



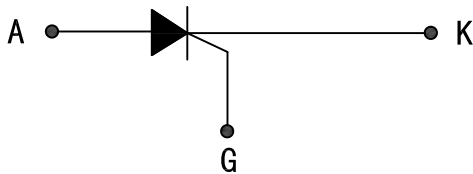
MCR22 Series 2A SENSITIVE SCRs

DESCRIPTION:

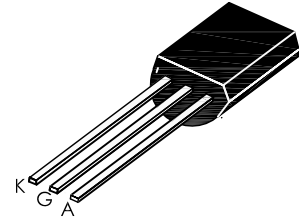
Highly sensitive triggering levels, the MCR22 Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

MAIN FEATURES

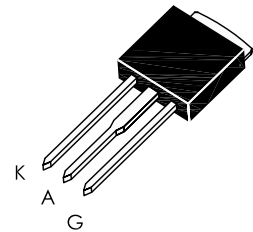
Symbol	Value	Unit
$I_{T(AV)}$	2	A
V_{DRM}/V_{RRM}	400 and 600	V
I_{GT}	≤ 200	μA



TO-92



TO-251(IPAK)



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 and 600	V
Repetitive Peak Reverse Voltage	$T_j=25^{\circ}C$ V_{RRM}	400 and 600	V
RMS on-state current (180 conduction angle)	$T_c=77^{\circ}C$ $I_{T(RMS)}$	3	A
Average on-state current (180 conduction angle)	$T_c=77^{\circ}C$ $I_{T(AV)}$	2	A
Non repetitive surge peak on-state current ($T_j=25^{\circ}C$)	$t_p=10ms$ I_{TSM}	20	A
	$t_p=8.3ms$	22	A
I^2t Value for fusing	$t_p=10ms$ I^2t	4.5	A^2s
Critical rate of rise of on-state current $I_G=2 \times I_{GT}$, $t_r \leq 100 ns$, $f=50Hz$, $T_j=110^{\circ}C$	di/dt	50	$A/\mu s$
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

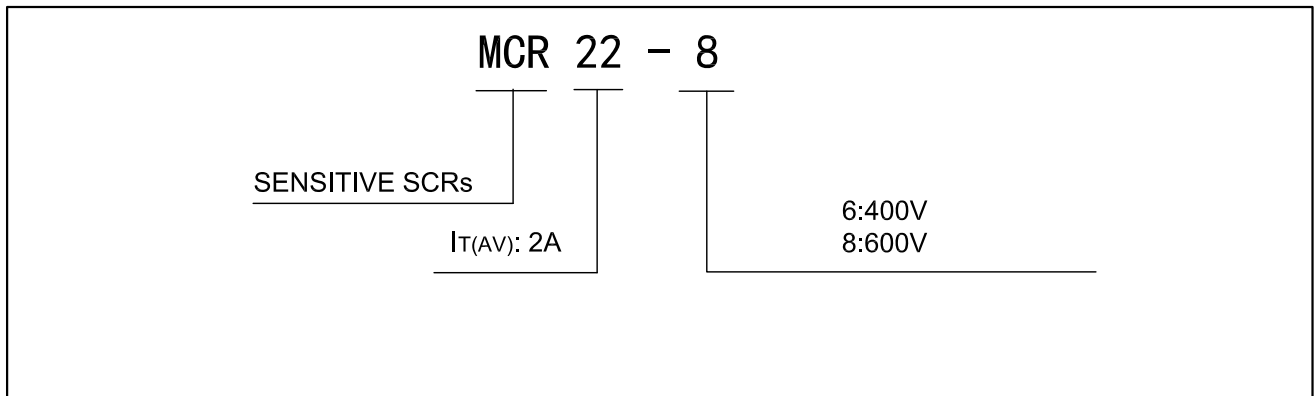
ELECTRICAL CHARACTERISTICS(Tj=25°C unless otherwise specified)

Symbol	Test Condition	MCR22			Unit	
		Min.	Typ.	Max.		
I _{GT}	V _D =6V R _L =100Ω	-	40	200	μA	
V _{GT}		-	0.6	0.8	V	
V _{GD}	V _D =V _{DRM} R _L =3.3KΩ R _{GK} =1KΩ T _j =110°C	0.2	-	-	V	
I _L	I _G =1mA R _{GK} =1KΩ	-	-	6	mA	
I _H	I _T =50mA R _{GK} =1KΩ	-	-	5	mA	
V _{TM}	I _T = 4A t _p =380uS	T _j =25 °C	-	1.35	1.8	V
dV/dt	V _D =67%V _{DRM} R _{GK} =1KΩ	T _j =110 °C	25	-	-	V/μs
I _{DRM}	V _D = V _{DRM} R _{GK} =1KΩ	T _j =25 °C	-	-	5	μA
		T _j =110 °C	-	-	0.2	mA
I _{RRM}	V _R = V _{RRM} R _{GK} =1KΩ	T _j =25 °C	-	-	5	μA
		T _j =110 °C	-	-	0.2	mA

