

4A SCRs

Features

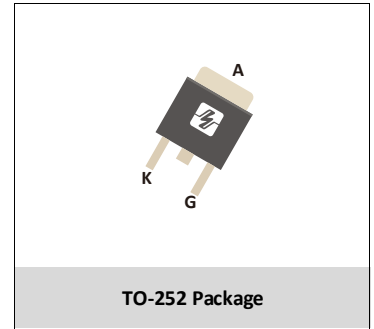
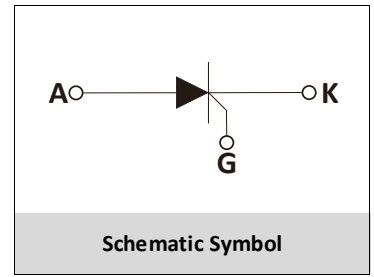
- > Planar passivated for voltage ruggedness and reliability
- > Sensitive gate
- > Direct triggering from low power gate circuits and logic ICs
- > Surface mountable package

Applications

- > General purpose switching
- > Protection circuits

Description

Planar passivated SCR with sensitive gate in a TO-252 (DPAK) surface mountable plastic package. These devices are intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.



Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Units
Repetitive peak off-state voltage	V_{DRM}		600	V
Repetitive peak reverse voltage	V_{RRM}		600	
RMS on-state current	$I_{T(RMS)}$	$T_c=90^{\circ}C$	4	A
Non repetitive surge peak on-state current	I_{TSM}	$t_p=10ms$	30	
I^2t value for fusing	I^2t	$t_p=10ms$	4.5	A^2s
Critical rate of rise of on-state current	di/dt		50	$A/\mu s$
Peak gate current	I_{GM}	$t_p=20\mu s, T_j=110^{\circ}C$	1.2	A
Average gate power dissipation	$P_{G(AV)}$	$T_j=110^{\circ}C$	0.2	
Peak gate power	P_{GM}	$t_p=20\mu s, T_j=110^{\circ}C$	2	
Storage junction temperature range	T_{stg}		-40 to 150	$^{\circ}C$
Operating junction temperature range	T_j		-40 to 110	$^{\circ}C$



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

Parameter	Symbol	Test Condition	Value			Units
			Min	Typ	Max	
Gate trigger current	I_{GT}	$V_D=12\text{V } R_L=33\Omega$	-	50	200	μA
Gate trigger voltage	V_{GT}		-	0.6	0.8	V
Gate no-trigger Voltage	V_{GD}	$V_D=V_{DRM} T_j=110^{\circ}\text{C}$	0.2	-	-	V
Latching current	I_L	$I_G=1.2I_{GT}$	-	-	6	mA
Holding current	I_H	$I_T=50\text{mA}$	-	-	5	mA
Rate of rise of off-state voltage	dV/dt	$V_D=2/3V_{DRM} T_j=110^{\circ}\text{C} R_{GK}=1\text{K}\Omega$	10	-	-	$\text{V}/\mu\text{s}$

Static Characteristics

Parameter	Symbol	Test Condition		Value	Units
On-state voltage	V_{TM}	$I_T=4\text{A } t_p=380\mu\text{s}$	Max	1.5	V
Repetitive peak off-state current	I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM} T_j=25^{\circ}\text{C}$	Max	5	μA
Repetitive peak reverse current	I_{RRM}	$V_D=V_{DRM} V_R=V_{RRM} T_j=110^{\circ}\text{C}$	Max	100	

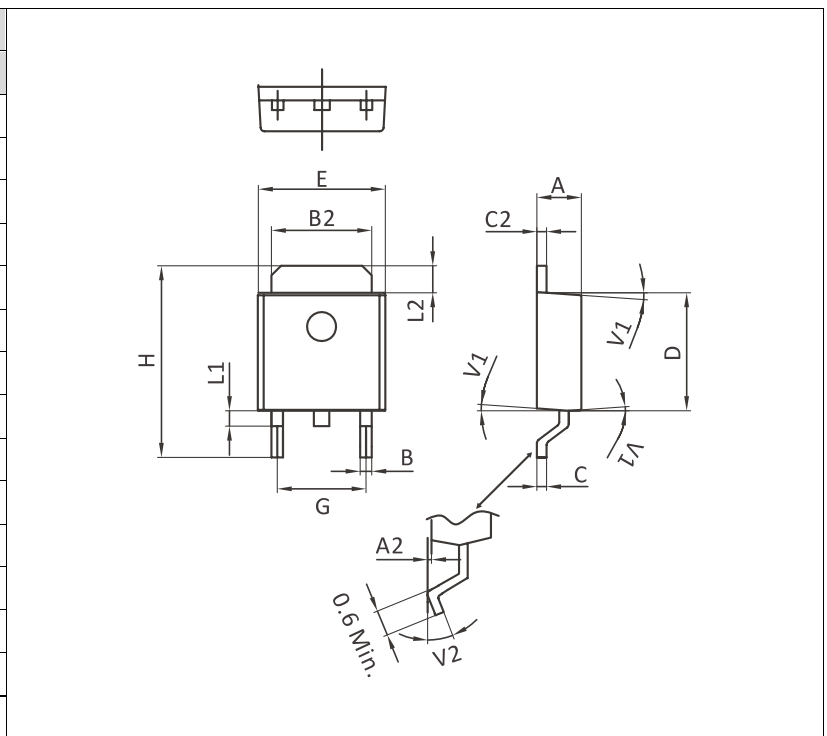
Thermal Resistances

Parameter	Symbol	Value	Units
junction to case	$R_{th(j-c)}$	6.5	$^{\circ}\text{C}/\text{W}$



Package Outline Dimensions

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.200	2.400	0.087	0.094
A2	0.030	0.230	0.001	0.009
B	0.550	0.650	0.022	0.026
B2	5.100	5.400	0.201	0.213
C	0.450	0.620	0.018	0.024
C2	0.480	0.620	0.019	0.024
D	6.000	6.200	0.236	0.244
E	6.400	6.700	0.252	0.264
G	4.400	4.700	0.173	0.185
H	9.350	10.100	0.368	0.398
L1	1.300	1.700	0.051	0.067
L2	1.370	1.500	0.054	0.059
V1	4°		4°	
V2	0°	8°	0°	8°



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