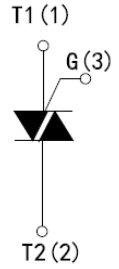
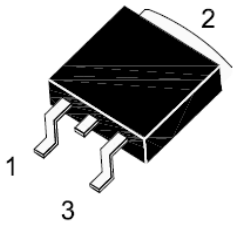
High current density due to double mesa technology; SIPOS and Glass Passivation. IPT0408-xx series are suitable for general purpose AC Switching. They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor stating circuits… or for phase Control operation light dimmers, motor speed Controllers. IPT0408-xx series is 3 Quadrants triacs, This is specially recommended for use on inductive Loads..



DPAK(TO-252)



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	5 to 35	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage Junction Temperature Range Operating Junction Temperature Range	Tstg Tj	-40 to +150 -40 to +125	℃
Repetitive Peak Off-state Voltage Tj = 25℃ Repetitive Peak Reverse Voltage	V_{DRM} V_{RRM}	800 800	V
Non Repetitive Peak Off-state Voltage Tj = 25℃ Non Repetitive Peak Reverse Voltage	V_{DSM} V_{RSM}	900 900	V
RMS on–state current Tc =105℃ (Full sine wave)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on–state Current f = 60Hz t = 16.7ms (full cycle, Tj = 25℃) f = 50 Hz t = 20ms	I_{TSM}	38 35	A
I^2t Value for fusing tp = 10ms	I^2t	6	A^2s
Critical Rate of rise of on-state current I_G = 2xI_{GT}, tr ≤ 100ns, f = 120Hz, Tj = 125 ℃	dI / dt	50	A/us
Peak gate current tp = 20us, Tj = 125 ℃	I_{GM}	4	A
Average gate power dissipation Tj = 125 ℃	$P_{G(AV)}$	1	W

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ELECTRICAL CHARACTERISTICS (Tj = 25 ℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		IPT408-xxD			Unit
				05	10	35	
I_{GT}	V_D = 12V R_L = 33Ω	I – II – III	MAX	5	10	35	mA
V_{GT}		I – II – III	MAX	1.3			V
V_{GD}	$V_D=V_{DRM}$, R_L=3.3KΩ, Tj = 125 ℃	I – II – III	MIN	0.2			V
I_L	I_G = 1.2 I_{GT}	I – III	MAX	10	25	50	mA
		II		15	30	60	
I_H	I_T = 500mA		MAX	10	15	35	mA
dV/dt	V_D = 67% V_{DRM} gate open Tj = 125 ℃		MIN	20	40	400	V/us
(dI/dt)c	(dV/dt) c=0.1V/us Tj = 125 ℃		MIN	1.8	2.7	-	A/ms
	(dV/dt) c=10V/us Tj = 125 ℃			0.9	2.0	-	
	Without snubber Tj = 125 ℃			-	-	2.5	

STATIC CHARACTERISTICS

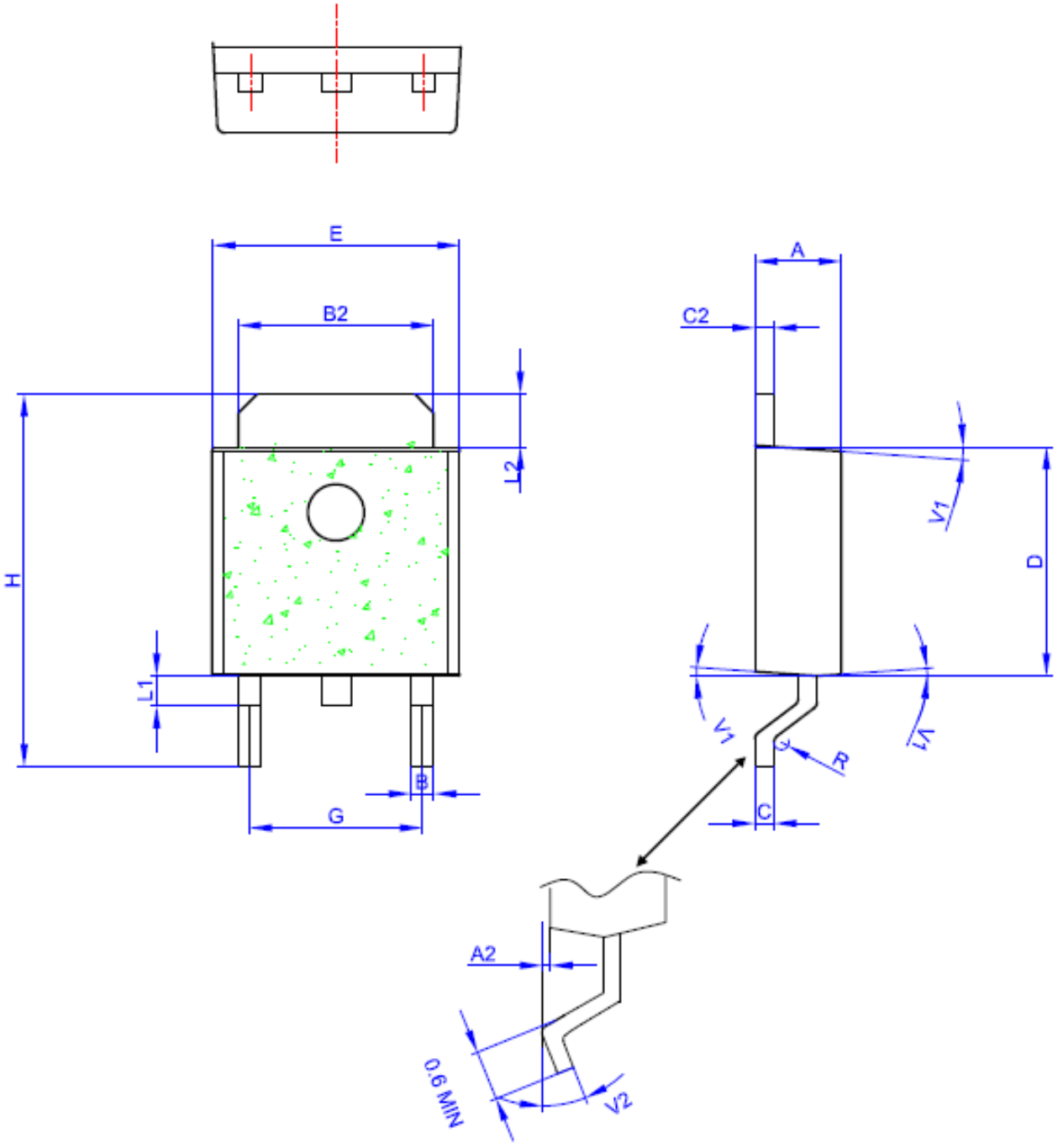
Symbol	Test Conditions		Value (MAX)	Unit
V_{TM}	I_{TM} = 5.5A, t p = 380uS	Tj = 25 ℃	1.6	V
I_{DRM}	$V_D = V_{DRM}$	Tj = 25 ℃	5	uA
I_{RRM}	$V_R = V_{RRM}$	Tj = 125 ℃	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R_{th} (j – c)	Junction to case (AC)	2.6	℃/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°