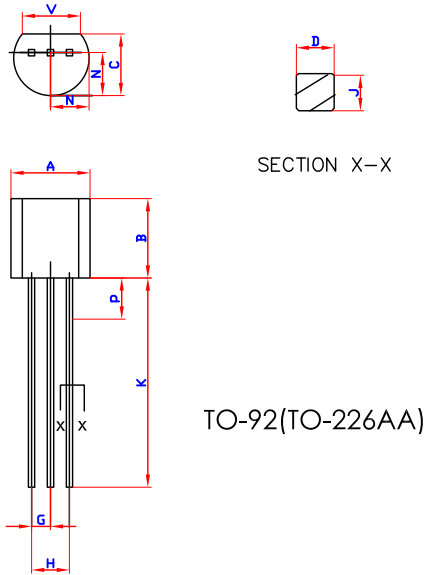
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit	
R _{th} (J -C)	Junction to Case	TO-92	50	°C/W
		TO-251/TO-252	10	

ORDERING INFORMATION

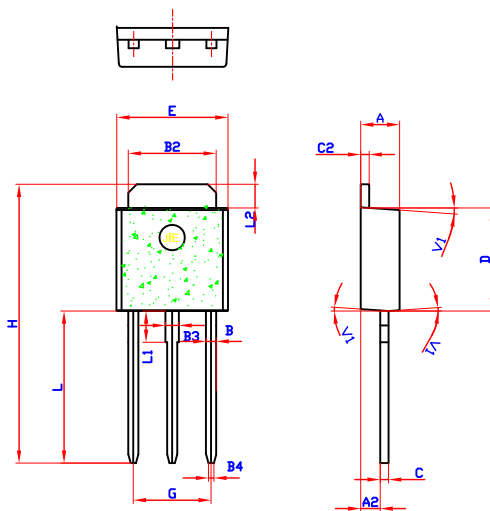


PACKAGE MECHANICAL DATA



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	-

TO-251(IPAK)



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.095
A2	0.9		1.1	0.035		0.043
B	0.55		0.65	0.021		0.026
B2	5.2		5.4	0.204		0.212
B3	0.76		0.85	0.030		0.033
B4		0.32			0.013	
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.6	0.252		0.260
G	4.4		4.6	0.173		0.181
H	15.9		16.3	0.626		0.641
L	9		9.4	0.354		0.370
L1	1.8		1.9	0.071		0.075
L2	1.37		1.5	0.054		0.059
V1		4°			4°	

Fig. 1: Maximum average power dissipation versus average on-state current.

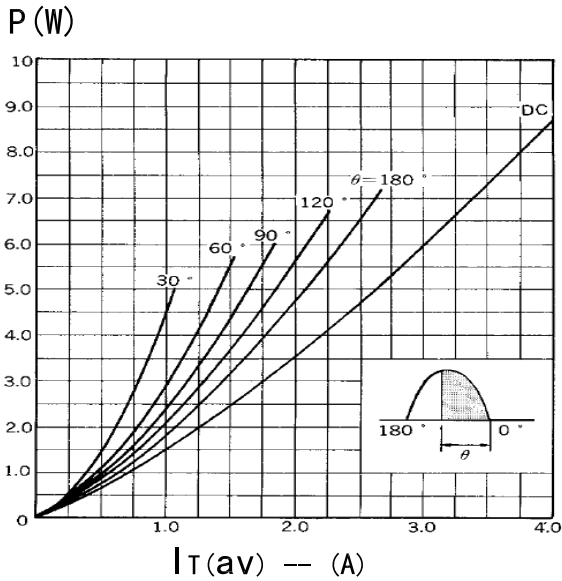


Fig. 3: Surge peak on-state current versus number of cycles.

