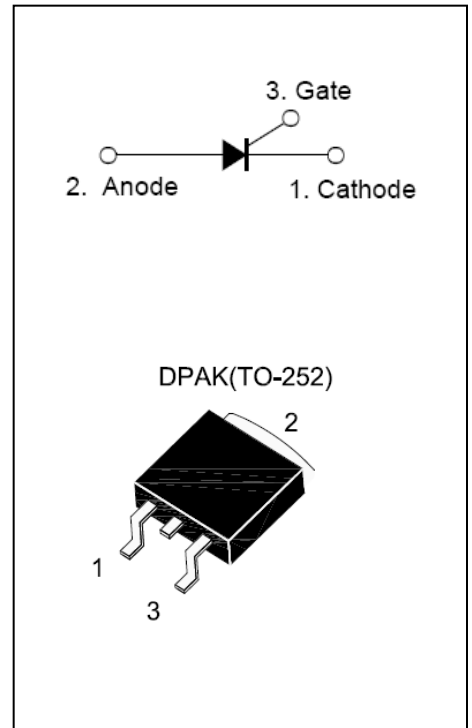




High sensitive triggering levels, the IPS6008 series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...



MAIN FEATURES

Symbol	Value	Unit
$I_{T(AV)}$	4	A
V_{DRM} / V_{RRM}	600	V
I_{GT}	≤ 200	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	V_{DRM}	600	V
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
RMS on-state current (180 conduction angle)	$I_{T(RMS)}$	4	A
Average on-state current (180 conduction angle)	$I_{T(AV)}$	2.5	A
Non repetitive surge peak on-state Current ($T_j = 25^{\circ}C$)	I_{TSM}	30	A
$t_p = 10ms$		33	
I^2t Value for fusing	I^2t	4.5	A^2s
Peak gate current	I_{GM}	1.2	A
Average gate power dissipation	$P_{G(AV)}$	0.2	W

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

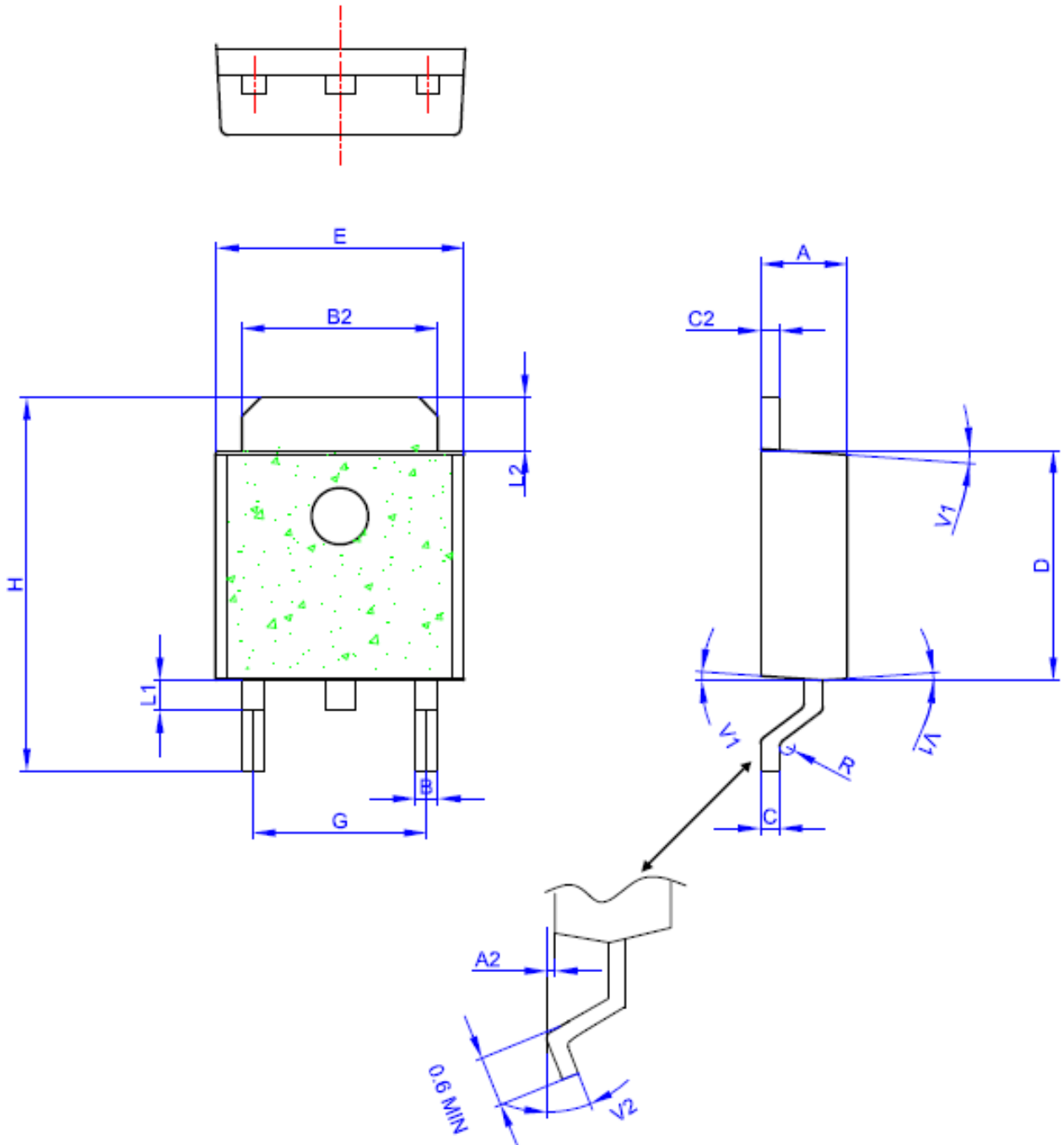
Symbol	Test Condition		IPS604-xxD				Unit
			03	05	06	08	
I _{GT}	V _D = 6V R _L = 100Ω	MIN	10	20	30	50	uA
		MAX	30	50	60	80	
V _{GT}		TYP	0.6				V
		MAX	0.8				
V _{GD}	V _D = V _{DRM} , R _L = 3.3KΩ, R _{GK} = 1KΩ T _j = 110 °C	MIN	0.2				V
I _L	I _G = 1mA R _{GK} = 1KΩ	MAX	6				mA
I _H	I _T = 50mA R _{GK} = 1KΩ	MAX	5				mA
V _{TM}	I _T = 8A t _p = 380uS T _j = 25 °C	TYP	1.4				V/us
		MAX	1.8				
dV/dt	V _D = 67% V _{DRM} R _{GK} = 1KΩ T _j = 110 °C	MIN	10				V/us
I _{DRM}	V _D = V _{DRM} R _{GK} = 1KΩ T _j = 25 °C	MAX	5				uA
	V _D = V _{DRM} R _{GK} = 1KΩ T _j = 110 °C	MAX	0.1				mA
I _{RRM}	V _R = V _{RRM} R _{GK} = 1KΩ T _j = 25 °C	MAX	5				uA
	V _D = V _{RRM} R _{GK} = 1KΩ T _j = 110 °C	MAX	0.1				mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	Junction to case	TO-252	2.8	°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 power dissipation versus RMS on-state current(full cycle)

