



High current density due to double mesa technology; SIPOS and Glass Passivation. IPT0406-xx series are suitable for general purpose AC Switching.

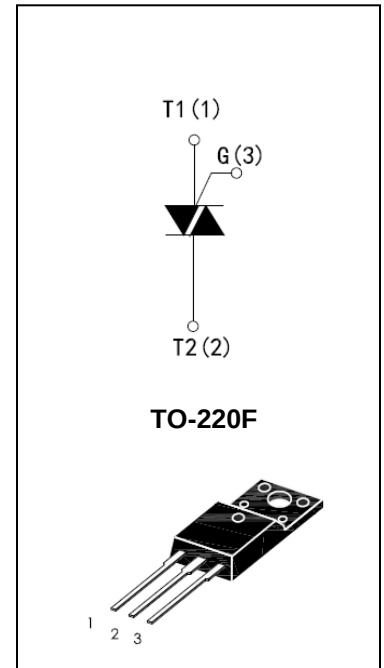
They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor stator circuits... or for phase Control operation light dimmers, motor speed Controllers.

IPT0406-xx series is 3 Quadrants triacs, This is specially recommended for use on inductive Loads..

The TO-220F isolated mounting base, they provides 1500V RMS isolation voltage.

MAIN FEATURES

Symbol	Value	Unit
$I_T(\text{RMS})$	4	A
$V_{\text{DRM}} / V_{\text{RRM}}$	600	V
I_{GT}	≤ 50	mA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage Junction Temperature Range	T_{stg}	-40 to +150	$^{\circ}\text{C}$
Operating Junction Temperature Range	T_j	-40 to +125	$^{\circ}\text{C}$
Repetitive Peak Off-state Voltage $T_j = 25^{\circ}\text{C}$	V_{DRM}	600	V
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Non Repetitive Peak Off-state Voltage $T_j = 25^{\circ}\text{C}$	V_{DSM}	700	V
Non Repetitive Peak Reverse Voltage	V_{RSM}	700	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}	33 30	A
I^2t Value for fusing $t_p = 10\text{ms}$	I^2t	4.5	A^2s
Peak gate current $t_p = 20\mu\text{s}, T_j = 125^{\circ}\text{C}$	I_{GM}	1	A
Peake gate power dissipation $T_j = 125^{\circ}\text{C}$	P_{GM}	1.5	W
Average gate power dissipation $T_j = 125^{\circ}\text{C}$	$P_{\text{G(AV)}}$	0.1	W

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

Symbol	Test Condition	Quadrant	Rating			Unit
			MIN	TYP	MAX	
I _{GT}	V _D = 12V R _L = 30Ω	T2+G+/T2+G-/T2-G-		18 - 25	50	mA
V _{GT}		T2+G+/T2+G-/T2-G-			1.5	V
V _{GD}	V _D =V _{DRM} , R _L =3.3KΩ, T _j = 125 °C		0.2			V
I _L	I _G = 1.2 I _{GT}	T2+ G+			60	mA
		T2+ G-			70	
		T2- G-			60	
I _H	I _T = 100mA	T2+G+/T2+G-/T2-G-			50	mA
dV/dt	V _D = 67% V _{DRM} gate open T _j = 125 °C		500			V/us

STATIC CHARACTERISTICS

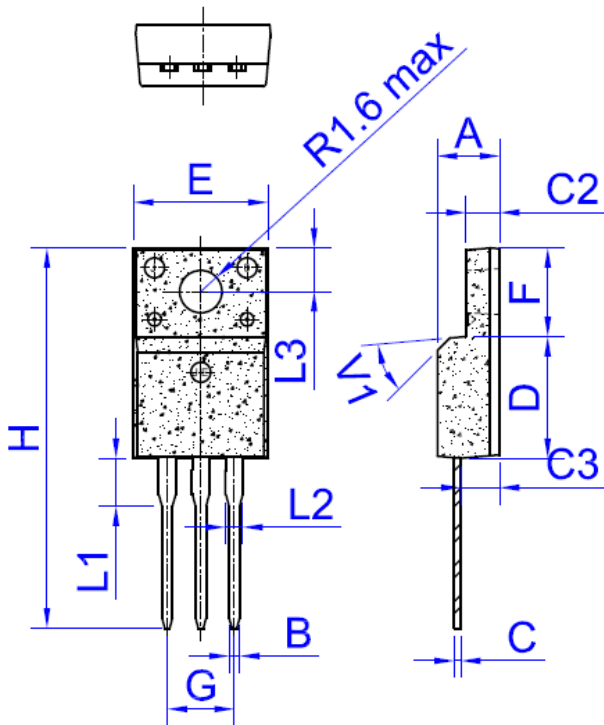
Symbol	Test Conditions		Value (MAX)	Unit
I _{DRM}	V _D = V _{DRM}	T _j = 25 °C	10	uA
I _{RRM}	V _R = V _{RRM}	T _j = 125 °C	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th} (j – c)	Junction to case (AC)	3.5	°C/W

