

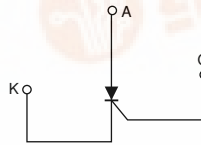
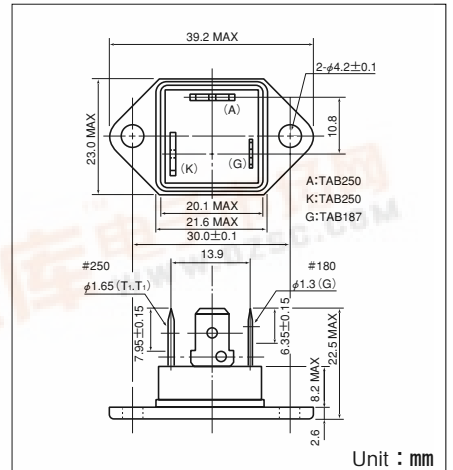
# THYRISTOR MODULE (ISOLATED MOLD TYPE)

# SG25AA

UL:E76102 (M)

SG25AA is an isolated molded thyristor which is suitable for a wide range of industrial and home electronics uses. SG25AA uses highly reliable glass passivation.

- $I_{T(AV)}=25A$
- high Surge Capability
- Tab terminals for easy wiring.



## Maximum Ratings

Symbol	Item	Ratings			Unit
		SG25AA20	SG25AA40	SG25AA60	
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, $T_c : 70^\circ C$	25	A
$I_{T(RMS)}$	R.M.S. On-State Current	Single phase, half wave, 180° conduction, $T_c : 70^\circ C$	39	A
$I_{TSM}$	Surge On-State Current	1/2 cycle, 50Hz/60Hz, peak value, non-repetitive	450/500	A
$I^2t$	$I^2t$	2~10ms	1040	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>VRGM</sub>	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/μs
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 <sub>DRM</sub> , single phase, half wave, T <sub>j</sub> =125°C	5	mA
I <sub>RRM</sub>	Repetitive Peak Reverse Current, max.	at V <sub>DRM</sub> , single phase, half wave, T <sub>j</sub> =125°C	5	mA
V <sub>TM</sub>	Peak On-State Voltage, max.	On-State Current 78A, T <sub>j</sub> =25°C Inst. measurement	1.40	V
I <sub>GT</sub> /V <sub>GT</sub>	Gate Trigger Current/Voltage, max.	T <sub>j</sub> =25°C, I <sub>T</sub> =1A, V <sub>D</sub> =6V	40/3	mA/V
V <sub>GD</sub>	Non-Trigger Gate, Voltage. min.	T <sub>j</sub> =125°C, V <sub>D</sub> =1/2 V <sub>DRM</sub>	0.2	V
t <sub>gt</sub>	Turn On Time, max.	I <sub>T</sub> =25A, I <sub>G</sub> =100mA, T <sub>j</sub> =25°C, V <sub>D</sub> =1/2 V <sub>DRM</sub> , dI <sub>G</sub> /dt=1A/μs	10	μs
dv/dt	Critical Rate of Rise of Off-State Voltage, min.	T <sub>j</sub> =125°C, V <sub>D</sub> =2/3 V <sub>DRM</sub> , Exponential wave.	100	V/μs
I <sub>H</sub> (I <sub>C</sub> )	Holding Current, typ.	T <sub>j</sub> =25°C	30	mA
R <sub>th(j-c)</sub>	Thermal Impedance, max.	Junction to case	1.6	°C/W



