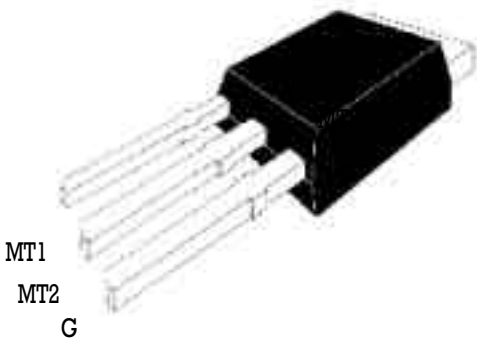


HIGH COMMUTATION TRIAC

<p style="text-align: center;">IPAK (Plastic)</p>  <p style="margin-left: 20px;">MT1 MT2 G</p>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">On-State Current</td> <td style="width: 50%; border: none;">Gate Trigger Current</td> </tr> <tr> <td style="border: none;">8 Amp</td> <td style="border: none;">< 25 mA to < 50 mA</td> </tr> <tr> <td colspan="2" style="border: none; text-align: center;">Off-State Voltage</td> </tr> <tr> <td colspan="2" style="border: none; text-align: center;">200 V ÷ 600 V</td> </tr> </table> <p style="margin-top: 10px;">This series of TRIACs uses a high performance PNP technology.</p> <p>These devices are intended for AC control applications using surface mount technology.</p> <p>The high commutation performances combined with high sensitivity, make them perfect in all applications like solid state relays, home appliances, power tools, small motor drives...</p>	On-State Current	Gate Trigger Current	8 Amp	< 25 mA to < 50 mA	Off-State Voltage		200 V ÷ 600 V	
On-State Current	Gate Trigger Current								
8 Amp	< 25 mA to < 50 mA								
Off-State Voltage									
200 V ÷ 600 V									

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Min.	Max.	Unit
$I_{T(RMS)}$	RMS On-state Current	All Conduction Angle, $T_C = 110\text{ }^\circ\text{C}$	8		A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	84		A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	80		A
I^2t	Fusing Current	$t_p = 10\text{ ms}$, Half Cycle	36		A ² s
I_{GM}	Peak Gate Current	20 μs max.		4	A
P_{GM}	Peak Gate Dissipation	20 μs max.		10	W
$P_{G(AV)}$	Gate Dissipation	20 ms max.		1	W
di/dt	Critical rate of rise of on-state current	$I_G = 2 \times I_{GT}$ $T_r = 100\text{ ns}$, $F = 120\text{ Hz}$ $T_j = 125\text{ }^\circ\text{C}$	20		A/ μs
T_j	Operating Temperature Range		-40	+125	$^\circ\text{C}$
T_{stg}	Storage Temperature Range		-40	+150	$^\circ\text{C}$
T_L	Lead Temperature for soldering	10s max.		260	$^\circ\text{C}$

SYMBOL	PARAMETER	VOLTAGE			Unit
		B	D	M	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	200	400	600	V

