

THYRISTOR MODULE (ISOLATED MOLD TYPE)

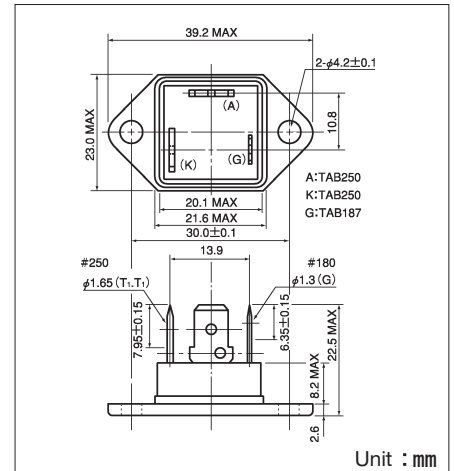
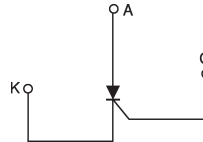
SG16AA



UL:E76102 (M)

SG16AA is an isolated molded thyristor which is suitable for a wide range of industrial and home electronics uses. SG16AA uses highly reliable glass passivation.

- $I_{T(AV)}=16A$
- high Surge Capability
- Tab terminals for easy wiring.



Maximum Ratings

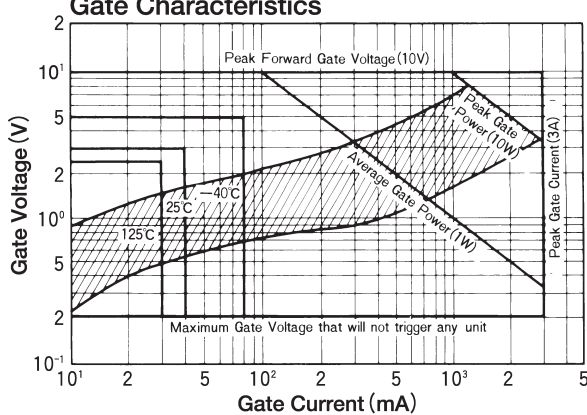
Symbol	Item	Ratings			Unit
		SG16AA20	SG16AA40	SG16AA60	
VRRM	Repetitive Peak Reverse Voltage	200	400	600	V
VRSM	Non-Repetitive Peak Reverse Voltage	240	480	720	V
VDRM	Repetitive Peak Off-State Voltage	200	400	600	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}$	Average On-State Current	Single phase, half wave, 180° conduction, $T_c : 80^\circ\text{C}$	16	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180° conduction, $T_c : 80^\circ\text{C}$	25	A
I_{TSM}	Surge On-State Current	$1/2$ cycle, 50Hz/60Hz, peak value, non-repetitive	220/250	A
I^2t	I^2t	2~10ms	260	A ² 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	$I_G=100\text{mA}$, $T_j=25^\circ\text{C}$, $V_D=1/2 V_{DRM}$, $dI_G/dt=1\text{A}/\mu\text{s}$	100	A/ μs
V_{ISO}	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V
T_j	Operating Junction Temperature		-40~+125	°C
T_{stg}	Storage Temperature		-40~+125	°C
	Mounting Torque (M4)	Recommended Value 1.0~1.4 (10~14)	1.5 (15)	N·m (kgf·cm)
	Mass		23	g

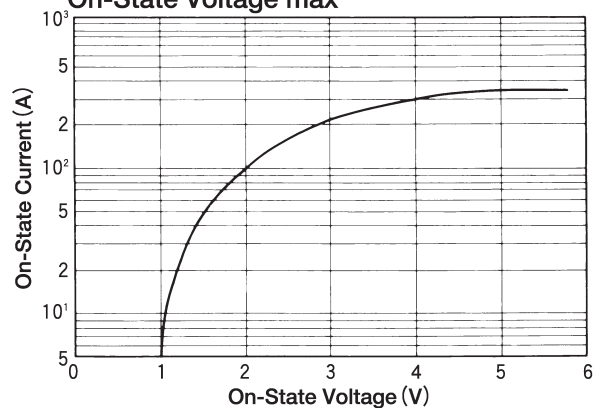
Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak Off-State Current, max.	at V_{DRM} , single phase, half wave, $T_j=125^\circ\text{C}$	3	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	at V_{DRM} , single phase, half wave, $T_j=125^\circ\text{C}$	3	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 50A, $T_j=25^\circ\text{C}$ Inst. measurement	1.50	V
I_{GT}/V_{GT}	Gate Trigger Current/Voltage, max.	$T_j=25^\circ\text{C}$, $I_T=1\text{A}$, $V_D=6\text{V}$	40/3	mA/V
V_{GD}	Non-Trigger Gate, Voltage. min.	$T_j=125^\circ\text{C}$, $V_D=1/2 V_{DRM}$	0.2	V
t_{gt}	Turn On Time, max.	$I_T=16\text{A}$, $I_G=100\text{mA}$, $T_j=25^\circ\text{C}$, $V_D=1/2 V_{DRM}$, $dI_G/dt=1\text{A}/\mu\text{s}$	10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_j=125^\circ\text{C}$, $V_D=2/3 V_{DRM}$, Exponential wave.	100	V/ μs
I_H	Holding Current, typ.	$T_j=25^\circ\text{C}$	30	mA
$R_{th(j-c)}$	Thermal Impedance, max.	Junction to case	2.0	°C/W

