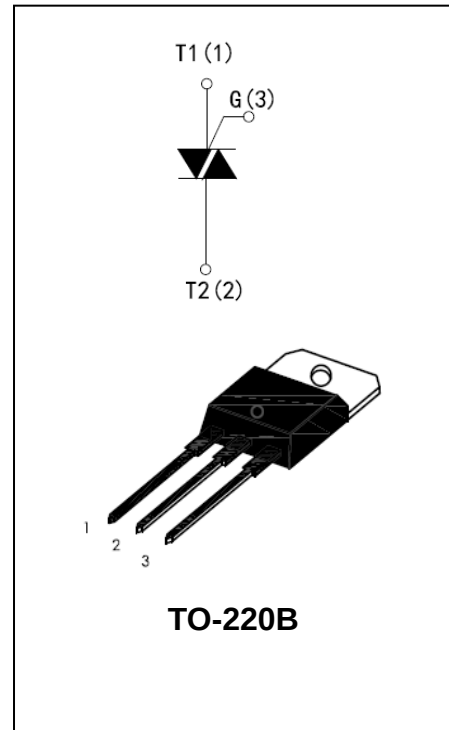




High current density due to double mesa technology; SIPOS and Glass Passivation. IPT1606-xx series are suitable for general purpose AC Switching. They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor starting circuits... or for phase Control operation light dimmers, motor speed Controllers. IPT1606-xxB series is 3 Quadrants triacs, This is specially recommended for use on inductive Loads..

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM} / V_{RRM}	600	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 $T_j = 25^{\circ}C$	V_{DRM}	600	V
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Non Repetitive Peak Off-state Voltage $T_j = 25^{\circ}C$	V_{DSM}	700	V
Non Repetitive Peak Reverse Voltage	V_{RSM}	700	V
RMS on-state current $T_c = 100^{\circ}C$ (Full sine wave)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state Current $f = 60Hz$ $t = 16.7ms$ (full cycle, $T_j = 25^{\circ}C$) $f = 50 Hz$ $t = 20ms$	I_{TSM}	168 160	A
I^2t Value for fusing $t_p = 10ms$	I^2t	144	A^2s
Critical Rate of rise of on-state current $I_G = 2xI_{GT}$, $t_r \leq 100ns$, $f = 120Hz$, $T_j = 125^{\circ}C$	di / dt	50	A/us
Peak gate current $t_p = 20us$, $T_j = 125^{\circ}C$	I_{GM}	4	A
Average gate power dissipation $T_j = 125^{\circ}C$	$P_{G(AV)}$	1	W

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

Symbol	Test Condition	Quadrant		IPT1606-xxB			Unit
				SE	CE	BE	
IGT	VD = 12V RL = 30Ω	I – II – III	MAX	10	35	50	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	25	50	70	mA
		II		30	60	80	
IH	IT = 100mA		MAX	15	35	50	mA
dV/dt	VD = 67% VDRM gate open Tj = 125 °C		MIN	40	500	1000	V/us
(dI/dt)c	(dV/dt) c=0.1V/us Tj = 125 °C		MIN	8.5	-	-	A/ms
	(dV/dt) c=10V/us Tj = 125 °C			3.0	-	-	
	Without snubber Tj = 125 °C				8.5	14	

STATIC CHARACTERISTICS

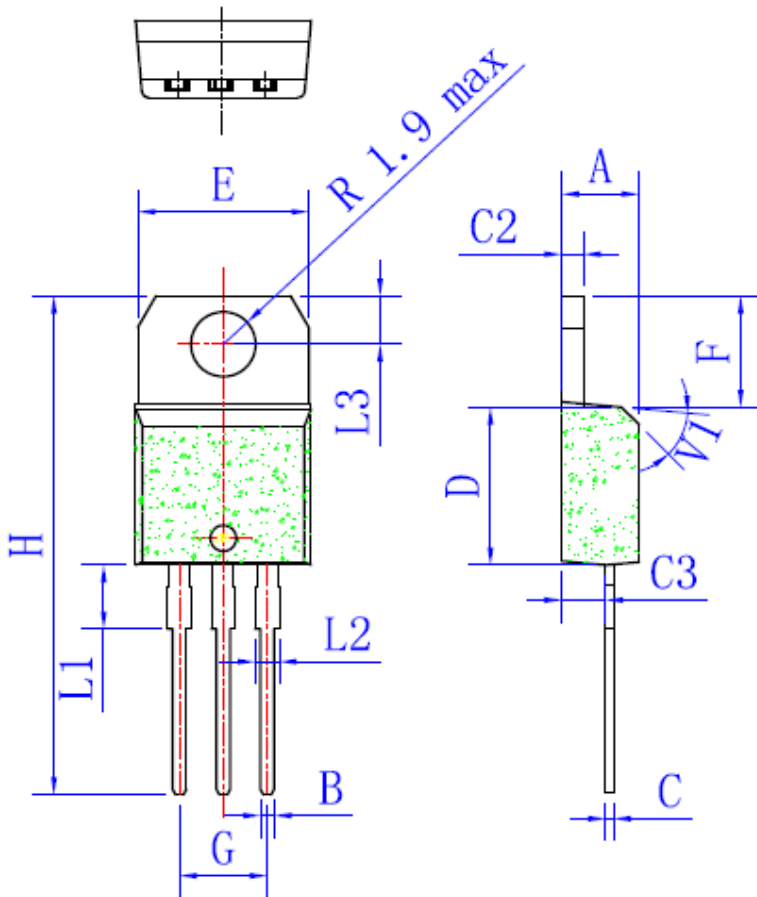
Symbol	Test Conditions		Value (MAX)	Unit
V _{TM}	I _{TM} = 17A, t _p = 380uS	T _j = 25 °C	1.55	V
I _{DRM}	V _D = V _{DRM}	T _j = 25 °C	5	uA
I _{RRM}	V _R = V _{RRM}	T _j = 125 °C	2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th} (j – c)	Junction to case (AC)	1.2	°C/W