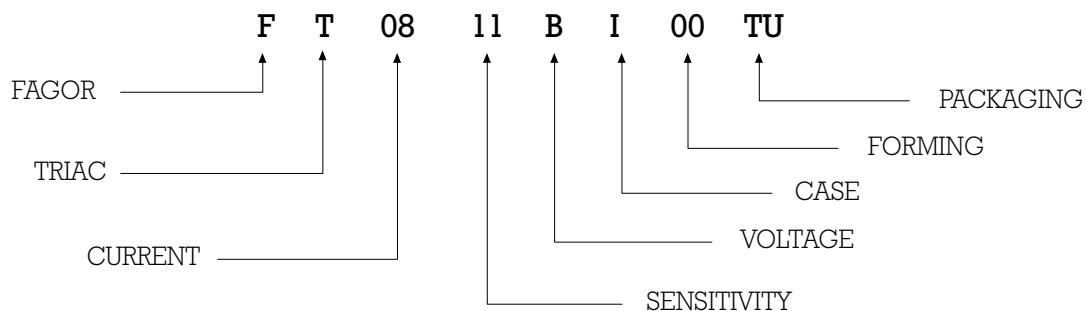
HIGH COMMUTATION TRIAC

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY			Unit
					11	14	16	
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}$, $R_L = 33$ $T_j = 25\text{ }^\circ\text{C}$	Q1÷Q3	MAX	25	35	50	mA
I_{DRM} / I_{RRM}	Off-State Leakage Current	$V_R = V_{DRM}$, $T_j = 125\text{ }^\circ\text{C}$ $V_R = V_{RRM}$, $T_j = 25\text{ }^\circ\text{C}$		MAX	1			mA
				MAX	5			μA
V_{TM}^*	On-state Voltage	$I_T = 11\text{ Amp}$, $t_p = 380\text{ }\mu\text{s}$, $T_j = 25\text{ }^\circ\text{C}$		MAX	1.55			V
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}$, $R_L = 33$, $T_j = 25\text{ }^\circ\text{C}$	Q1÷Q3	MAX	1.3			V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}$, $R_L = 3.3K$, $T_j = 125\text{ }^\circ\text{C}$	Q1÷Q3	MIN	0.2			V
I_H^*	Holding Current	$I_T = 100\text{ mA}$, Gate open, $T_j = 25\text{ }^\circ\text{C}$		MAX	25	35	50	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}$, $T_j = 25\text{ }^\circ\text{C}$	Q1,Q3	MAX	25	50	80	mA
			Q2	MAX	50	60	80	
dv / dt^*	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}$, Gate open $T_j = 125\text{ }^\circ\text{C}$		MIN	200	400	1000	V/ μs
$(di/dt)_c^*$	Critical Rate of Current Rise	$(dv/dt)_c = 0.1\text{ V}/\mu\text{s}$, $T_j = 125\text{ }^\circ\text{C}$ $(dv/dt)_c = 15\text{ V}/\mu\text{s}$, $T_j = 125\text{ }^\circ\text{C}$ without snubber, $T_j = 125\text{ }^\circ\text{C}$		MIN	9	9		A/ms
				MIN	4.5	4.5		
				MIN			4.5	
$R_{th(j-c)}$	Thermal Resistance Junction-Case				1.6			$^\circ\text{C}/\text{W}$
$R_{th(j-a)}$	Thermal Resistance Junction-Ambient				100			$^\circ\text{C}/\text{W}$

(*) For either polarity of electrode MT2 voltage with reference to electrode MT1.

PART NUMBER INFORMATION



HIGH COMMUTATION TRIAC

Fig. 1: Maximum power dissipation versus average on-state current

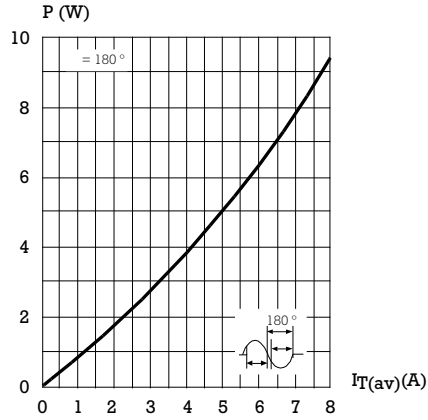


Fig. 2: Average and DC on-state current versus case temperature

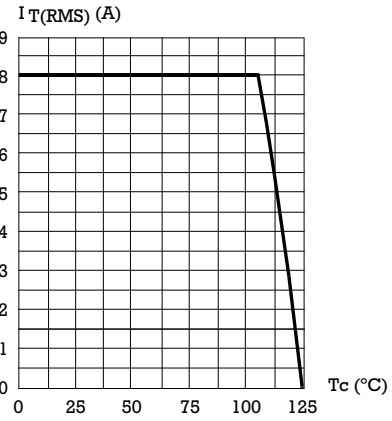


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration

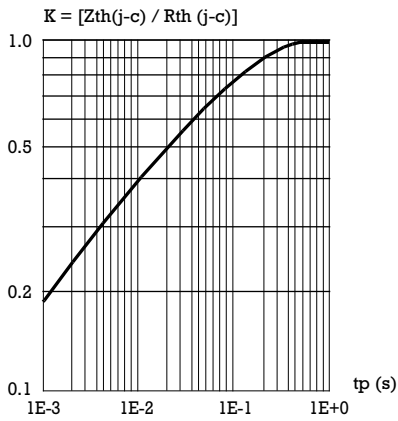


Fig. 4: Relative variation of gate trigger current and holding current versus junction temperature

