

# Thyristor Module(Isolated Mold Type)

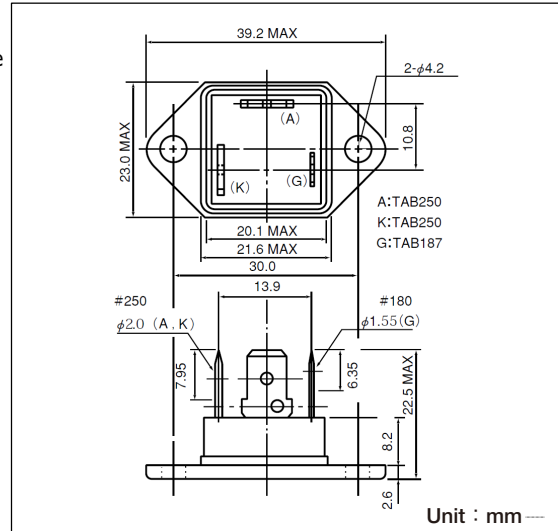
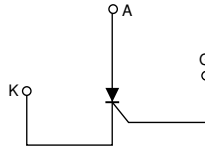
# SG25AA40/60

UL; E76102

## 《Features》

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



Unit : mm

## ■ Maximum Ratings ( $T_j=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Unit	SG25AA40	SG25AA60
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	400	600
Non-Repetitive Peak Reverse Voltage	$V_{RSM}$	V	480	720
Repetitive Peak off-State Voltage	$V_{DRM}$	V	400	600

Item	Symbol	Unit	Ratings	Conditions
Average On-State Current	$I_{T(AV)}$	A	25	Single phase, half wave, $180^\circ$ conduction, $T_c : 70^\circ\text{C}$
R.M.S. On-State Current	$I_{T(RMS)}$	A	39	Single phase, half wave, $180^\circ$ conduction, $T_c : 70^\circ\text{C}$
Surge On-State Current	$I_{TSM}$	A	450/500	1/2cycle, 50/60Hz, peak value, non-repetitive
$I^2t$ (for fusing)	$I^2t$	$A^2s$	1040	
Peak Gate Power Dissipation	$P_{GM}$	W	10	
Average Gate Power Dissipation	$P_{G(AV)}$	W	1	
Peak Gate Current	$I_{FGM}$	A	3	
Peak Gate Voltage (Forward)	$V_{FGM}$	V	10	
Peak Gate Voltage (Reverse)	$V_{RGM}$	V	5	
Critical Rate of Rise of On-State Current	$di/dt$	$A/\mu s$	100	$I_G=100\text{mA}$ $V_D=1/2V_{DRM}$ $dI_G/dt=1A/\mu s$
Isolation Breakdown Voltage (R.M.S.)	$V_{ISO}$	V	2500	A.C. 1minute
Operating Junction Temperature	$T_j$	$^\circ\text{C}$	-40 to +125	
Storage Temperature	$T_{stg}$	$^\circ\text{C}$	-40 to +125	
Mounting Torque	Mounting M4	$N \cdot m$ ( $\text{kgf} \cdot \text{cm}$ )	1.5(15)	Recommended Value 1.0 to 1.4 (10 to 14)
Mass		g	23	

## ■ Electrical Characteristics ( $T_j=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Unit	Ratings	Conditions
Repetitive Peak Off-State Current, max.	$I_{DRM}$	mA	5	at $V_{DRM}$ , Single phase, half wave
Repetitive Peak Reverse Current, max.	$I_{RRM}$	mA	5	at $V_{RRM}$ , Single phase, half wave
Peak On-State Voltage, max.	$V_{TM}$	V	1.4	On-State Current 78A Inst. measurement
Gate Trigger Current/Voltage, max.	$I_{GT}/V_{GT}$	mA/V	40/3	$I_T=1A$ $V_D=6V$
Non-Trigger Gate Voltage, min.	$V_{GD}$	V	0.2	$T_j=125^\circ\text{C}$ $V_D=1/2V_{DRM}$
Turn On Time, max.	$t_{gt}$	$\mu s$	10	$I_T=25A$ $I_G=100\text{mA}$ $V_D=1/2V_{DRM}$ $dI_G/dt=1A/\mu s$
Critical Rate of Rise of Off-State Voltage, min	$dv/dt$	$V/\mu s$	100	$T_j=125^\circ\text{C}$ $V_D=2/3V_{DRM}$ Exponential wave.
Holding Current, typ.	$I_H$	mA	30	
Thermal Resistance, max	$R_{th}$	$^\circ\text{C}/W$	1.6	Junction to case

