

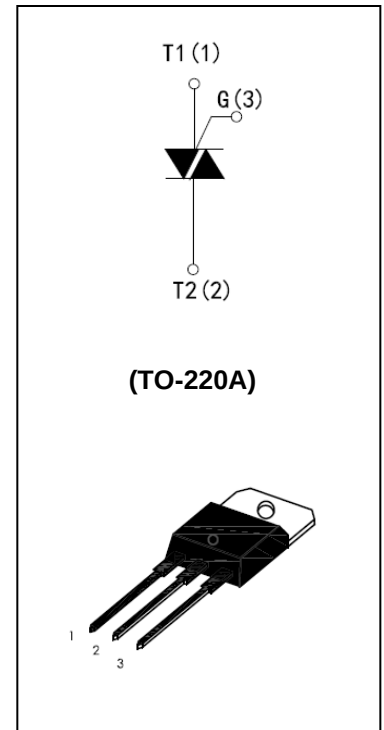


High current density due to double mesa technology; SIPOS and Glass Passivation. IPT0408-xx series are suitable for general purpose AC Switching.

They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor stator 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..

The TO-220A series are 2500V RMS insulating voltage.



MAIN FEATURES

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

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage Junction Temperature Range	T_{stg}	-40 to +150	°C
Operating Junction Temperature Range	T_j	-40 to +125	°C
Repetitive Peak Off-state Voltage $T_j = 25^\circ\text{C}$	V_{DRM}	800	V
Repetitive Peak Reverse Voltage	V_{RRM}	800	V
Non Repetitive Peak Off-state Voltage $T_j = 25^\circ\text{C}$	V_{DSM}	900	V
Non Repetitive Peak Reverse Voltage	V_{RSM}	900	V
RMS on-state current $T_c = 105^\circ\text{C}$ (Full sine wave)	$I_T(\text{RMS})$	4	A
Non repetitive surge peak on-state Current $f = 60\text{Hz } t = 16.7\text{ms}$ (full cycle, $T_j = 25^\circ\text{C}$) $f = 50\text{Hz } t = 20\text{ms}$	I_{TSM}	38 35	A
I^2t Value for fusing $t_p = 10\text{ms}$	I^2t	6	A ² s
Critical Rate of rise of on-state current $I_G = 2 \times I_{\text{GT}}, t_r \leq 100\text{ns}, f = 120\text{Hz}, T_j = 125^\circ\text{C}$	di / dt	50	A/us
Peak gate current $t_p = 20\mu\text{s}, T_j = 125^\circ\text{C}$	I_{GM}	4	A
Average gate power dissipation $T_j = 125^\circ\text{C}$	$P_G(\text{AV})$	1	W

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

Symbol	Test Condition	Quadrant		IPT0408-xxA			Unit
				05	10	35	
IGT	VD = 12V RL = 33Ω	I – II – III	MAX	5	10	35	mA
VGT		I – II – III	MAX	1.3			V
VGD	VD=VDRM, RL=3.3KΩ, Tj = 125 °C	I – II – III	MIN	0.2			V
IL	IG = 1.2 IGT	I – III	MAX	10	25	50	mA
		II		15	30	60	
IH	IT = 500mA		MAX	10	15	35	mA
dV/dt	VD = 67% VDRM gate open Tj = 125 °C		MIN	20	40	400	V/us
(dI/dt)c	(dV/dt) c=0.1V/us Tj = 125 °C		MIN	1.8	2.7	-	A/ms
	(dV/dt) c=10V/us Tj = 125 °C			0.9	2.0	-	
	Without snubber Tj = 125 °C			-	-	2.5	

STATIC CHARACTERISTICS

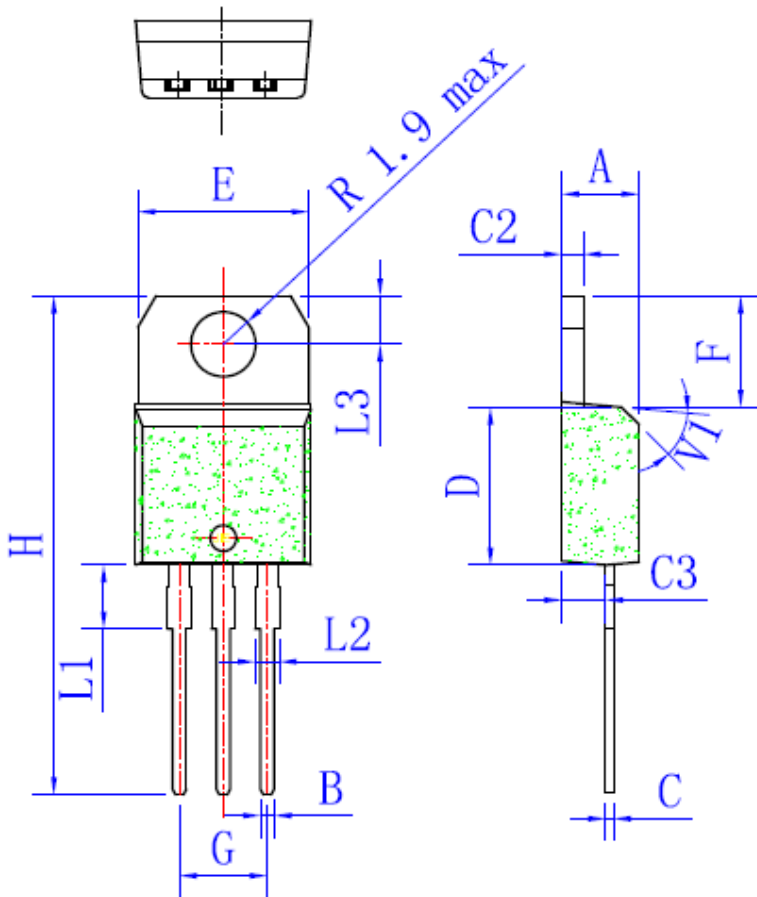
Symbol	Test Conditions		Value (MAX)	Unit
VTM	ITM = 5.5A, t p = 380uS	Tj = 25 °C	1.6	V
IDRM	VD = VDRM	Tj = 25 °C	5	uA
IRRM	VR = VRRM	Tj = 125 °C	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j – c)	Junction to case (AC)	4.0	°C/W

