

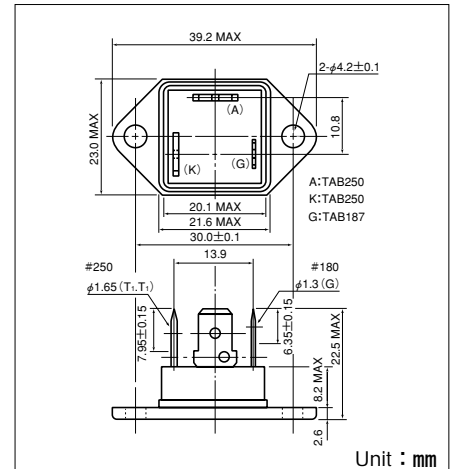
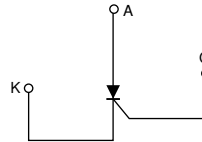
# THYRISTOR MODULE (ISOLATED MOLD TYPE)

## 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 <sup>2</sup> S
P <sub>GM</sub>	Peak Gate Power Dissipation		10	W
P <sub>G(AV)</sub>	Average Gate Power Dissipation		1	W
I <sub>FGM</sub>	Peak Gate Current		3	A
V <sub>FGM</sub>	Peak Gate Voltage(Forward)		10	V
V <sub>RGM</sub>	Peak Gate Voltage(Reverse)		5	V
di/dt	Critical Rate of Rise of On-State Current	$I_G=100\text{mA}$ , $T_J=25^\circ\text{C}$ , $V_D=1/2V_{DRM}$ , $dI_G/dt=1\text{A}/\mu\text{s}$	100	A/ $\mu\text{s}$
V <sub>ISO</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1minute	2500	V
T <sub>J</sub>	Operating Junction Temperature		-40 to +125	°C
T <sub>stg</sub>	Storage Temperature		-40 to +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 <sub>DRM</sub>	Repetitive Peak Off-State Current, max.	at $V_{DRM}$ , single phase, half wave, $T_J=125^\circ\text{C}$	3	mA
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at $V_{DRM}$ , single phase, half wave, $T_J=125^\circ\text{C}$	3	mA
V <sub>TM</sub>	Peak On-State Voltage, max.	On-State Current 50A, $T_J=25^\circ\text{C}$ Inst. measurement	1.50	V
I <sub>GT</sub> /V <sub>GT</sub>	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 <sub>GD</sub>	Non-Trigger Gate, Voltage. min.	$T_J=125^\circ\text{C}$ , $V_D=1/2V_{DRM}$	0.2	V
t <sub>gt</sub>	Turn On Time, max.	$I_T=16\text{A}$ , $I_G=100\text{mA}$ , $T_J=25^\circ\text{C}$ , $V_D=1/2V_{DRM}$ , $dI_G/dt=1\text{A}/\mu\text{s}$	10	$\mu\text{s}$
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	$T_J=125^\circ\text{C}$ , $V_D=2/3V_{DRM}$ , Exponential wave.	100	V/ $\mu\text{s}$
I <sub>H</sub>	Holding Current, typ.	$T_J=25^\circ\text{C}$	30	mA
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	2.0	°C/W

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