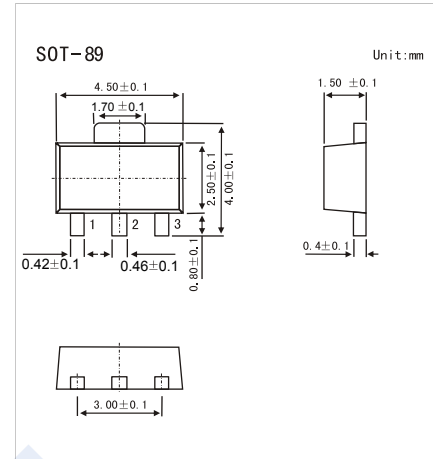
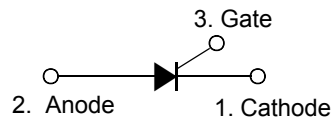


SCR Thyristor MCK22-8

■ Features

- Repetitive peak off-state voltages :600V
- R.M.S On-State Current ($I_{T(RMS)}=1.5\text{ A}$)
- Low On-State Voltage (1.2V(Typ.)@ I_{TM})



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Peak Repetitive Forward Voltages	V_{DRM}	600	V
Reverse Peak Gate Voltage	V_{RGM}	5	
Average On-State Current @ $T_c = 99^\circ\text{C}$	$I_{T(AV)}$	1	A
RMS on-state Current	$I_{T(RMS)}$	1.5	
Surge On-State Current @ 1/2 Cycle, 60Hz	I_{TSM}	15	
Circuit Fusing Considerations @ $t=8.3\text{ms}$	I^2t	0.9	A^2s
Forward Peak Gate Current	I_{FGM}	0.2	A
Reverse Peak Gate Voltage	V_{RGM}	5	V
Peak Gate Power @ Pulse Width $\leq 1\mu\text{s}$	P_{GM}	0.5	W
Average Gate Power @ $t=8.3\text{ms}$	$P_{G(AV)}$	0.1	
Thermal Resistance Junction to Ambient	R_{thJA}	125	K/W
Thermal Resistance Junction to Case	R_{thJC}	15	
junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-40 to 150	

■ Electrical Characteristics ($T_a = 25^\circ\text{C}$, unless otherwise noted.)

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Unit
Non-Trigger Gate Voltage (Note.1)	V_{GD}	$V_{AK} = 12\text{ V}$, $R_L = 100\ \Omega$, $T_c = 125^\circ\text{C}$	0.2			V
On-state Voltage (Note.1)	V_{TM}	$I_T = 3\text{ A}$			1.7	
Gate Trigger Voltage	V_{GT}	$V_D = 7\text{ V}$, $R_L = 100\ \Omega$, $T_c = 25^\circ\text{C}$ $T_c = -40^\circ\text{C}$			0.8 1.2	
Repetitive Peak Off-State Current	I_{DRM}	$V_{AK} = V_{DRM}$ or V_{RRM} , $R_{GK} = 1000\ \Omega$, $T_c = 25^\circ\text{C}$ $T_c = 125^\circ\text{C}$			10 200	μA
Gate Trigger Current	I_{GT}	$V_D = 6\text{ V}$, $R_L = 100\ \Omega$, $T_c = 25^\circ\text{C}$ $T_c = -40^\circ\text{C}$			200 500	
Holding Current	I_H	$V_{AK} = 12\text{ V}$, Gate Open $T_c = 25^\circ\text{C}$ $T_c = -40^\circ\text{C}$			5 10	mA
Critical Rate of rise of off-state Voltage	dv/dt	$V_{GM} = 0.67V_{DRM}$, $T_J = 125^\circ\text{C}$ Exponential waveform, $R_{GK} = 1000\ \Omega$	200			
Critical Rate of Rise On-State Current	di/dt	$I_{TM} = 3\text{ A}$, $I_g = 10\text{ mA}$			50	A/ μs

