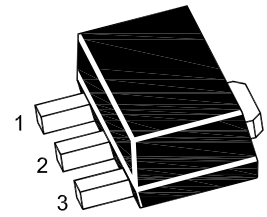


MCR05AS-8U

Thyristors

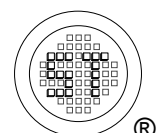


1.Gate 2.Anode 3.Cathode
SOT-89 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	400	V
Non-repetitive peak reverse voltage	V_{RSM}	500	V
Repetitive peak off-state voltage ¹⁾	V_{DRM}	400	V
On-State Current RMS	$I_{T(RMS)}$	0.79	A
Average on-state current ²⁾ $T_a = 57^\circ\text{C}$	$I_{T(AV)}$	0.5	A
Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave, 60 Hz)	I_{TSM}	10	A
Circuit Fusing Considerations ($t = 8.3 \text{ ms}$)	I^2t	0.4	A^2s
Forward Peak Gate Power	P_{GM}	0.1	W
Forward Average Gate Power	$P_{G(AV)}$	0.01	W
Forward Peak Gate Current	I_{FGM}	0.1	A
Reverse Peak Gate Voltage	V_{RGM}	6	V
Peak gate forward voltage	V_{FGM}	6	V
Operating Junction Temperature Range	T_j	- 40 to + 125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 40 to + 125	$^\circ\text{C}$

¹⁾ With gate to cathode resistance $R_{GK} = 1 \text{ K}\Omega$.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Peak Repetitive Forward or Reverse Blocking Current at $V_{AK} = \text{Rated } V_{DRM} \text{ and } V_{RRM}, R_{GK} = 1\text{ k}\Omega$ $T_C = 125^\circ\text{C}$	I_{DRM}, I_{RRM}	-	0.1	mA
Peak Forward On-State Voltage at $I_{TM} = 1.5\text{ A}$	V_{TM}	-	1.9	V
Gate Trigger Current at $V_D = 6\text{ V}, I_T = 0.1\text{ A}$	I_{GT}	20	100 ³⁾	μA
Gate Trigger Voltage at $V_D = 6\text{ V}, I_T = 0.1\text{ A}$	V_{GT}	-	0.8	V
Gate Non-Trigger Voltage ¹⁾ at $V_D = 1/2 V_{DRM}, R_{GK} = 1\text{ k}\Omega, T_C = 125^\circ\text{C}$	V_{GD}	0.2	-	V
Holding Current at $V_D = 12\text{ V}, R_{GK} = 1\text{ k}\Omega$	I_H	-	3	mA

²⁾ Soldering with ceramic plate (25 mm X 25 mm X t0.7 mm).

³⁾ If special values of I_{GT} are required, choose item E from those listed in the table below if possible.

Item	B	E
I_{GT}	20 to 50	20 to 100

The above values do not include the current flowing through the 1 k Ω resistance between the gate and cathode.

