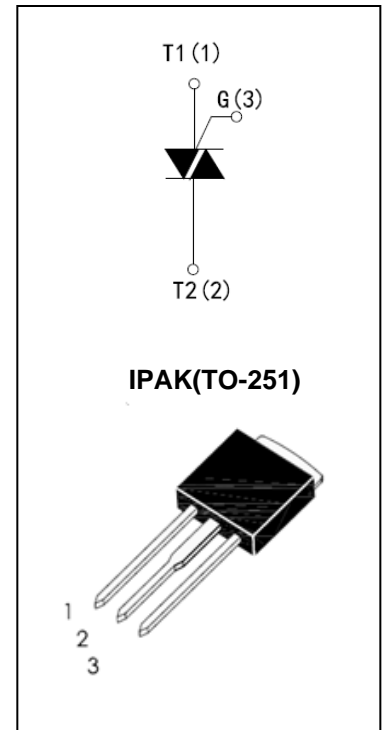




High current density due to double mesa technology; SIPOS and Glass Passivation. IPT04Q08-xx series are suitable for general purpose AC Switching. They can be used as an ON/OFF function In application such as static relays, heating regulation, Induction motor stator circuits... or for phase Control operation light dimmers, motor speed Controllers.



MAIN FEATURES

Symbol	Value	Unit
$I_T(RMS)$	4	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	5 to 25	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 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 (Full sine wave)	$I_T(RMS)$	4	A
Non repetitive surge peak on-state Current (full cycle, $T_j = 25^\circ C$)	I_{TSM}	38 35	A
I^2t Value for fusing $t_p = 10ms$	I^2t	6	A ² s
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	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		IPT04Q06-xxI				Unit
				TE	DE	SE	AE	
I _{GT}	V _D = 12V R _L = 30Ω	I – II – III IV	MAX	5 5	5 10	10 10	10 25	mA
V _{GT}		ALL	MAX	1.5				V
V _{GD}	V _D =V _{DRM} , R _L =3.3KΩ, T _j = 125 °C	ALL	MIN	0.2				V
I _L	I _G = 1.2 I _{GT}	I – III – IV	MAX	10	10	20	20	mA
		II		20	20	40	40	
I _H	I _T = 500mA		MAX	15	15	25	25	mA
dV/dt	V _D = 67% V _{DRM} gate open T _j = 125 °C		MIN	10	10	10	10	V/us
(dV/dt) _c	(dV/dt) _c =0.8A/ms T _j = 125 °C		MIN	1	1	5	5	V/us

STATIC CHARACTERISTICS

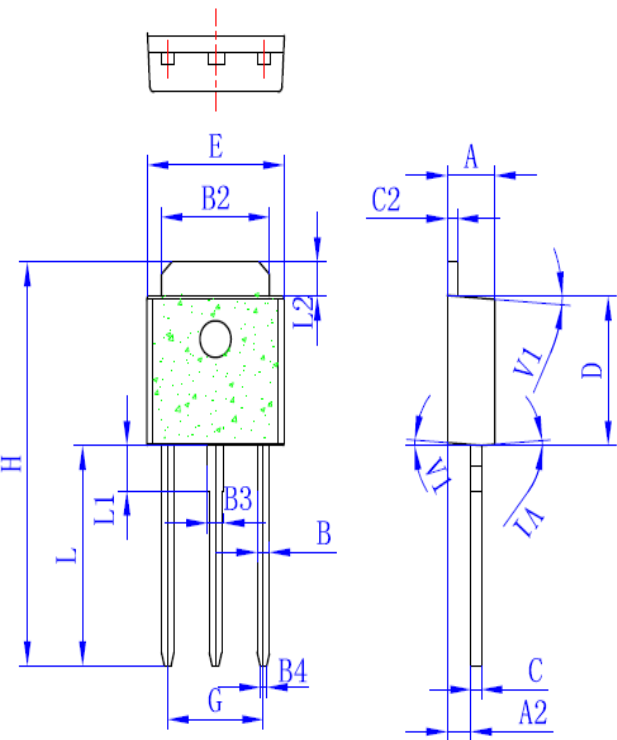
Symbol	Test Conditions		Value (MAX)	Unit
V _{TM}	I _{TM} = 5.5A, t _p = 380uS	T _j = 25 °C	1.6	V
I _{DRM}	V _D = V _{DRM}	T _j = 25 °C	5	uA
I _{RRM}	V _R = V _{RRM}	T _j = 125 °C	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case (AC)	2.6	°C/W