PACKAGE MECHANICAL DATA

TO-220A



	Millimeters		
	Min	Typ	Max
A	4.4		4.6
B	0.61		0.88
C	0.46		0.70
C2	1.23		1.32
C3	2.4		2.72
D	8.6		9.7
E	9.8		10.4
F	6.2		6.6
G	4.8		5.4
H	28		29.8
L1		3.75	
L2	1.14		1.7
L3	2.65		2.95
V		40°	

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

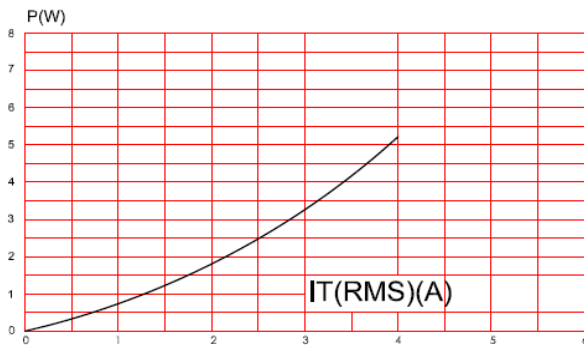


FIG.2: RMS on-state current versus case temperature(full cycle)

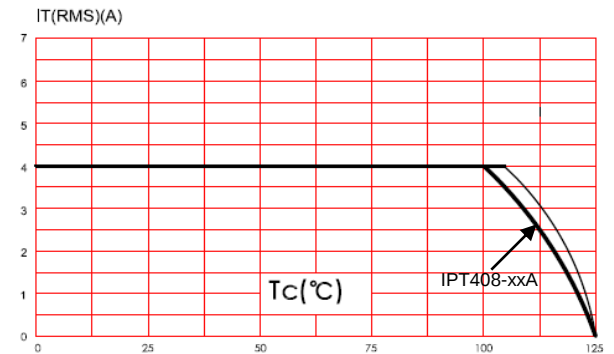


FIG.3: On-state characteristics (maximum values)

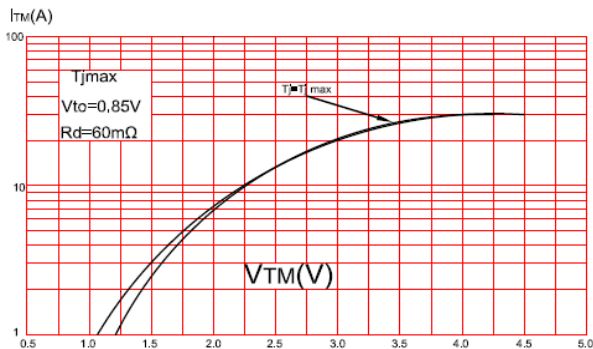


FIG.4: Surge peak on-state current versus number of cycles

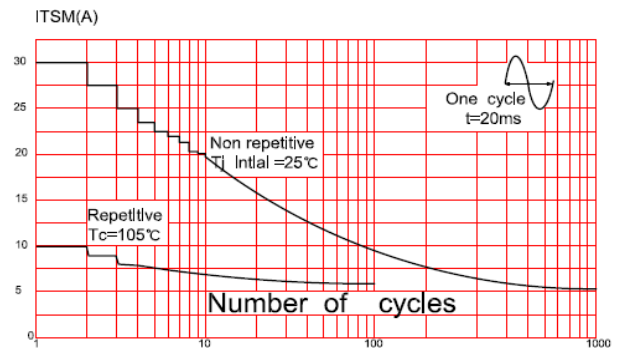


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$.

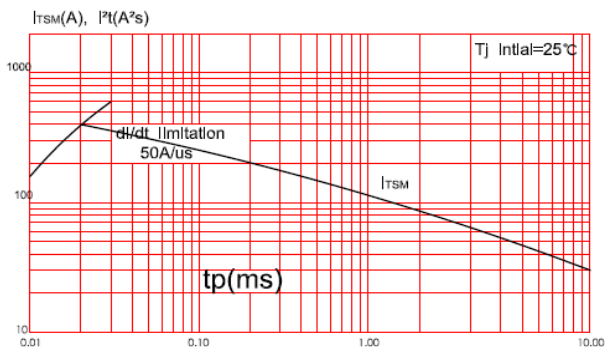


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