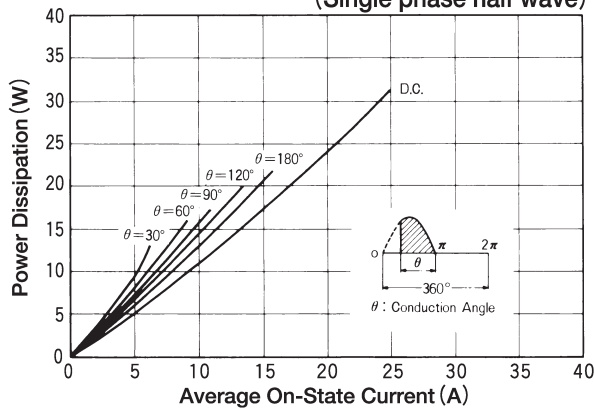
Gate Characteristics



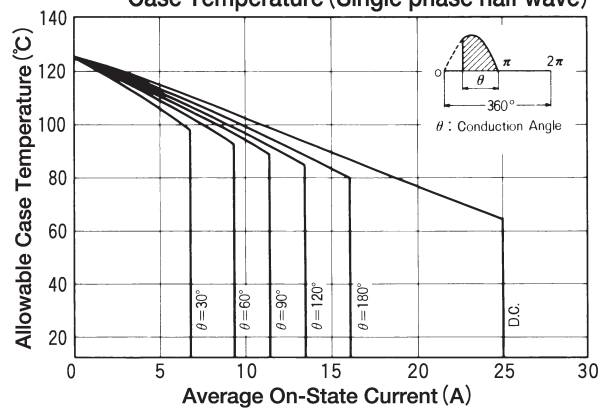
On-State Voltage max



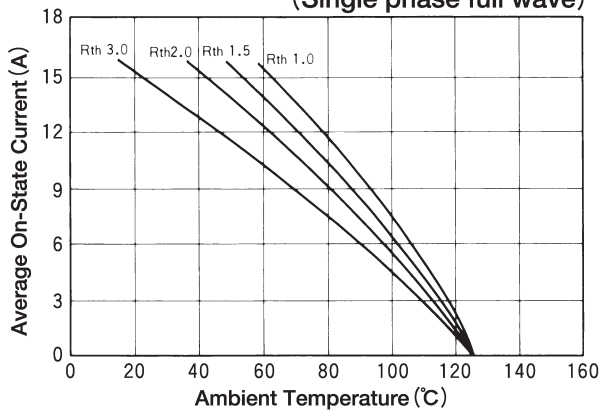
Average On-State Current Vs Power Dissipation (Single phase half wave)



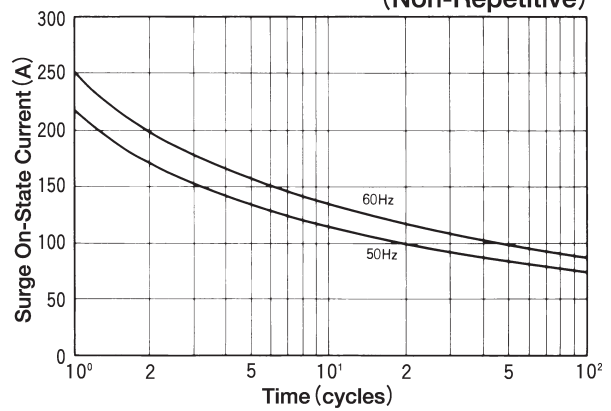
Average On-State Current Vs Maximum Allowable Case Temperature (Single phase half wave)



Ambient Temperature Average On-State (Single phase full wave)



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