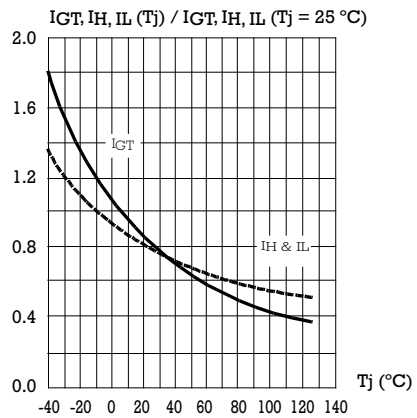


Fig. 5: Non repetitive surge peak on-state current versus number of cycles

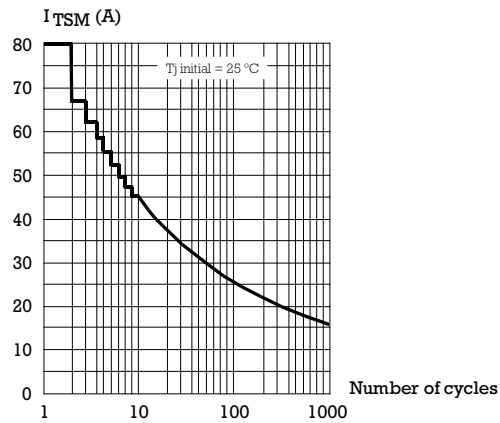
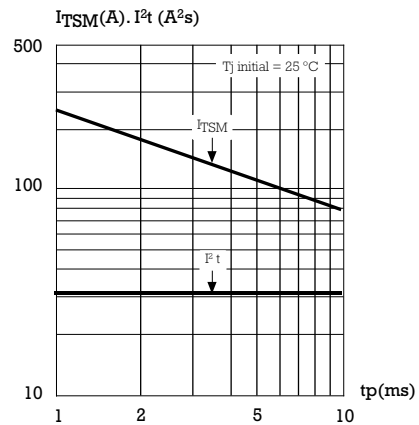
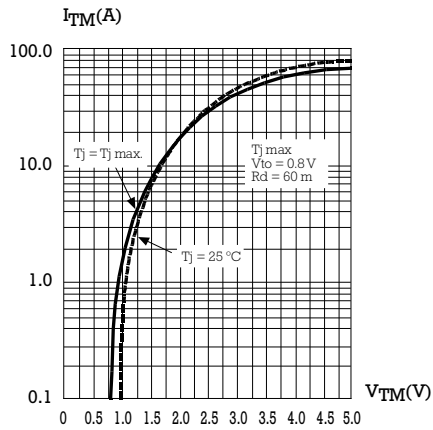


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: $t_p < 10$ ms, and corresponding value of I^2t .

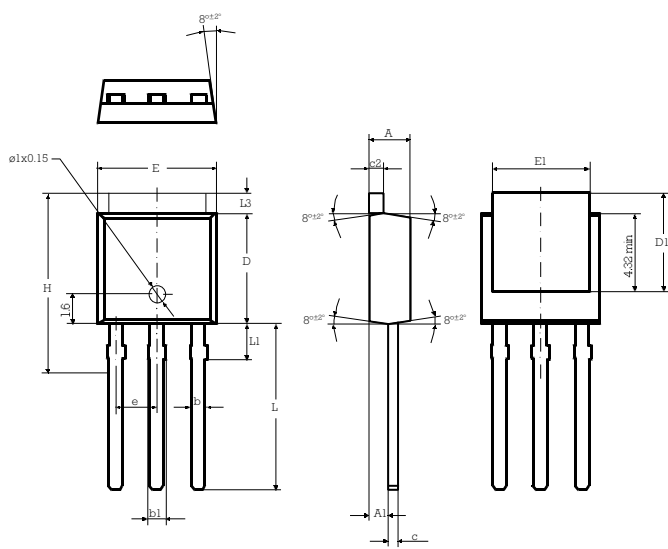


HIGH COMMUTATION TRIAC

Fig. 8: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA IPAK TO 251-AA



REF.	DIMENSIONS		
	Millimeters		
	Min.	Nominal	Max.
A	2.19	2.3±0.08	2.38
A1	0.89	1.067±0.01	1.14
b	0.64	0.75±0.1	0.89
b1	0.76	0.95	1.14
c	0.46		0.58
c2		0.8±0.013	
D	5.97	6.1±0.1	6.22
D1	5.21		5.52
E	6.35	6.58±0.14	6.73
E1	5.21	5.36±0.1	5.46
e		2.28BSC	
L	8.89	9.2±0.2	9.65
L1	1.91	2±0.1	2.28
L3	0.89		1.27

Marking: type number
Weight: 0.2 g