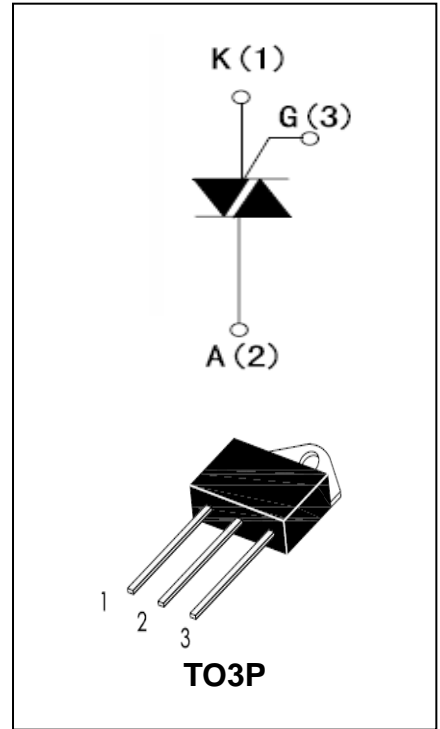




High current density due to double mesa technology; SIPOS and Glass Passivation. IPT2508-xx series are suitable for general purpose AC Switching. They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor starting circuits... or for phase Control operation light dimmers, motor speed Controllers. IPT2508-xx series is 3 Quadrants triacs, This is specially recommended for use on inductive Loads. The IPT2508-xxH (Insulated version) series are isolated internally they provides a 2500V RMS isolation voltage from all three terminals to external heatsink.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	25	A
V_{DRM} / V_{RRM}	800	V
V_{TM}	≤ 1.55	V

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 +125	$^{\circ}C$
Repetitive Peak Off-state Voltage Repetitive Peak Reverse Voltage	V_{DRM} V_{RRM}	800 800	V
Non Repetitive Peak Off-state Voltage Non Repetitive Peak Reverse Voltage	V_{DSM} V_{RSM}	900 900	V
RMS on-state current (360° conduction angle)	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state Current (full cycle, $T_j = 25^{\circ}C$)	I_{TSM}	260 250	A
I^2t Value for fusing $t_p = 10ms$	I^2t	340	A^2s
Critical Rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r \leq 100ns$, $f = 120Hz$, $T_j = 125^{\circ}C$	di / dt	50	A/us
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W

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

Symbol	Test Condition	Quadrant		IPT2508-xxH			Unit
				BE	CE	DE	
I _{GT}	V _D = 12V R _L = 33Ω T _j = 25 °C	I – II – III	MAX	35	35	50	mA
V _{GT}		I – II – III	MAX	1.3			V
V _{GD}	V _D =V _{DRM} , R _L =3.3KΩ, T _j = 125 °C	I – II – III	MIN	0.2			V
I _L	I _G = 1.2 I _{GT} , T _j = 125 °C	I – III	MAX	70	70	80	mA
		II		80	80	100	
I _H	I _T = 500mA Gate open		MAX	50	50	75	mA
dV/dt	V _D = 67% V _{DRM} gate open T _j = 125 °C		MIN	500	500	1000	V/us
(dI/dt) _c	(dV/dt) c=0.1V/us T _j = 125 °C		MIN	-	-	-	A/ms
	(dV/dt) c=10V/us T _j = 125 °C			-	-	-	
	Without snubber T _j = 125 °C			13	13	22	

STATIC CHARACTERISTICS

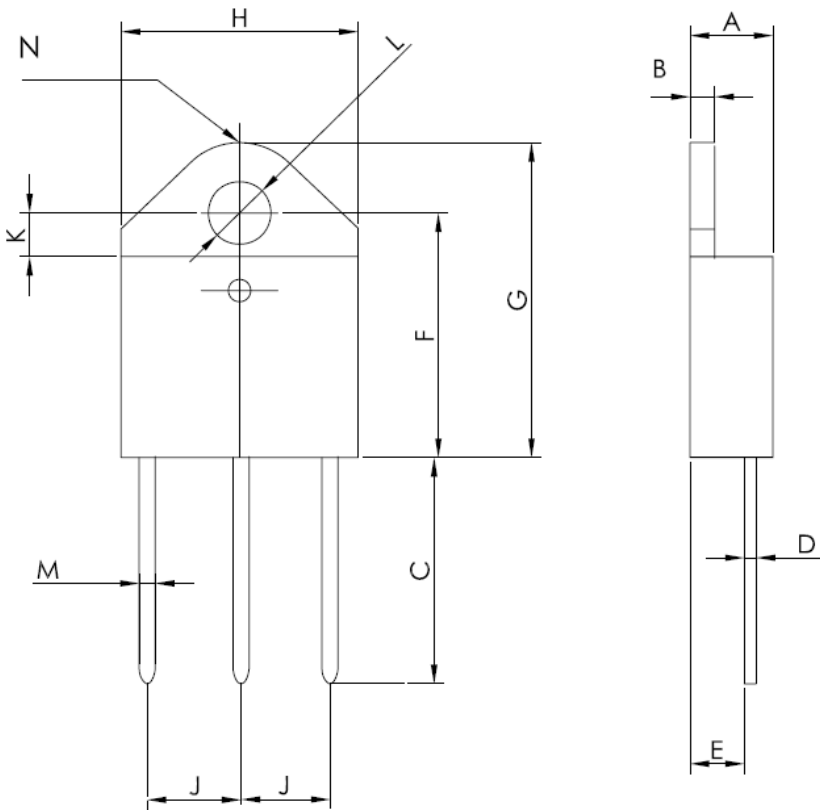
Symbol	Test Conditions		Value (MAX)	Unit
V _{TM}	I _{TM} = 28A, t _p = 380uS	T _j = 25 °C	1.55	V
I _{DRM}	V _D = V _{DRM}	T _j = 25 °C	10	uA
I _{RRM}	V _R = V _{RRM}	T _j = 125 °C	3	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case (AC)	1.1	°C/W