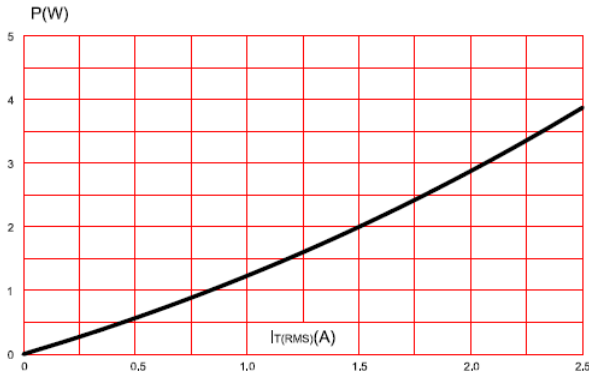


FIG.2: Average on-state current versus case temperature(full cycle)

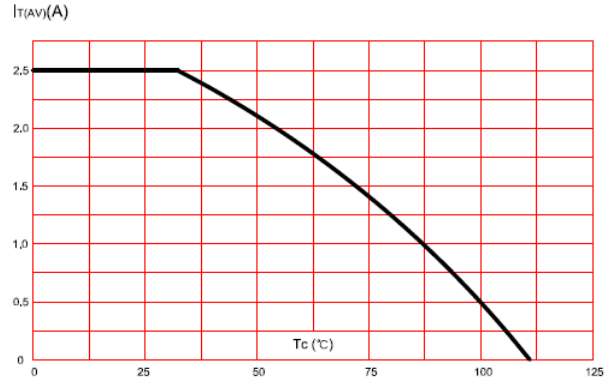


FIG.3: On-state characteristics (maximum values)

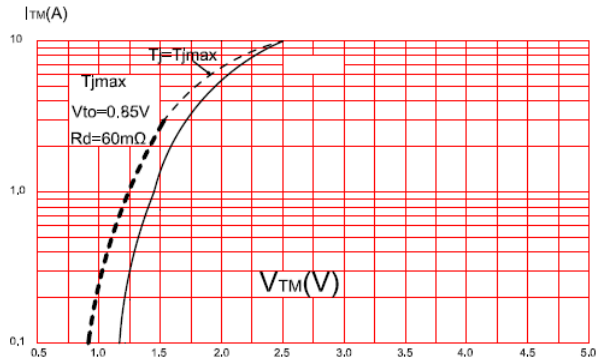


FIG.4: Surge peak on-state current versus number of cycles.

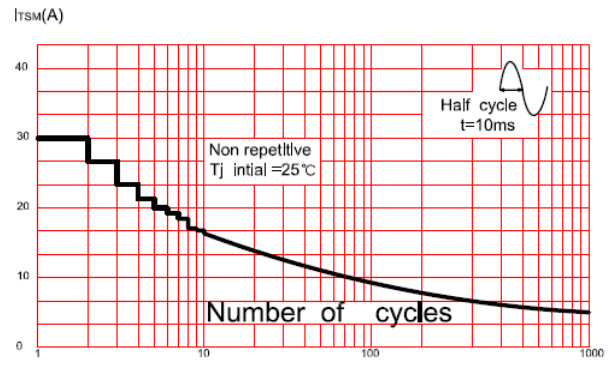


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$.

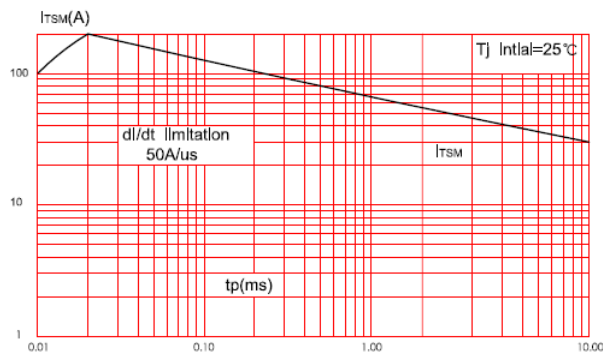


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature(typical values).

