THYRISTOR(Through Hole/Isolated)

SMG16C60F 5

SanRex Thyristor **SMG16C60F 5** 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

- $I_{T(AV)}$=16A
- High Surge Current
- Low Voltage Drop

TO-220F 5

Identifying Code : S16C6F 5   Unit : mm

① K
② A
③ Gate
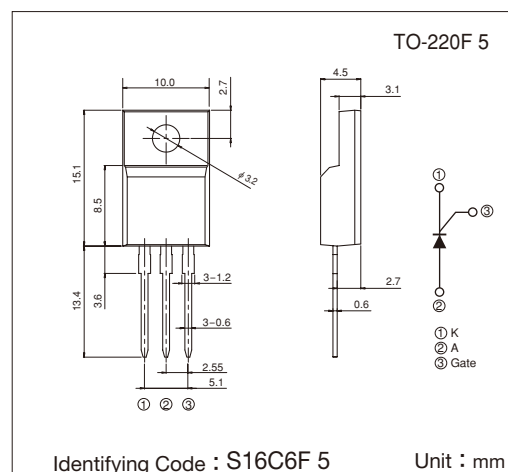
■Maximum Ratings

（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, Tc=58℃	16	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180˚, conduction, Tc=58℃	25.1	A
I_{TSM}	Surge On-State Current	50/60Hz, ½ cycle, peak value, non-repetitive	240/263	A
I^2t	I^2t		288	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
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

（Tj=25℃ unless otherwise specified）

| 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=50A, 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}				V
I_H	Holding Current			15		mA
Rth（j-c）	Thermal Resistance	Junction to case			3	℃/W

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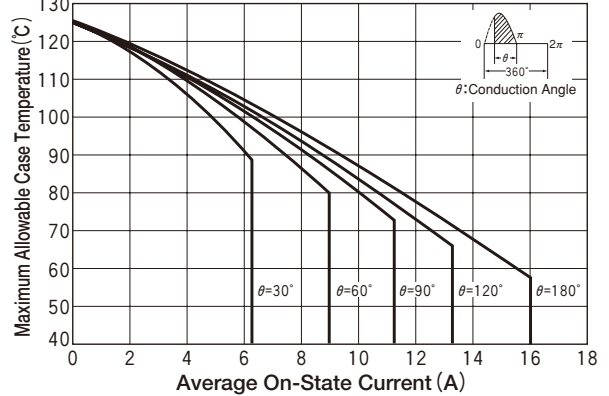
Gate Characteristics
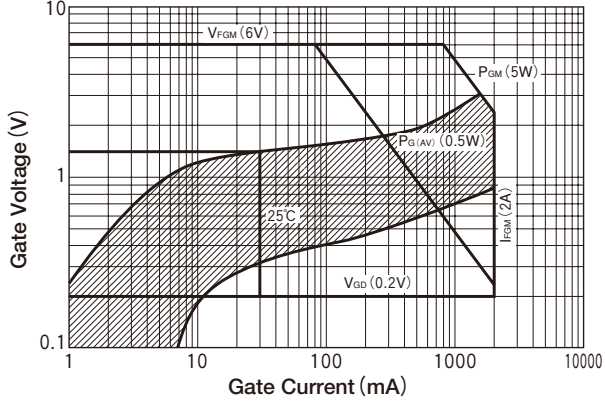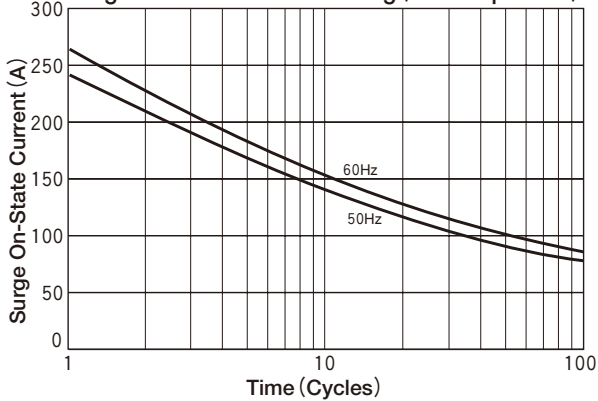

