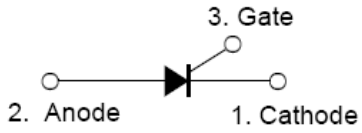
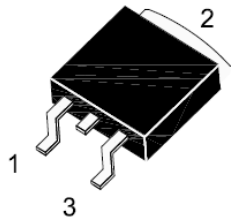
High sensitive triggering levels, the IPS6008 series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies…



DPAK(TO-252)



MAIN FEATURES

Symbol	Value	Unit
$I_{T(AV)}$	4	A
V_{DRM} / V_{RRM}	600	V
I_{GT}	≤ 200	uA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage Junction Temperature Range Operating Junction Temperature Range	Tstg Tj	-40 to +150 -40 to +110	℃
Repetitive Peak Off-state Voltage Tj = 25℃ Repetitive Peak Reverse Voltage Tj = 25℃	V_{DRM} V_{RRM}	600 600	V
RMS on–state current (180 conduction angle) Tc = 35℃	$I_{T(RMS)}$	4	A
Average on-state current (180 conduction angle) Tc = 35℃	$I_{T(AV)}$	2.5	A
Non repetitive surge peak on–state Current (Tj = 25℃) tp = 10ms tp = 8.3ms	I_{TSM}	 30 33	A
I^2t Value for fusing tp = 10ms	I^2t	4.5	A^2s
Peak gate current tp = 20us, Tj = 110 ℃	I_{GM}	1.2	A
Average gate power dissipation Tj = 110 ℃	$P_{G(AV)}$	0.2	W

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ELECTRICAL CHARACTERISTICS (Tj = 25 ℃ unless otherwise specified)

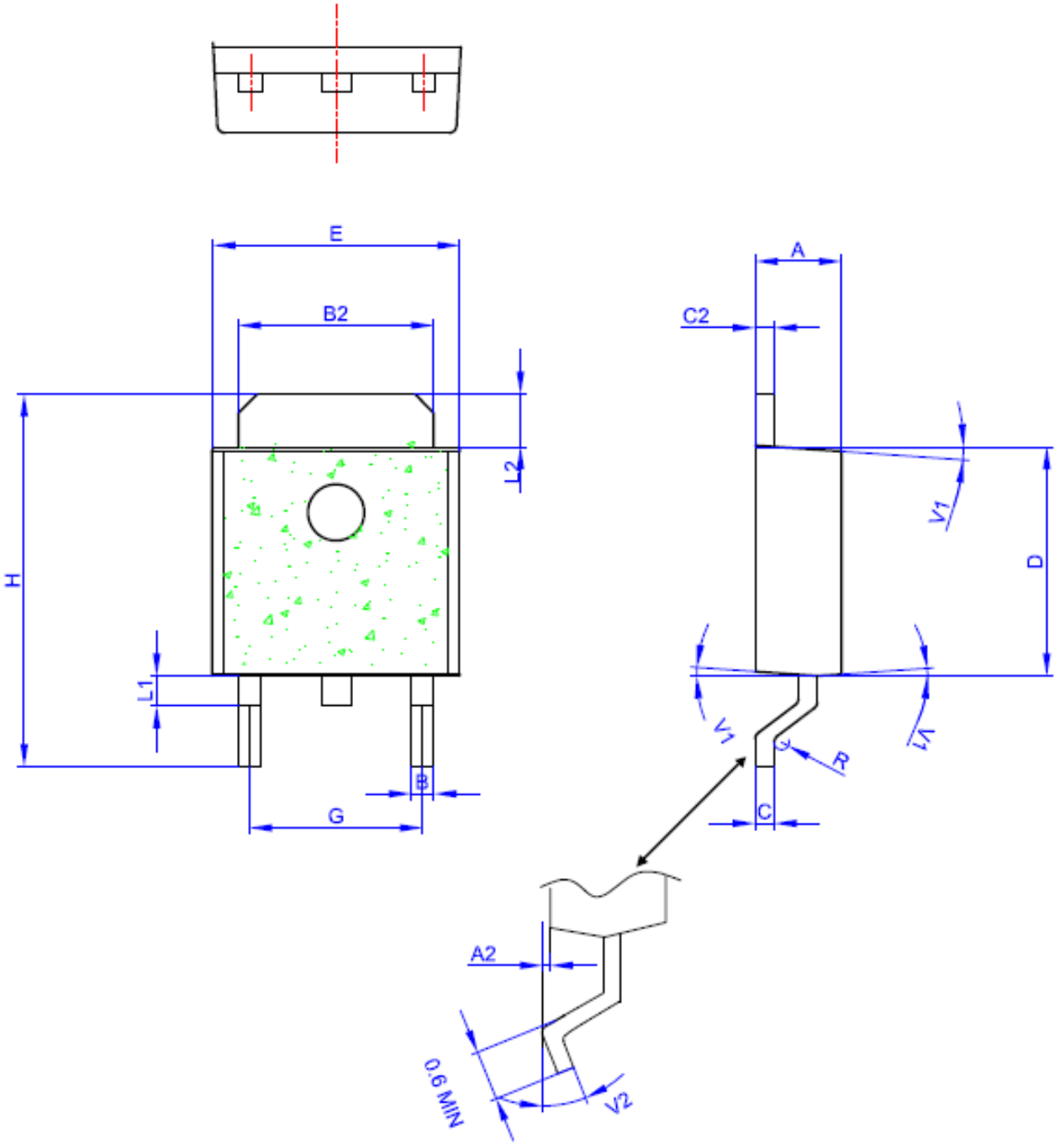
Symbol	Test Condition		IPS604-xxD				Unit
			03	05	06	08	
I_{GT}	V_D = 6V R_L = 100Ω	MIN MAX	10 30	20 50	30 60	50 80	uA
V_{GT}		TYP MAX	0.6 0.8				V
V_{GD}	V_D=V_{DRM}, R_L=3.3KΩ, R_{GK} = 1KΩ Tj = 110 ℃	MIN	0.2				V
I_L	I_G = 1mA R_{GK} = 1KΩ	MAX	6				mA
I_H	I_T = 50mA R_{GK} = 1KΩ	MAX	5				mA
V_{TM}	I_T = 8A t p = 380uS Tj = 25 ℃	TYP MAX	1.4 1.8				V/us
dV/dt	V_D = 67% V_{DRM} R_{GK} = 1KΩ Tj = 110 ℃	MIN	10				V/us
I_{DRM}	V_D = V_{DRM} R_{GK} = 1KΩ Tj = 25 ℃	MAX	5				uA
	V_D = V_{DRM} R_{GK} = 1KΩ Tj = 110 ℃	MAX	0.1				mA
I_{RRM}	V_R = V_{RRM} R_{GK} = 1KΩ Tj = 25 ℃	MAX	5				uA
	V_D = V_{RRM} R_{GK} = 1KΩ Tj = 110 ℃	MAX	0.1				mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R_{th} (j – c)	Junction to case	TO-252	2.8	℃/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		4º			4º	
V1	0º		8º	0º		8º

