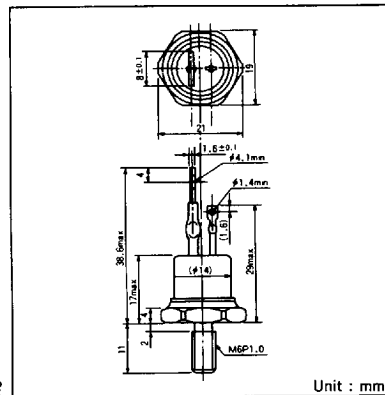


# THYRISTOR SC30C

For general phase control applications such as speed controls, light controls and welders etc.

- General power use
- $I_T = 30A$ ,  $I_{T(RMS)} = 47A$
- High voltage up to 1200V
- High surge current of 600A
- Stud type



Unit : mm

## Maximum Ratings

Symbol	Item	SC30C-40	SC30C-60	SC30C-80	SC30C-100	SC30C-120	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	400	600	800	1000	1200	V
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	480	720	960	1100	1300	V
$V_{DRM}$	Repetitive Peak Off-State Voltage	400	600	800	1000	1200	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}$	Average On-State Current	Single phase, half wave, 180° conduction, $T_c : 81^\circ C$	30	A
$I_{T(RMS)}$	R.M.S On-State Current	Single phase, half wave, 180° conduction, $T_c : 81^\circ C$	47	A
$I_{TSM}$	Surge On-State Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	540/600	A
$I^2t$	$I^2t$	Value for one cycle of surge current	1,500	A <sup>2</sup> S
$P_{GM}$	Peak Gate Power Dissipation		10	W
$P_{G(AV)}$	Average Gate Power Dissipation		1	W
$I_{FGM}$	Peak Gate Current		3	A
$V_{FGM}$	Peak Gate Voltage(Forward)		10	V
$V_{RGM}$	Peak Gate Voltage(Reverse)		5	V
$di/dt$	Critical Rate of Rise of On-State Current	$I_G = 100mA$ , $T_j = 25^\circ C$ , $V_D = 1/2 V_{DRM}$ , $di_G/dt = 1A/\mu s$	100	A/ $\mu s$
$T_j$	Operating Junction Temperature		-30 ~ +125	$^\circ C$
$T_{stg}$	Storage Temperature		-30 ~ +125	$^\circ C$
	Mounting Torque	Recommended Value 20kgf·cm	25	kgf·cm
	Mass	Excluding nut, washer 2.6g and wrapping material 4g	22.5	g