PACKAGE MECHANICAL DATA

TO-251(IPAK)



Ref	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	2.2		2.4	0.086		0.095
A2	0.9		1.1	0.035		0.043
B	0.55		0.65	0.021		0.026
B2	5.1		5.4	0.200		0.212
B3	0.76		0.85	0.030		0.033
B4		0.32			0.013	
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.7	0.252		0.264
G	4.4		4.7	0.173		0.185
H	16		16.7	0.630		0.658
L	8.9		9.4	0.35		0.37
L1	1.8		1.9	0.071		0.075
L2	1.37		1.5	0.054		0.059
V1		4°			4°	

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

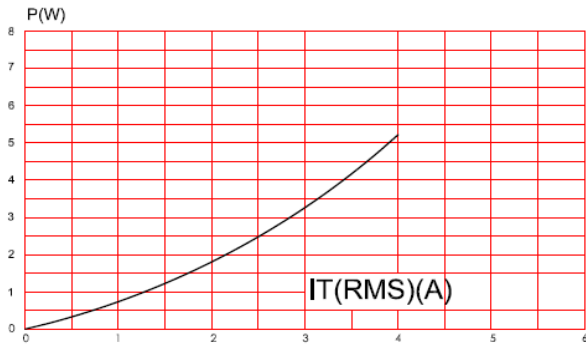


FIG.2: RMS on-state current versus case temperature(full cycle)

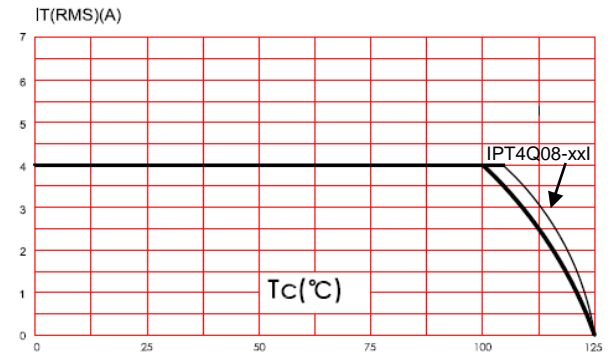


FIG.3: On-state characteristics (maximum values)

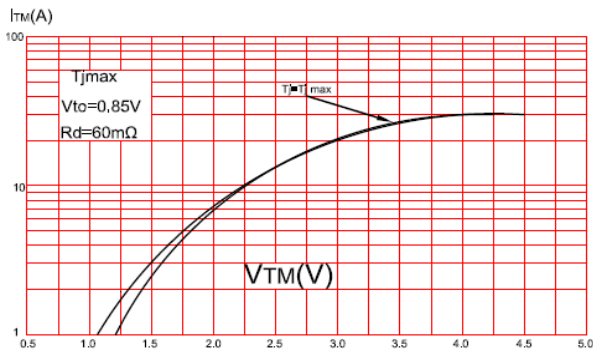


FIG.4: Surge peak on-state current versus number of cycles

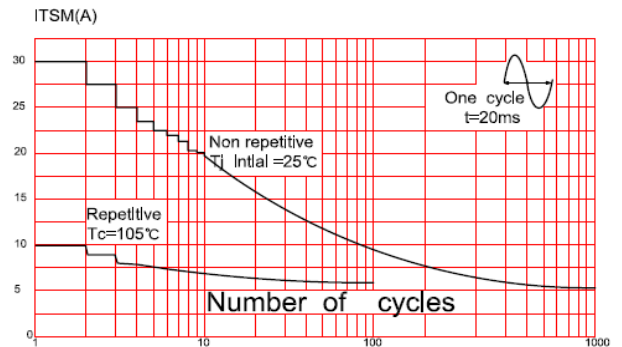


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$.

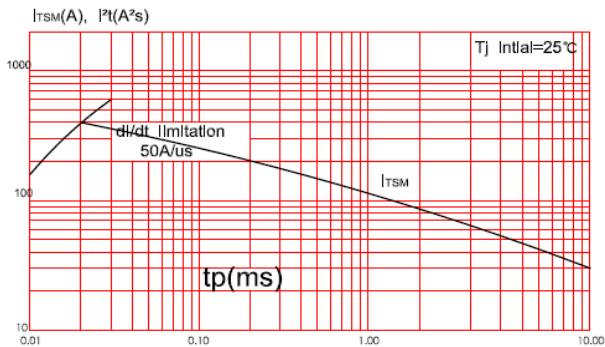


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)

