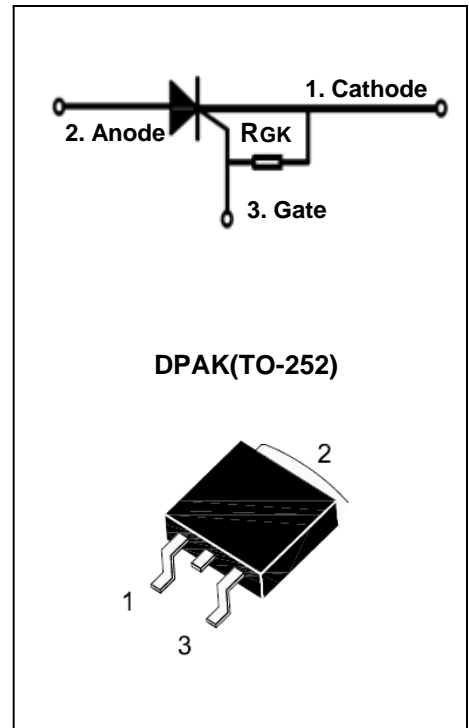




High sensitive triggering levels, the IPS608 series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

MAIN FEATURES

Symbol	Value	Unit
$I_T(AV)$	8	A
V_{DRM} / V_{RRM}	600	V
I_{GT}	≤ 100	μA



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}	600	V
Repetitive Peak Reverse Voltage $T_j = 25^{\circ}C$	V_{RRM}	600	V
RMS on-state current (180 conduction angle) $T_j = 105^{\circ}C$	$I_{T(RMS)}$	8	A
Average on-state current (180 conduction angle) $T_j = 105^{\circ}C$	$I_T(AV)$	5	A
Non repetitive surge peak on-state Current ($T_j = 25^{\circ}C$)	I_{TSM}	70	A
$t_p = 10ms$ $t_p = 8.3ms$		73	
I^2t Value for fusing $t_p = 10ms$	I^2t	24.5	A^2s
Critical rate of rise of on state current ($I_G = 2 \times I_{GT}$, $t_r \leq 100ns$, $f = 50Hz$, $T_j = 110^{\circ}C$)	di/dt	50	$A/\mu s$
Peak gate current $t_p = 20\mu s$, $T_j = 125^{\circ}C$	I_{GM}	4	A
Average gate power dissipation $T_j = 125^{\circ}C$	$P_G(AV)$	1	W

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

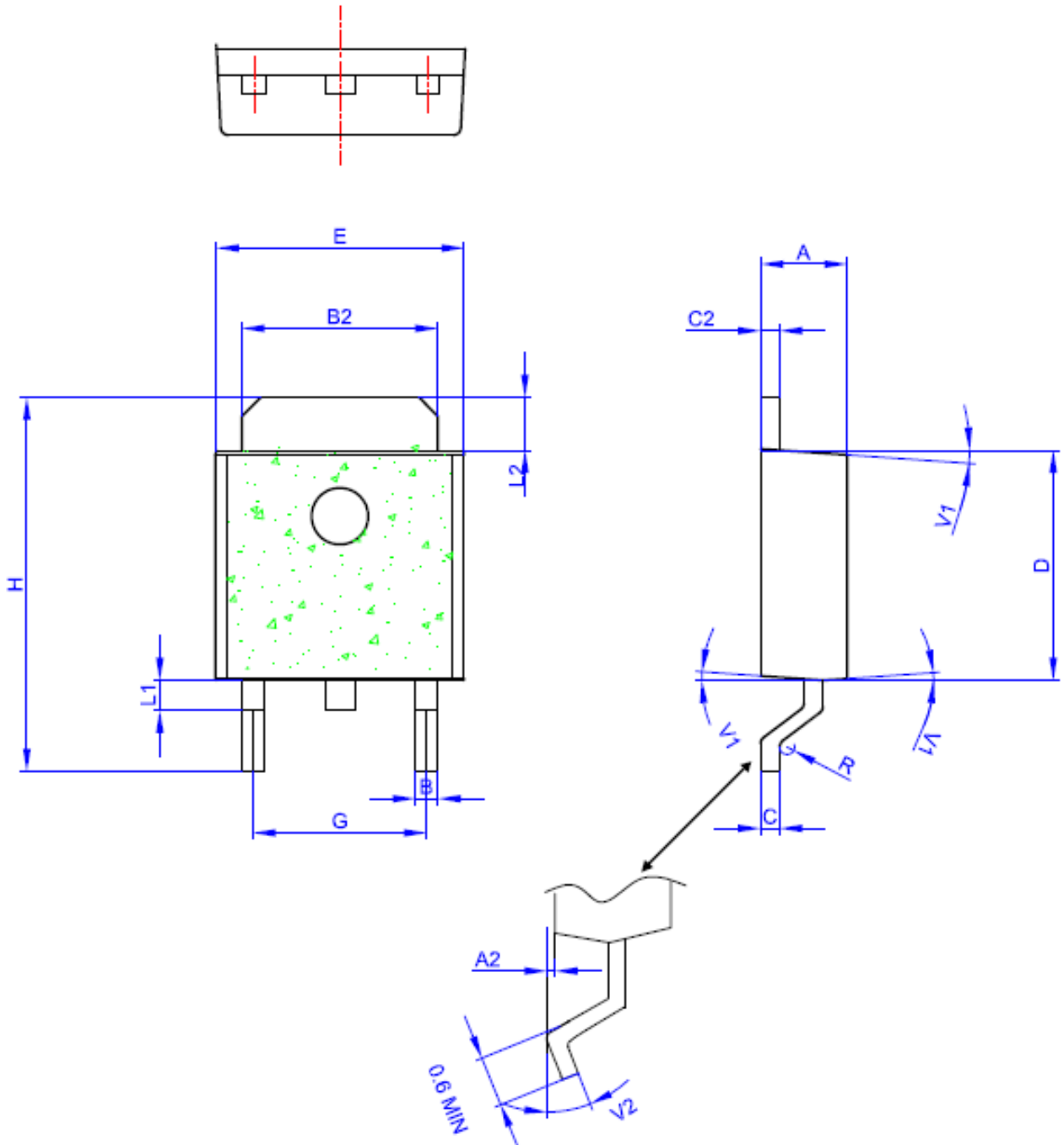
Symbol	Test Condition		IPS608-xxD	Unit
			05	
I _{GT}	V _D = 6V R _L = 140Ω	MIN	20	uA
		MAX	100	
V _{GT}		MAX	0.8	V
V _{GD}	V _D =V _{DRM} , R _L =3.3KΩ, R _{GK} = 220Ω T _j = 125 °C	MIN	0.1	V
I _L	I _G = 1mA R _{GK} = 1KΩ	MAX	6	mA
I _H	I _T = 50mA R _{GK} = 1KΩ	MAX	5	mA
V _{TM}	I _T = 16A t _p = 380uS T _j = 25 °C	MAX	1.6	V
dV/dt	V _D = 65% V _{DRM} R _{GK} = 220Ω T _j = 125 °C	MIN	5	V/us
I _{DRM}	V _{DRM} = V _{RRM} R _{GK} = 220Ω T _j = 25 °C	MAX	5	uA
	V _{DRM} = V _{RRM} R _{GK} = 220Ω T _j = 125 °C	MAX	1	mA
R _{GK}			6 ~ 35	KΩ