## Electrical Characteristics

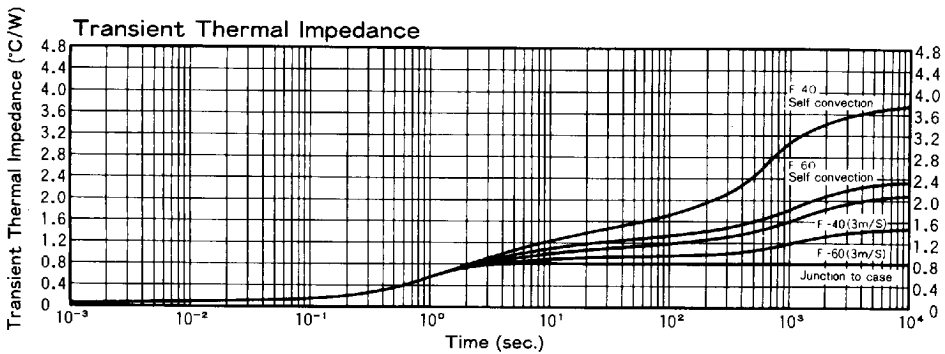
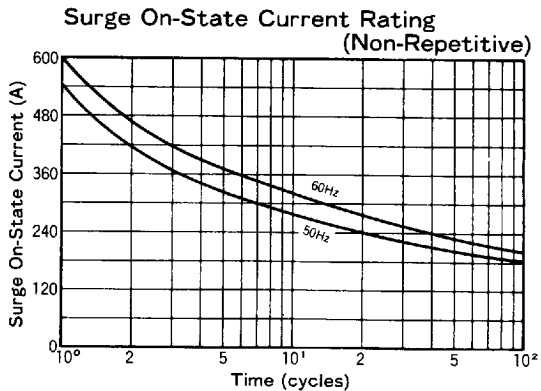
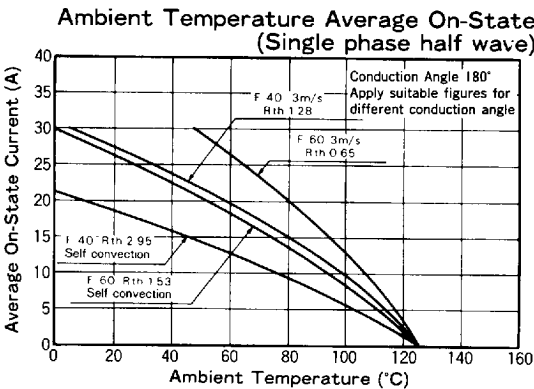
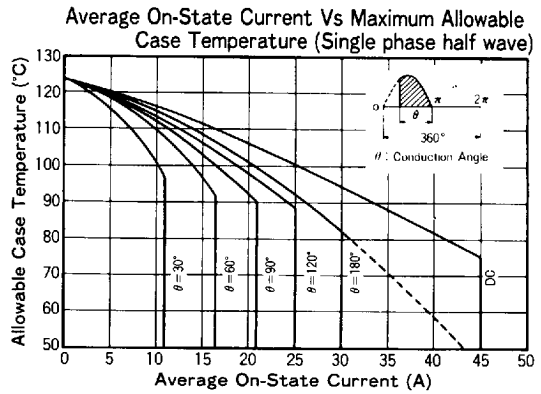
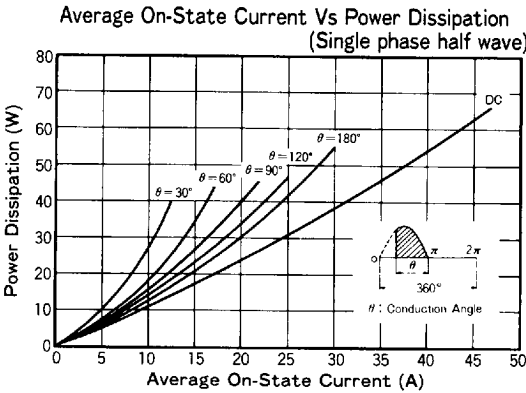
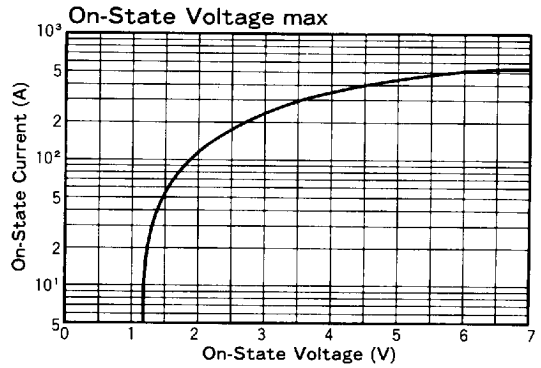
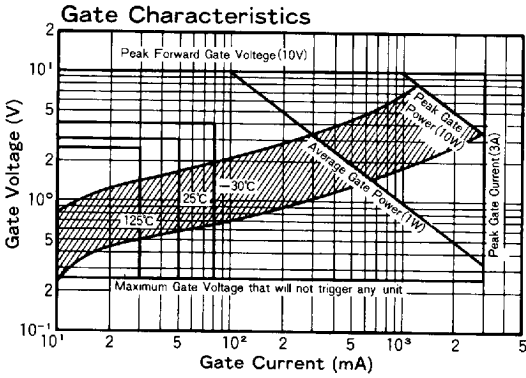
Symbol	Item	Conditions	Ratings	Unit
$I_{DRM}$	Repetitive Peak Off-State Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j = 125^\circ C$	5	mA
$I_{RRM}$	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_j = 125^\circ C$	5	mA
$V_{TM}$	Peak On-State Voltage, max.	On-State Current 100A, $T_j = 25^\circ C$ Inst. measurement	1.8	V
$I_{GT}/V_{GT}$	Gate Trigger Current/Voltage, max.	$T_j = 25^\circ C$ , $I_T = 1A$ , $V_D = 6V$	50/3	mA/V
$V_{GD}$	Non-Trigger Gate, Voltage, min.	$T_j = 125^\circ C$ , $V_D = 1/2 V_{DRM}$	0.25	V
$t_{gt}$	Turn On Time, max	$I_T = 30A$ , $I_G = 100mA$ , $T_j = 25^\circ C$ , $V_D = 1/2 V_{DRM}$ , $di_G/dt = 1A/\mu s$	10	$\mu s$
$dv/dt$	Critical Rate of Rise of On-State Voltage, min.	SC30C-40~60	$T_j = 125^\circ C$ , $V_D = 2/3 V_{DRM}$	100
		SC30C-80~120	$T_j = 125^\circ C$ , $V_D = 2/3 V_{DRM}$	200
$I_H$	Holding Current, typ.	$T_j = 25^\circ C$	30	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	0.8	$^\circ C/W$

\* mark : Thyristor and Diode part. No mark : Thyristor part

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