On-State Voltage Max
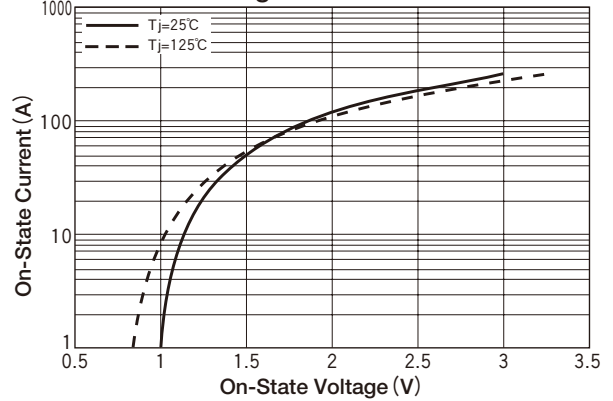
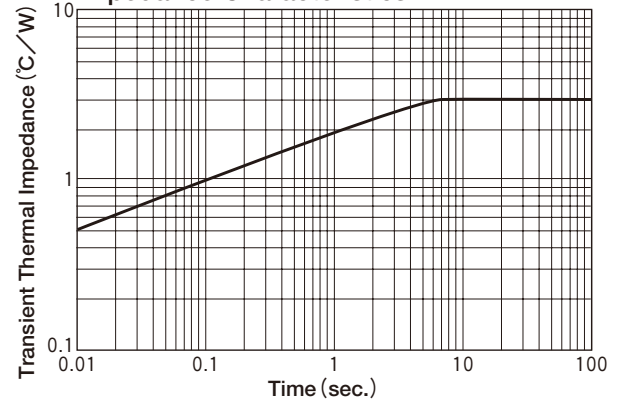## Average On-State Current vs Power Dissipation (Single phase half wave)
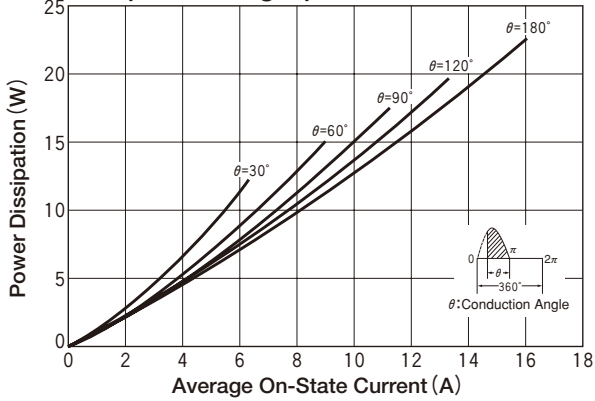
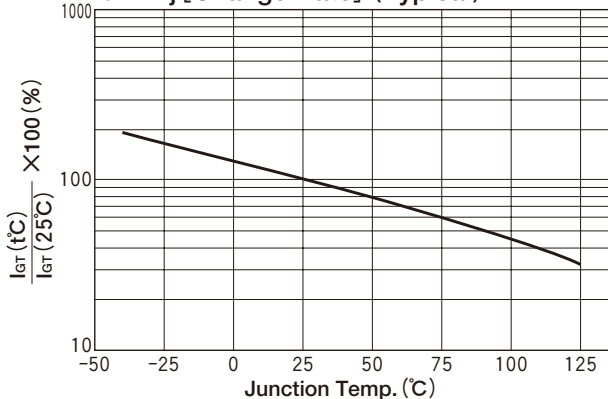## Average On-State Current vs Maximum Allowable Case Temperature (Single phase half wave)

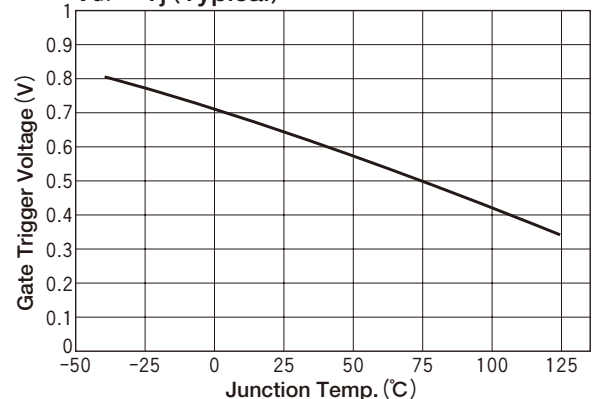## Surge On-State Current Rating (Non-Repetitive)

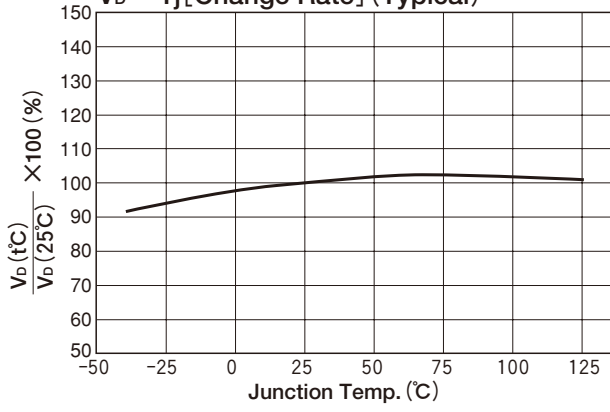## Maximum Transient Thermal Impedance Characteristics

I_{GT} — Tj [Change Rate] (Typical)

V_{GT} — Tj (Typical)

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$V_D - T_j$ [Change Rate] (Typical)

$$\frac{V_D\,(t^{\circ}C)}{V_D\,(25^{\circ}C)} \times 100\ (\%)$$

Junction Temp. (℃)

$V_R - T_j$ [Change Rate] (Typical)

$$\frac{V_R\,(t^{\circ}C)}{V_R\,(25^{\circ}C)} \times 100\ (\%)$$

Junction Temp. (℃)

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