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	Junction to case(DC)	TO-252	20	°C/W

PACKAGE MECHANICAL DATA

TO-252(DPAK)



Ref	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	2.2		2.4	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
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		6.7	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.1	0.368		0.397
L1		0.8			0.031	
L2	1.37		1.5	0.054		0.059
V1		4°			4°	
V1	0°		8°	0°		8°

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

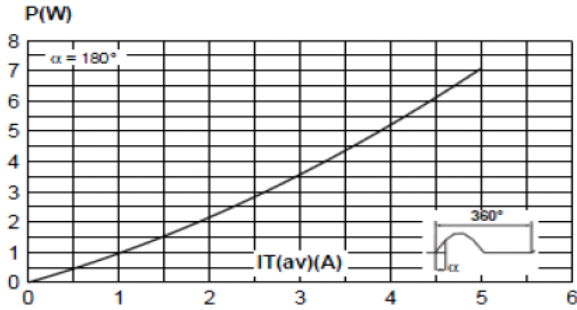


Fig. 3: Surge peak on-state current versus number of cycles.

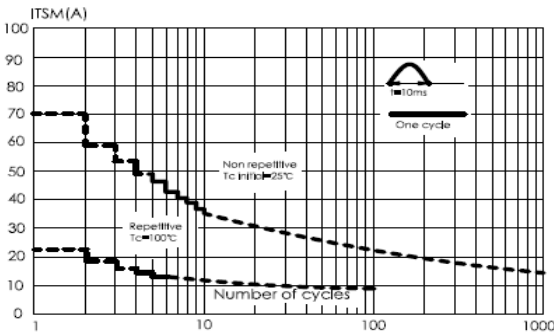


Fig. 5: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

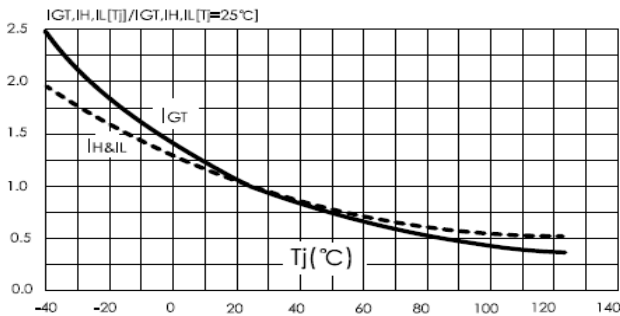


Fig. 2: Average and D.C. on-state current versus lead temperature.

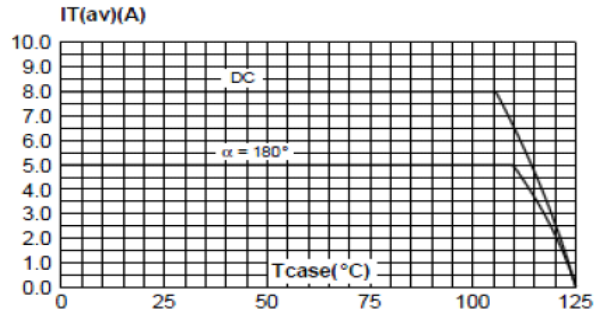


Fig. 4: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms, and corresponding value of I^2t .

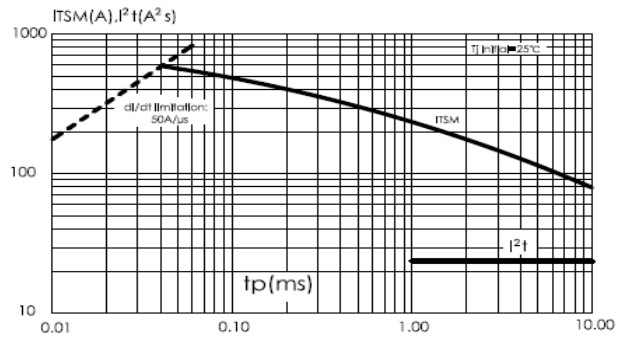


Fig.6: On-state characteristics (maximum values)

