



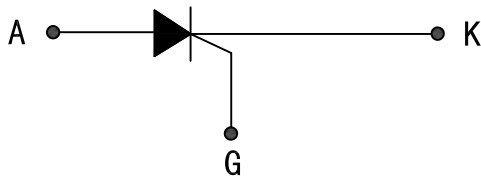
MCR100-6 Series 0.8A SENSITIVE SCRs

DESCRIPTION:

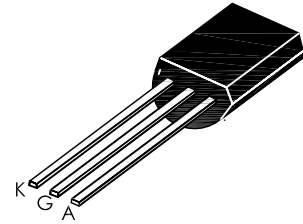
Highly sensitive triggering levels, the MCR100-6 Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

MAIN FEATURES

Symbol	Value	Unit
$I_{T(AV)}$	0.8	A
V_{DRM}/V_{RRM}	400	V
I_{GT}	≤ 200	μA



TO-92



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	- 40 to +150	$^{\circ}C$
Operating junction temperature range	T_j	- 40 to +110	$^{\circ}C$
Repetitive Peak Off-state Voltage	$T_j=25^{\circ}C$ V_{DRM}	400	V
Repetitive Peak Reverse Voltage	$T_j=25^{\circ}C$ V_{RRM}	400	V
RMS on-state current (180 conduction angle)	$T_c=77^{\circ}C$ $I_{T(RMS)}$	0.8	A
Average on-state current (180 conduction angle)	$T_c=77^{\circ}C$ $I_{T(AV)}$	0.5	A
Non repetitive surge peak on-state current ($T_j=25^{\circ}C$)	$t_p=10ms$ I_{TSM}	9	A
	$t_p=8.3ms$	10	A
I^2t Value for fusing	$t_p=10ms$ I^2t	0.415	A^2s
Peak gate current	$t_p=20\mu s, T_j=110^{\circ}C$ I_{GM}	0.2	A
Average gate power dissipation	$T_j=110^{\circ}C$ $P_{G(AV)}$	0.1	W

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

Symbol	Test Condition		MCR100-6			Unit	
			Min.	Typ.	Max.		
IGT	$V_D=6\text{V}$ $R_L=100\Omega$		-	40	200	μA	
VGT			-	0.6	0.8	V	
VGD	$V_D=V_{DRM}$ $R_L=3.3\text{K}\Omega$ $R_{GK}=1\text{K}\Omega$ $T_j=110^\circ\text{C}$		0.2	-	-	V	
IL	$I_G=1\text{mA}$ $R_{GK}=1\text{K}\Omega$		-	-	6	mA	
IH	$I_T=50\text{mA}$ $R_{GK}=1\text{K}\Omega$		-	-	5	mA	
V _{TM}	$I_T=1\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	-	1.3	1.7	V	
dV/dt	$V_D=67\%V_{DRM}$ $R_{GK}=1\text{K}\Omega$	$T_j=110^\circ\text{C}$	10	-	-	V/ μs	
IDRM	$V_D=V_{DRM}$ $R_{GK}=1\text{K}\Omega$		$T_j=25^\circ\text{C}$	-	-	5	μA
			$T_j=110^\circ\text{C}$	-	-	0.1	mA
IRRM	$V_R=V_{RRM}$ $R_{GK}=1\text{K}\Omega$		$T_j=25^\circ\text{C}$	-	-	5	μA
			$T_j=110^\circ\text{C}$	-	-	0.1	mA

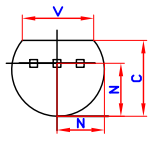
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th}(J-C)$	Junction to Case	TO-92	75	$^\circ\text{C}/\text{W}$

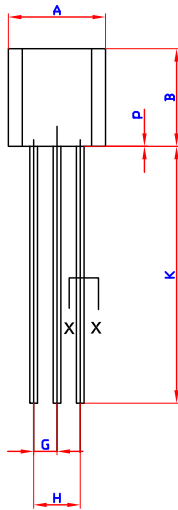
ORDERING INFORMATION

<p>MCR100</p> <hr style="width: 50%; margin: auto;"/> <p>0.8A Highly Sensitive SCRs</p>	<p>-6</p> <hr style="width: 50%; margin: auto;"/> <p>6:$V_{DRM}/V_{RRM}>400\text{V}$</p>
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PACKAGE MECHANICAL DATA



SECTION X-X



TO-92(TO-226AA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.45	5.2	0.175	0.205
B	4.32	5.33	0.170	0.210
C	3.18	4.19	0.125	0.165
D	0.407	0.533	0.016	0.021
G	1.15	1.39	0.045	0.055
H	2.42	2.66	0.095	0.105
J	0.39	0.50	0.015	0.020
K	12.70	-	0.500	-
N	2.04	2.66	0.080	0.105
P	-	2.54	-	0.100
V	3.43	-	0.135	-