PACKAGE MECHANICAL DATA

TO-220F



Ref	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	4.4		4.8	0.173		0.189
B	0.74	0.8	0.83	0.029	0.031	0.033
C	0.5		0.75	0.020		0.030
C2	2.4		2.7	0.094		0.106
C3	2.6		3	0.102		0.118
D	8.8		9.3	0.346		0.367
E	9.7		10.3	0.382		0.406
F	6.4		6.8	0.252		0.268
G	5		5.2	0.197		0.205
H	28.0		29.8	11.0		11.7
L1		3.63			0.143	
L2	1.14		1.7	0.044		0.067
L3		3.3			0.130	
V1		40°			40°	

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

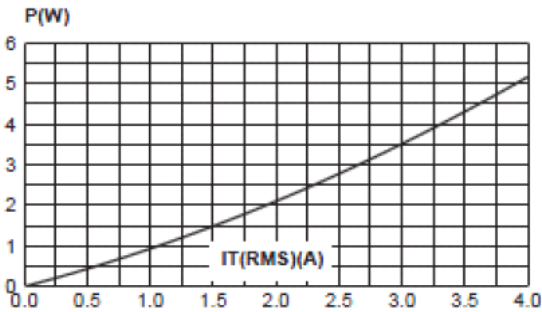


Fig. 2: RMS on-state current versus case temperature (full cycle)

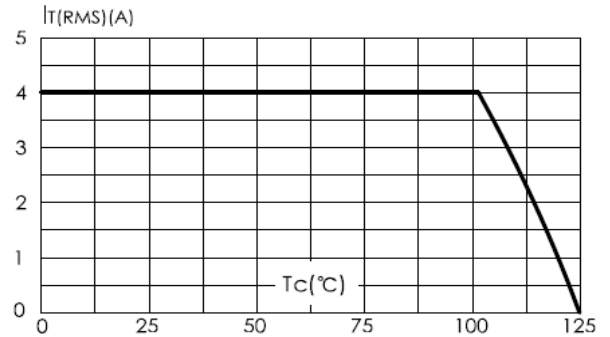


FIG.3: On-state characteristics (maximum values)

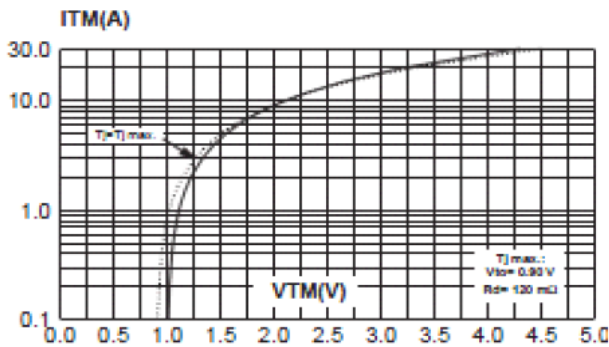


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

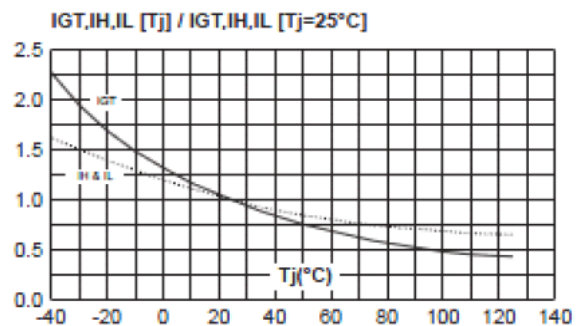


FIG.5: Surge peak on-state current versus number of cycles.

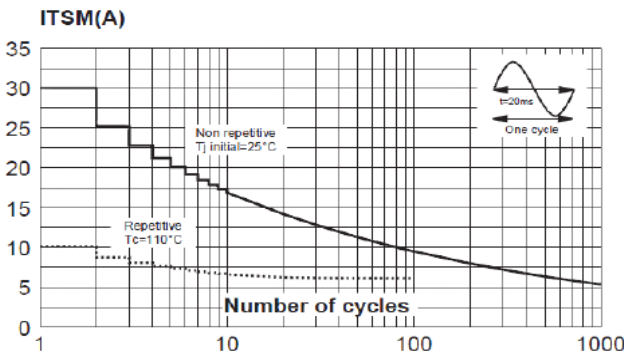


Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t .