PACKAGE MECHANICAL DATA

TO-3P



	Millimeters		
	Min	Typ	Max
A	4.4		4.6
B	1.45		1.55
C	14.35		15.6
D	0.5		0.7
E	2.7		2.9
F	15.8		16.5
G	20.4		21.1
H	15.1		15.5
J	5.45		5.65
K	3.15		3.65
L	4.07		4.17
M	1.35		1.40
N		14.6	

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

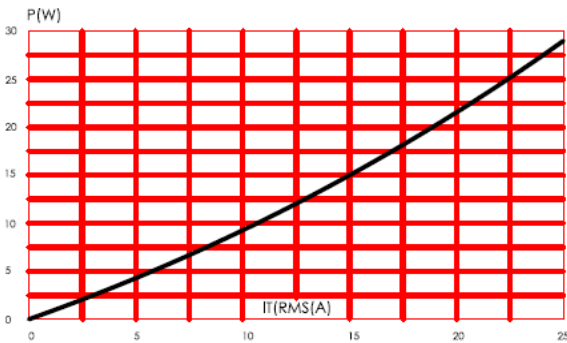


FIG.2: RMS on-state current versus case temperature(full cycle)

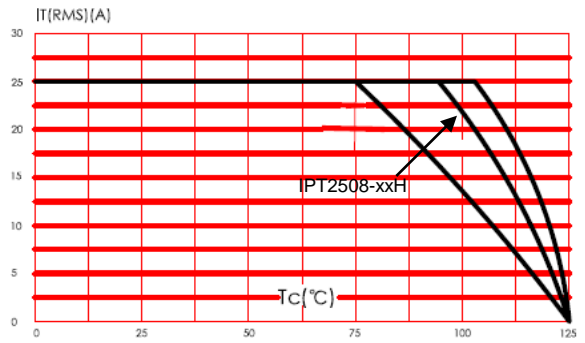


FIG.3: On-state characteristics (maximum values)

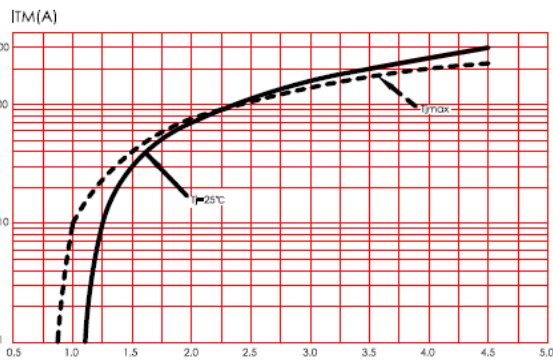


FIG.4: Surge peak on-state current versus number of cycles.

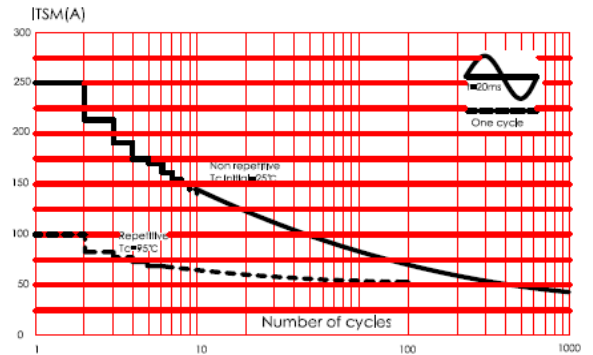


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

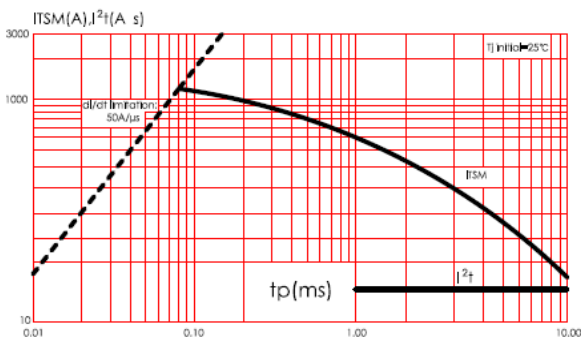


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

