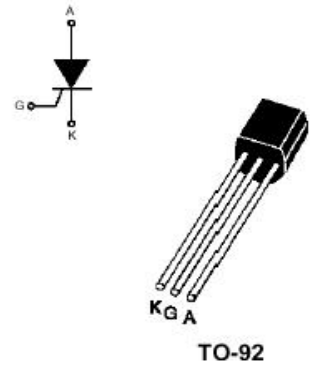


isc Thyristors

MCR100-8

FEATURES

- With TO-92 package
- Sensitive gate trigger current
- Low reverse and forward blocking current
- Low holding current
- Designed for high volume, line-powered consumer applications such as relay and lamp drivers, small motor controls, gate drivers for larger thyristors, and sensing and detection circuits.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	MIN	MAX	UNIT
V_{DRM}	Repetitive peak off-state voltage	600		V
V_{RRM}	Repetitive peak off-state voltage	600		V
$I_{\text{T(RMS)}}$	RMS on-state current(180° conduction angle)		0.8	A
I_{TSM}	Non-repetitive peak on-state current($(t_p=10\text{ms})$)		8	A
$I_{\text{T(AV)}}$	Average on-state current		0.5	A
I_{GM}	Peak gate current($(t_p=20\text{ }\mu\text{s})$)		1	A
I^2t	$I^2t(t_p=10\text{ms})$		0.35	A^2S
P_{GM}	Peak gate power		2	W
$P_{\text{G(AV)}}$	Average gate power		0.1	W
T_j	Operating junction temperature	-40	110	$^{\circ}\text{C}$
T_{stg}	Storage temperature range	-40	150	$^{\circ}\text{C}$

Thermal resistance

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th(j-c)}}$	Junction to case	60	k/w
$R_{\text{th(j-a)}}$	Junction to ambient air	150	k/w

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ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
I_{RRM}	Repetitive peak reverse current	$V_R = V_{RRM}$ $V_R = V_{RRM}; T_j = 110^\circ\text{C}$			10 200	μA
I_{DRM}	Repetitive peak off-state current	$V_D = V_{DRM}$ $V_D = V_{DRM}; T_j = 110^\circ\text{C}$			10 200	μA
I_{GT}	Gate trigger current	$V_D = 6\text{V}; R_L = 100\ \Omega$	10		120	μA
V_{TM}	On-state voltage	$I_T = 1.0\text{A}, t_p = 380\ \mu\text{s}$			1.5	V
I_H	Holding current	$I_T = 0.1\text{A}$, Gate Open		1	5	mA
V_{GT}	Gate trigger voltage	$V_D = 12\text{V}; R_L = 100\ \Omega$			0.8	V
dV/dt	Critical rate of rise of off-state voltage	$V_D = 67\% V_{DRM}$, GateOpen, $T_j = 110^\circ\text{C}$		50		$\text{V}/\mu\text{s}$

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