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

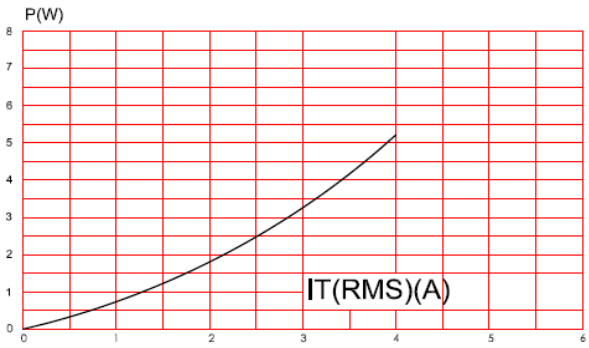

FIG.2: RMS on-state current versus case temperature(full cycle)

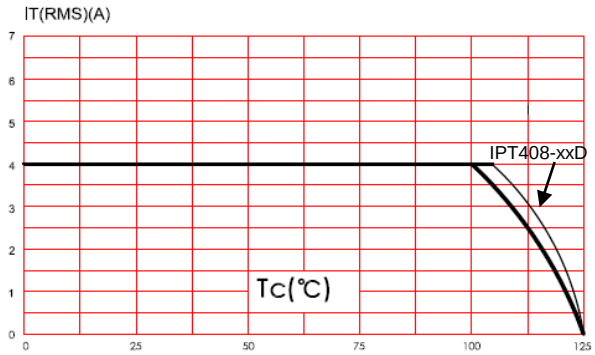

FIG.3: On-state characteristics (maximum values)

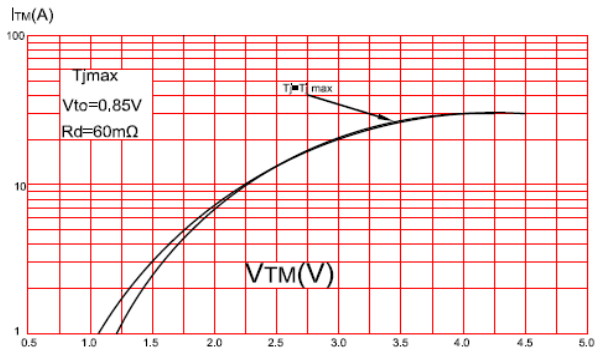

FIG.4: Surge peak on-state current versus number of cycles

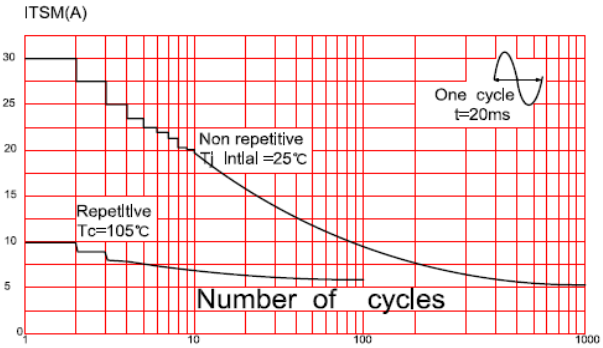

FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms.

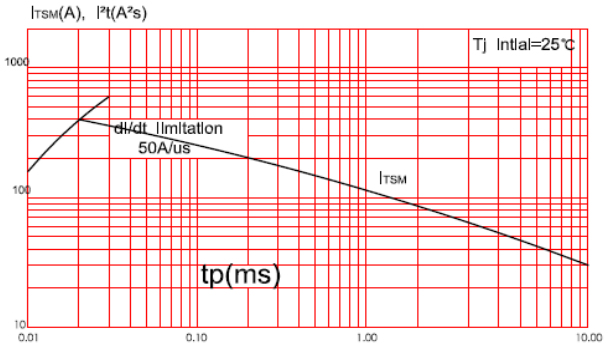

FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

