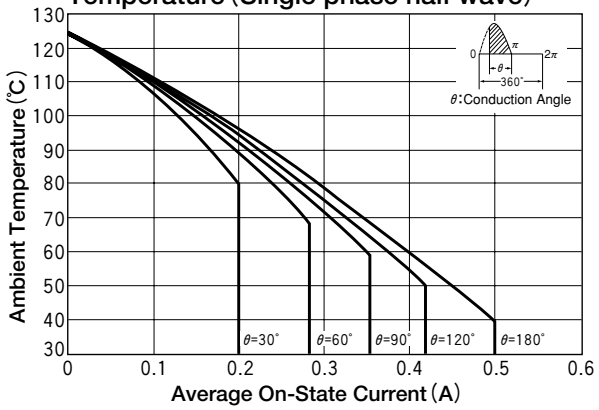
On-State Voltage (MAX)



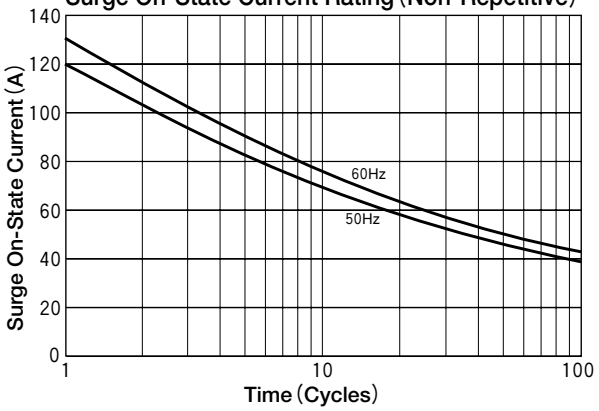
Average On-State Current vs Power Dissipation (Single phase half wave)



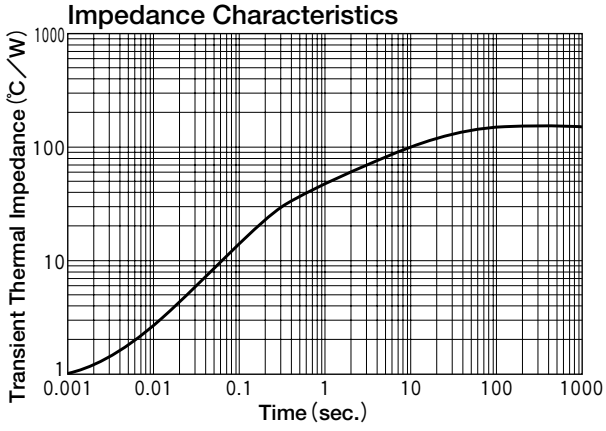
Average On-State Current vs Ambient Temperature (Single phase half wave)



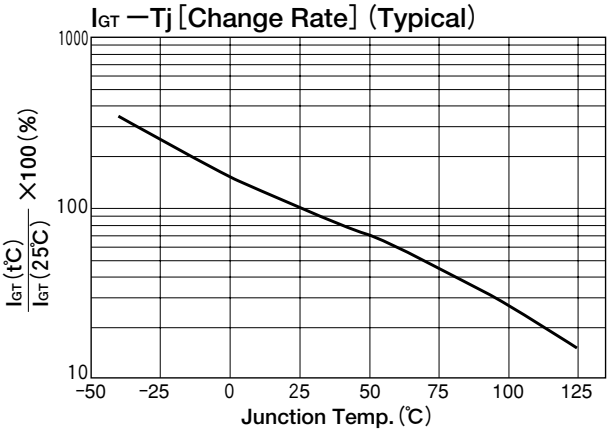
Surge On-State Current Rating (Non-Repetitive)



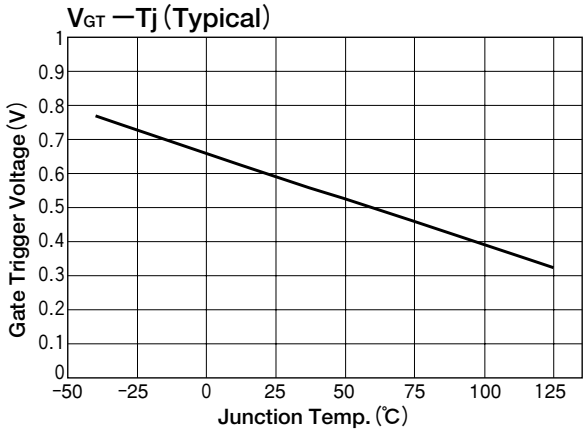
Maximum Transient Thermal Impedance Characteristics



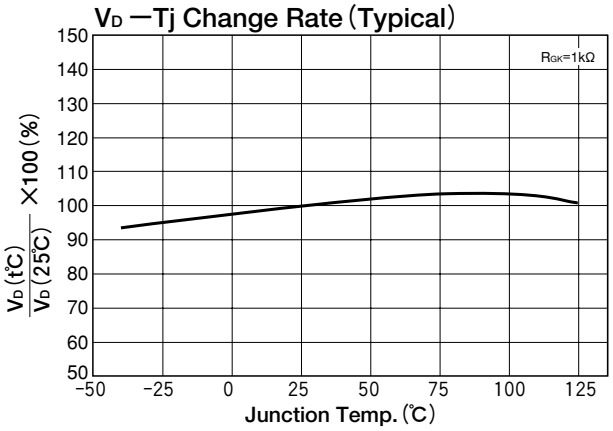
IGT —Tj [Change Rate] (Typical)



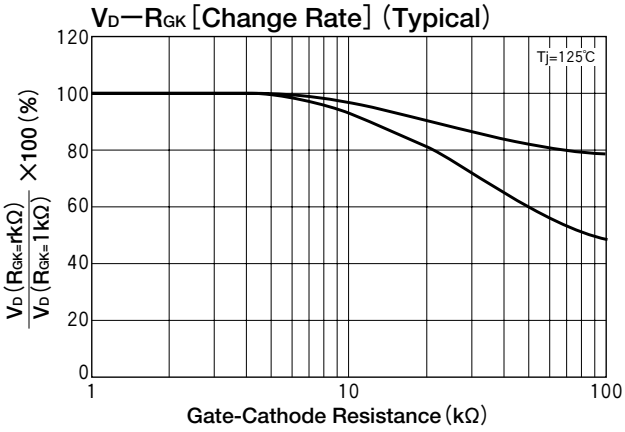
VGT —Tj (Typical)



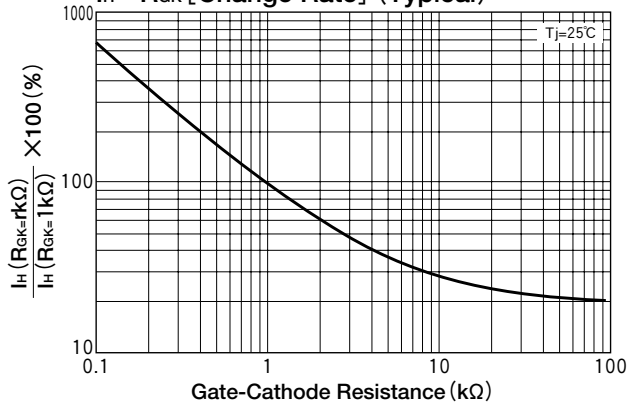
V_D —Tj Change Rate (Typical)



V_D—R_{GK} [Change Rate] (Typical)



I_H—R_{GK} [Change Rate] (Typical)



V_R —T_j Change Rate (Typical)