Note.1: Pulse Width $\leq 1.0\text{ ms}$, Duty cycle $\leq 1\%$

SCR Thyristor

MCK22-8

■ Typical Characteristics

Fig 1. Gate Characteristics

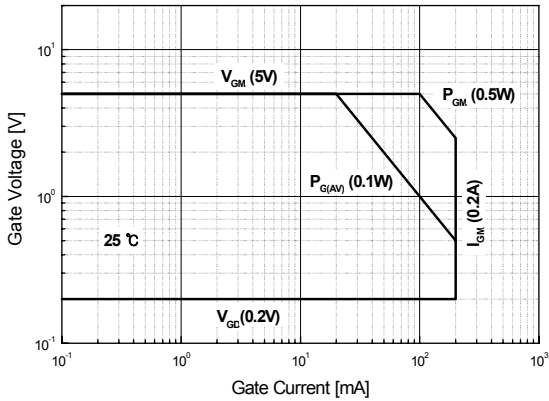


Fig 2. Maximum Case Temperature

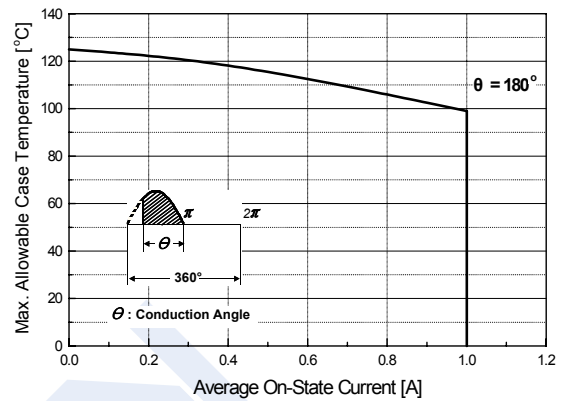


Fig 3. Typical Forward Voltage

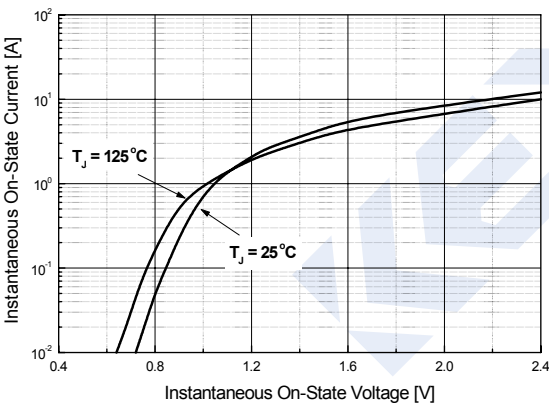


Fig 4. Thermal Response

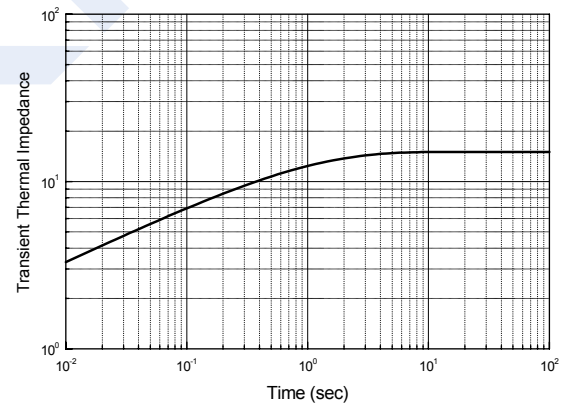


Fig 5. Typical Gate Trigger Voltage vs. Junction Temperature

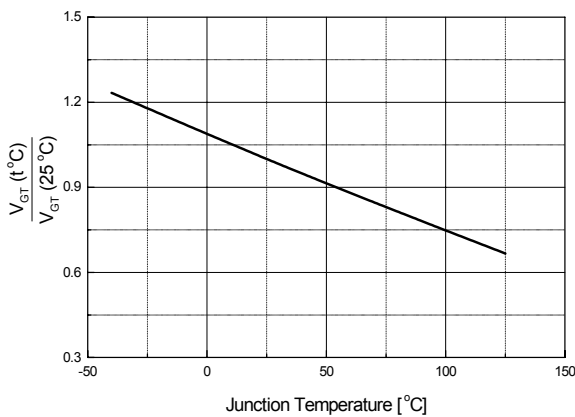
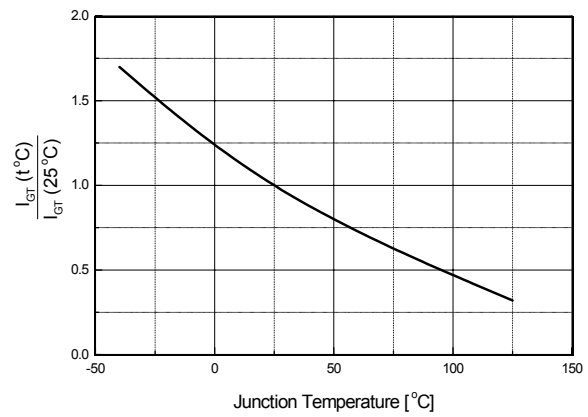


Fig 6. Typical Gate Trigger Current vs. Junction Temperature



SCR Thyristor MCK22-8

■ Typical Characteristics

Fig 7. Typical Holding Current

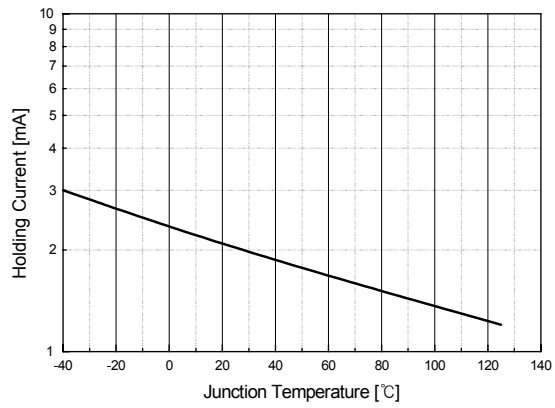


Fig 8. Power Dissipation