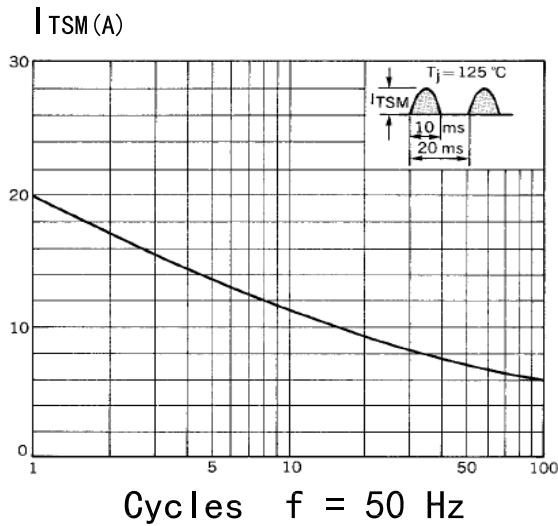


Fig. 5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

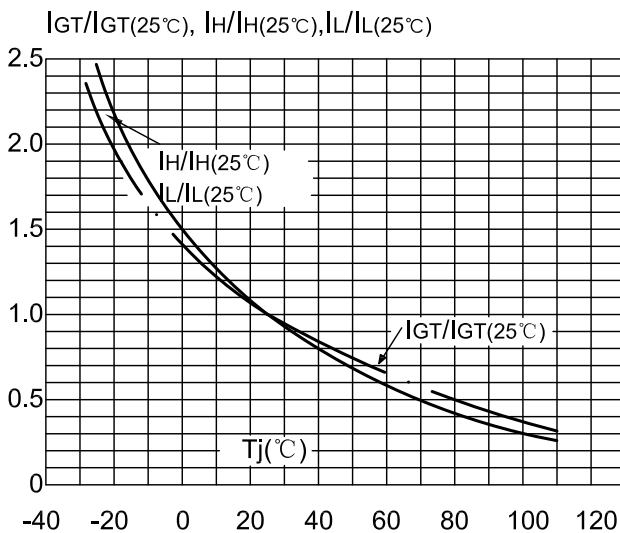


Fig. 2: Average and D.C. on-state current versus lead temperature.

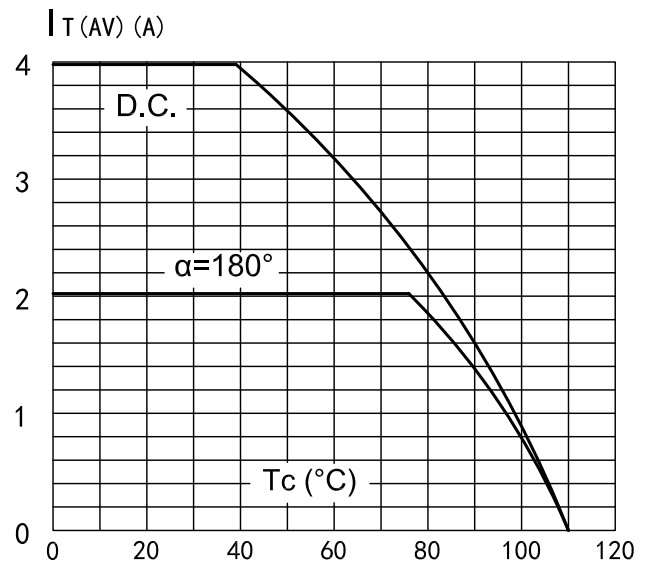


Fig. 4: On-state characteristics (maximum values).

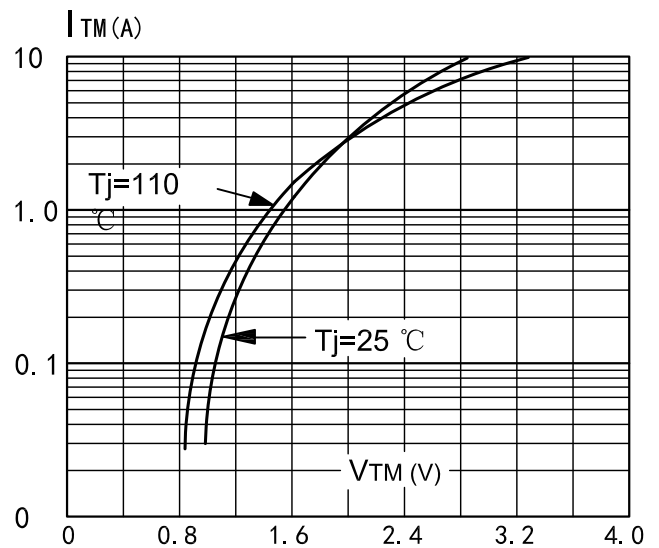


Fig. 6: Relative variation of gate trigger voltage versus junction temperature (typical values).

