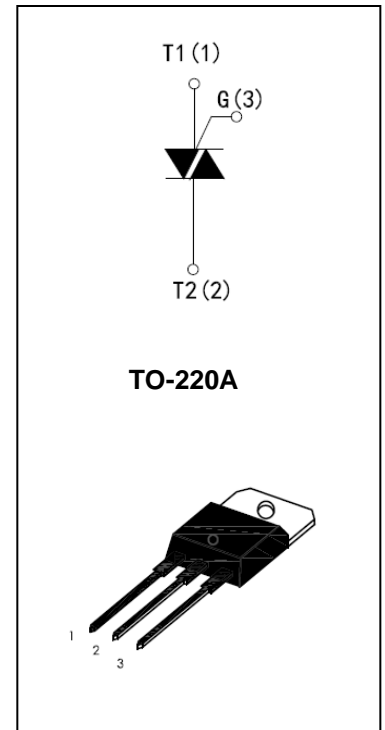




High current density due to double mesa technology; SIPOS and Glass Passivation. IPT1608-xx series are suitable for general purpose AC Switching. They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor starting circuits... or for phase Control operation light dimmers, motor speed Controllers. IPT1608-xx series is 3 Quadrants triacs, This is specially recommended for use on inductive Loads.. The IPT1608-xxA (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
IT(RMS)	16	A
VDRM / VRRM	800	V
VTM	≤ 1.55	V

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage Junction Temperature Range	Tstg	-40 to +150	°C
Operating Junction Temperature Range	Tj	-40 to +125	°C
Repetitive Peak Off-state Voltage Repetitive Peak Reverse Voltage	VDRM VRRM	800 800	V
Non Repetitive Peak Off-state Voltage Non Repetitive Peak Reverse Voltage	VDSM VRSM	900 900	V
RMS on-state current (Full sine wave)	IT(RMS)	16	A
Non repetitive surge peak on-state Current (full cycle, Tj = 25 °C)	ITSM	168 160	A
I²t Value for fusing	I²t	144	A²s
Critical Rate of rise of on-state current IG = 2xIGT, tr ≤ 100ns, f = 120Hz, Tj = 125 °C	dl / dt	50	A/us
Peak gate current	IGM	4	A
Average gate power dissipation	PG(AV)	1	W

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

Symbol	Test Condition	Quadrant		IPT1608-xxA			Unit
				SE	CE	BE	
I _{GT}	V _D = 12V R _L = 30Ω	I – II – III	MAX	10	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}	I – III	MAX	25	50	70	mA
		II		30	60	80	
I _H	I _T = 100mA		MAX	15	35	50	mA
dV/dt	V _D = 67% V _{DRM} gate open T _j = 125 °C		MIN	40	500	1000	V/us
(di/dt) _c	(dV/dt) c=0.1V/us T _j = 125 °C		MIN	8.5	-	-	A/ms
	(dV/dt) c=10V/us T _j = 125 °C			3.0	-	-	
	Without snubber T _j = 125 °C				8.5	14	

STATIC CHARACTERISTICS

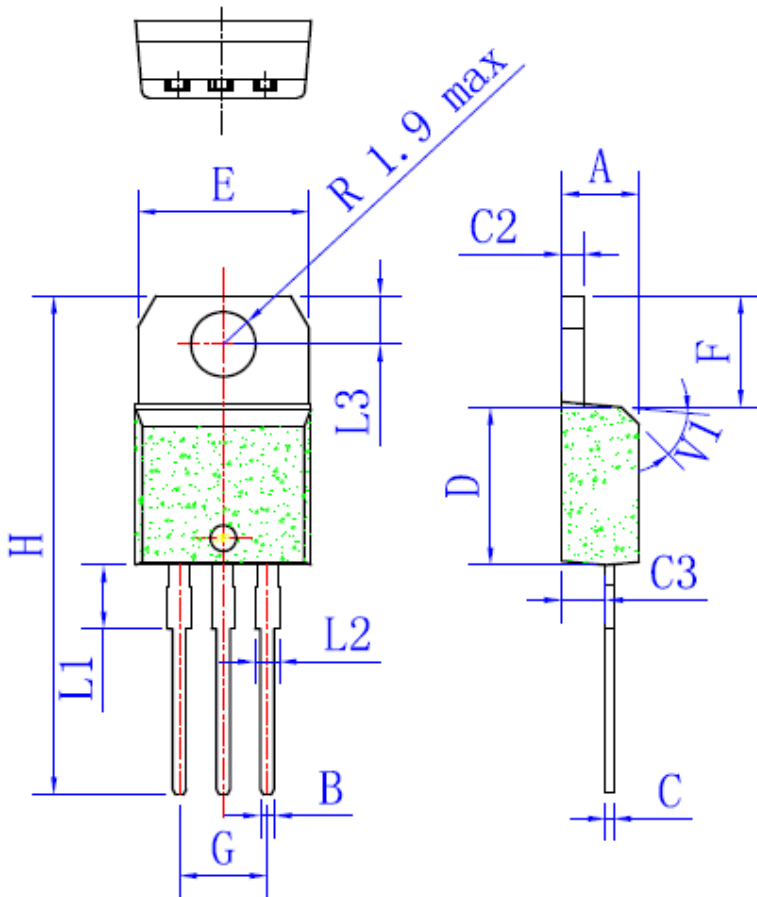
Symbol	Test Conditions		Value (MAX)	Unit
V _{TM}	I _{TM} = 17A, t _p = 380uS	T _j = 25 °C	1.55	V
I _{DRM}	V _D = V _{DRM}	T _j = 25 °C	5	uA
I _{RRM}	V _R = V _{RRM}	T _j = 125 °C	2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case (AC)	2.1	°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)