PACKAGE MECHANICAL DATA

TO-220B



	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)

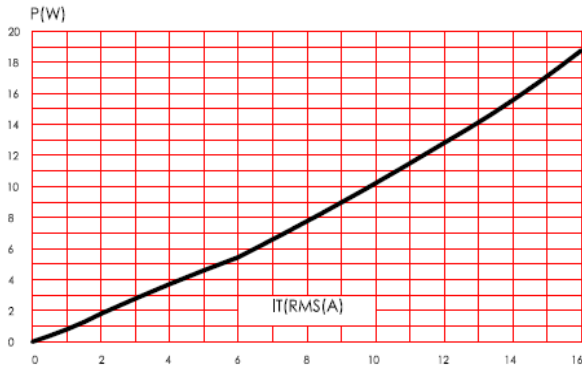


FIG.2: RMS on-state current versus case temperature(full cycle)

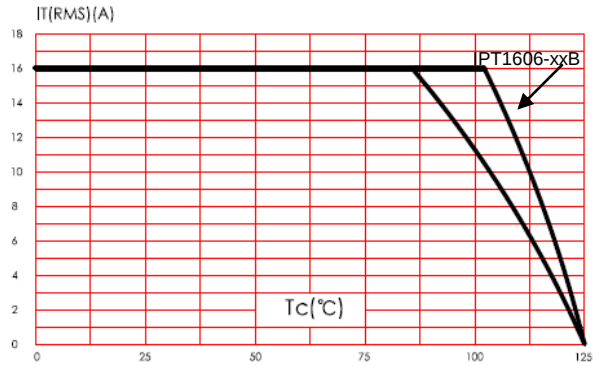


FIG.3: On-state characteristics (maximum values)

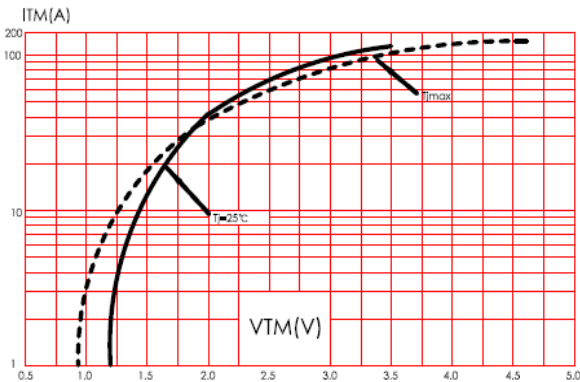


FIG.4: Surge peak on-state current versus number of cycles.

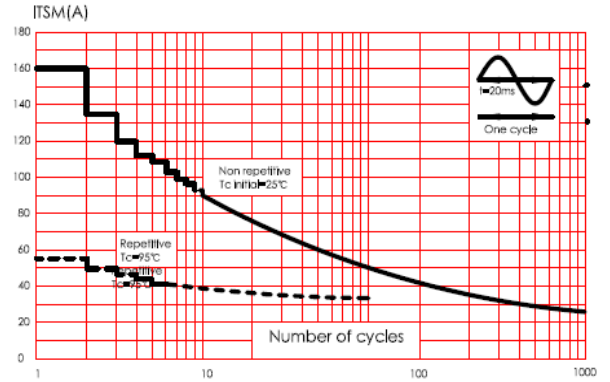


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t

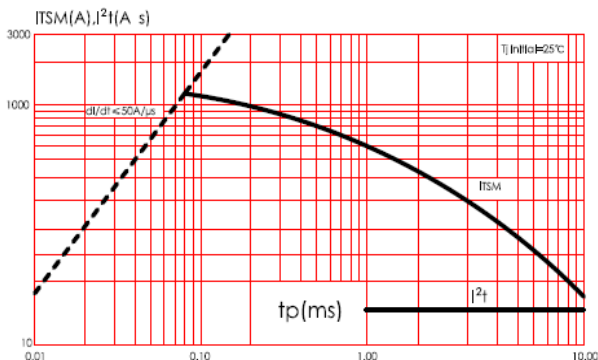


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