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

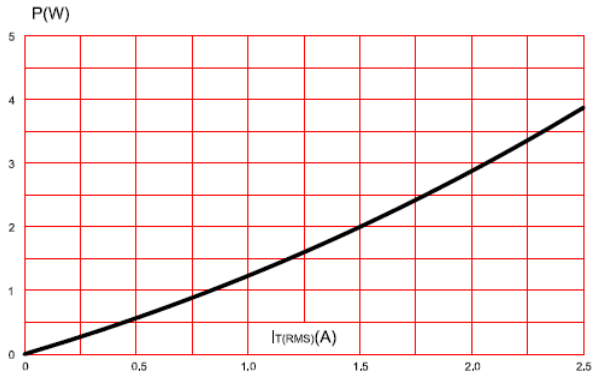

FIG.2: Average on-state current versus case temperature(full cycle)

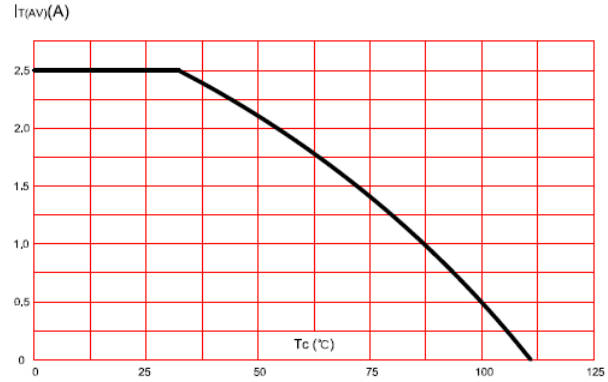

FIG.3: On-state characteristics (maximum values)

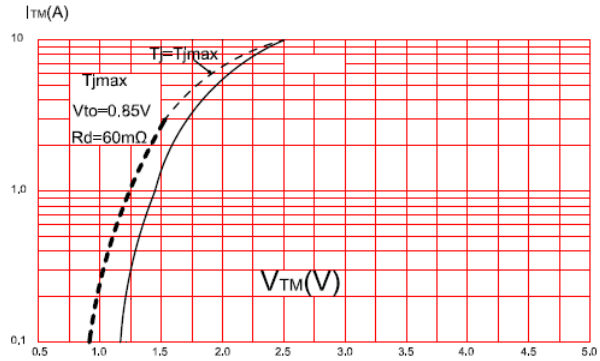

FIG.4: Surge peak on-state current versus number of cycles.

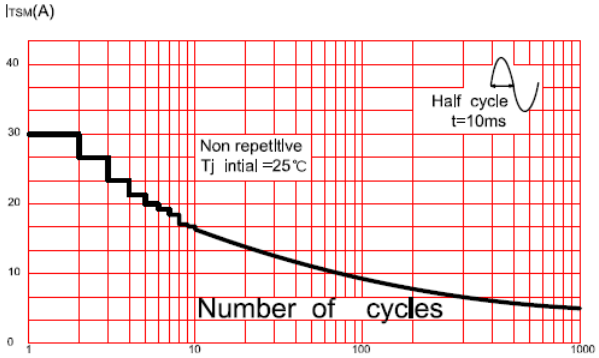

FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms.

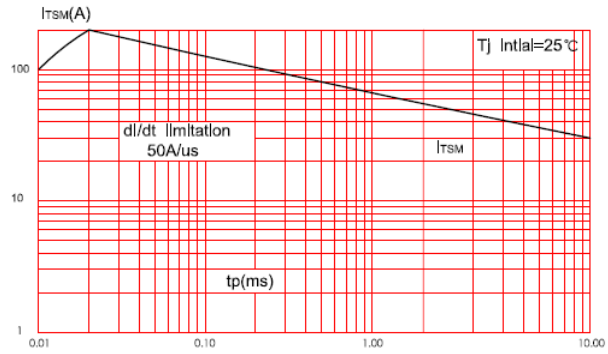

FIG.6: Relative variation of gate trigger current,holding current and latching current versus junction temperature(typical values).