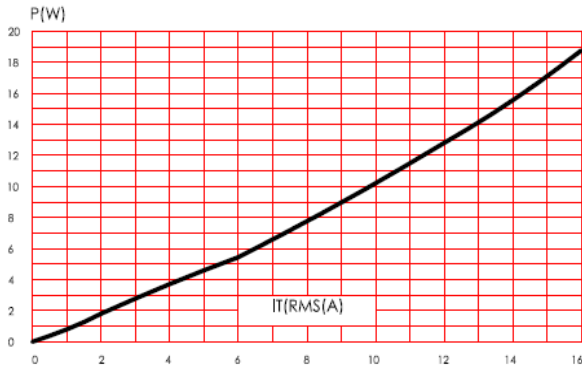


FIG.2: RMS on-state current versus case temperature(full cycle)

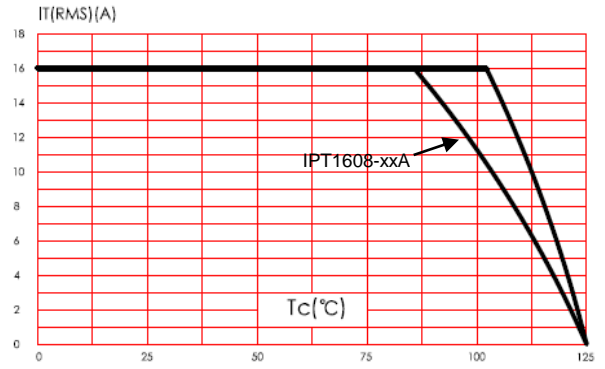


FIG.3: On-state characteristics (maximum values)

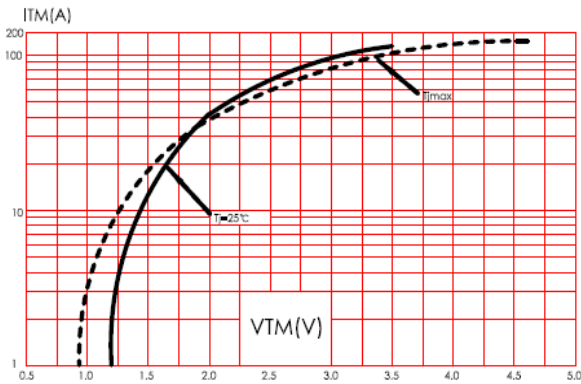


FIG.4: Surge peak on-state current versus number of cycles.

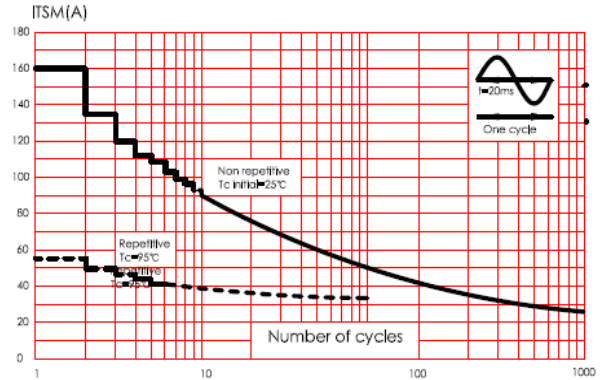


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t

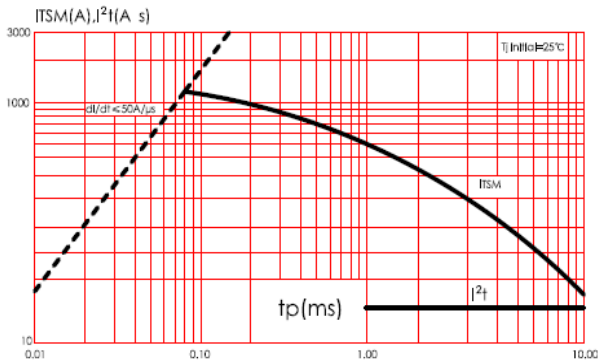


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