FIG.1: Maximum power dissipation versus RMS on-state current(full cycle)

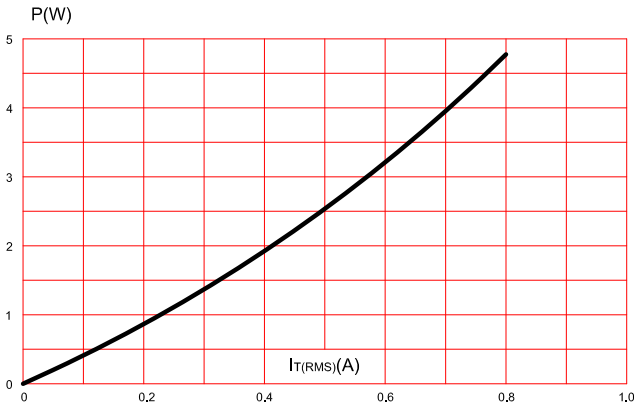


FIG.2: RMS on-state current versus case temperature(full cycle)

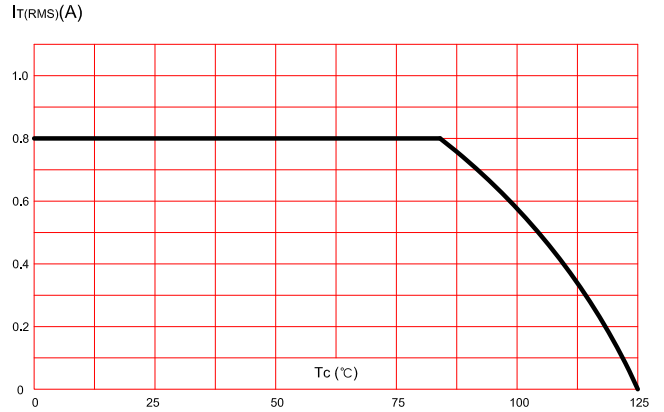


FIG.3: On-state characteristics (maximum values)

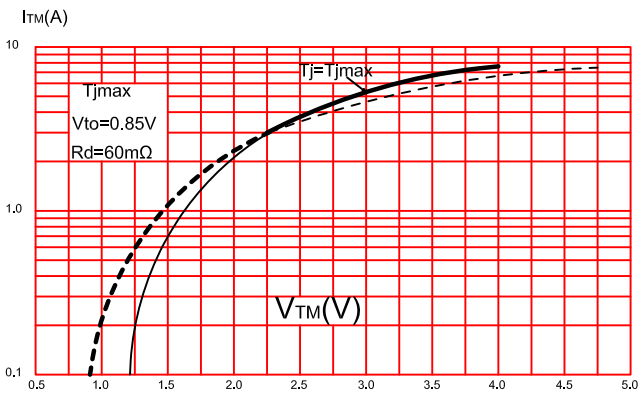


FIG.4: Surge peak on-state current versus number of cycles.

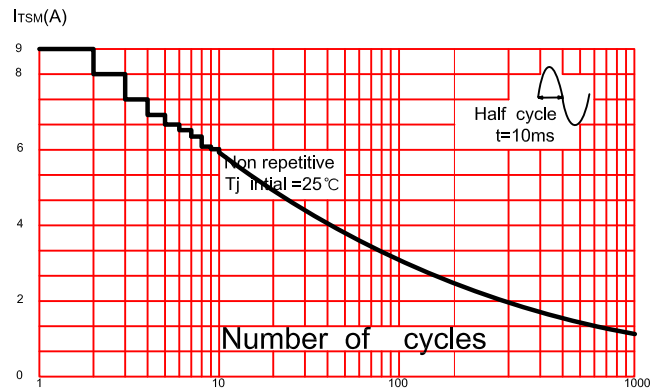


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$.

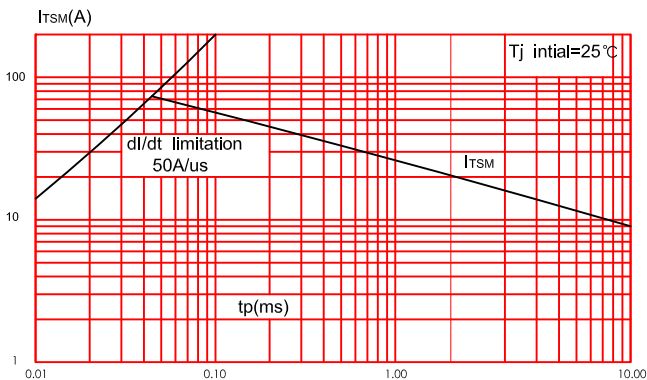


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature(typical values).

