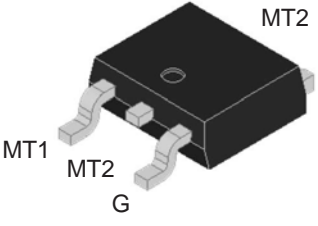
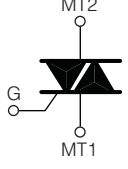


HIGH COMMUTATION TRIAC

<p style="text-align: center;">DPAK (Plastic)</p>  	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 50%;">On-State Current</td> <td style="text-align: center; width: 50%;">Gate Trigger Current</td> </tr> <tr> <td style="text-align: center;">8 Amp</td> <td style="text-align: center;">$\leq 50 \text{ mA}$</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 10px 0;">Off-State Voltage</td> </tr> <tr> <td colspan="2" style="text-align: center;">200 V ÷ 800V</td> </tr> </table> <p style="margin-top: 20px;">This series of TRIACs uses a high performance PNP technology.</p> <p>These parts are intended for general purpose AC switching applications with highly inductive loads.</p>	On-State Current	Gate Trigger Current	8 Amp	$\leq 50 \text{ mA}$	Off-State Voltage		200 V ÷ 800V	
On-State Current	Gate Trigger Current								
8 Amp	$\leq 50 \text{ mA}$								
Off-State Voltage									
200 V ÷ 800V									

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	RMS On-state Current (full sine wave)	All Conduction Angle, $T_c = 95 \text{ }^\circ\text{C}$	8	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 60 Hz ($t = 16.7 \text{ ms}$)	84	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 50 Hz ($t = 20 \text{ ms}$)	80	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	32	A^2s
I_{GM}	Peak Gate Current	$20 \mu\text{s max.}$ $T_j = 125 \text{ }^\circ\text{C}$	4	A
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125 \text{ }^\circ\text{C}$	1	W
di/dt	Critical rate of rise of on-state current	$I_G = 2x I_{GT}$, $t_r \leq 100\text{ns}$ $f = 120 \text{ Hz}$, $T_j = 125 \text{ }^\circ\text{C}$	50	$\text{A}/\mu\text{s}$
T_j	Operating Temperature		(-40 + 125)	$^\circ\text{C}$
T_{stg}	Storage Temperature		(-40 + 150)	$^\circ\text{C}$
T_{sld}	Soldering Temperature	10s max.	260	$^\circ\text{C}$

SYMBOL	PARAMETER	VOLTAGE					Unit
		B	D	M	S	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	200	400	600	700	800	V

HIGH COMMUTATION TRIAC

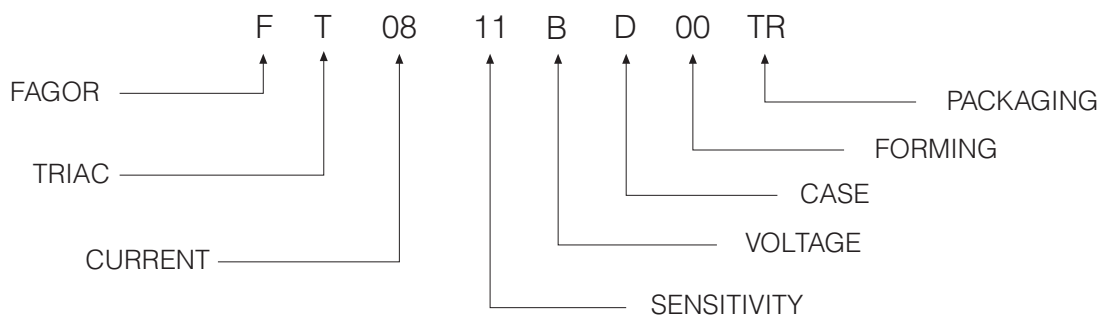
Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY			Unit
					11	14	16	
$I_{GT}^{(1)}$	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 33\Omega, T_j = 25^\circ C$	Q1÷Q3	MAX	25	35	50	mA
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 33\Omega, T_j = 25^\circ C$	Q1÷Q3	MAX	1.3			V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3 K\Omega, T_j = 125^\circ C$	Q1÷Q3	MIN	0.2			V
$I_H^{(2)}$	Holding Current	$I_T = 100 mA, \text{Gate open}, T_j = 25^\circ C$		MAX	25	35	50	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}, T_j = 25^\circ C$	Q1,Q3	MAX	40	50	70	mA
			Q2	MAX	50	60	80	
$dV/dt^{(2)}$	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, \text{Gate open}$ $T_j = 125^\circ C$		MIN	200	500	1000	V/ μs
$(di/dt)_c^{(2)}$	Critical Rate of Current Rise	$(dv/dt)_c = 0.1 V/\mu s, T_j = 125^\circ C$ $(dv/dt)_c = 10 V/\mu s, T_j = 125^\circ C$ without snubber $T_j = 125^\circ C$		MIN	-	-	-	A/ms
				MIN	-	-	-	
				MIN	4.0	4.5	7	
$V_{TM}^{(2)}$	On-state Voltage	$I_T = 11 \text{ Amp}, t_p = 380 \mu s, T_j = 25^\circ C$		MAX	1.6			V
$V_{t(o)}^{(2)}$	Threshold Voltage	$T_j = 125^\circ C$		MAX	0.85			V
$r_d^{(2)}$	Dynamic resistance	$T_j = 125^\circ C$		MAX	90			m Ω
I_{DRM}/I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}, T_j = 125^\circ C$ $V_R = V_{RRM}, T_j = 25^\circ C$		MAX	1			mA
				MAX	5			μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case	for AC 360° conduction angle			1.8			°C/W
$R_{th(j-a)}$	Thermal Resistance Junction-Ambient	$S = 1cm^2$			70			°C/W

(1) Minimum I_{GT} is guaranteed at 5% of I_{GT} max.

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

PART NUMBER INFORMATION



HIGH COMMUTATION TRIAC

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

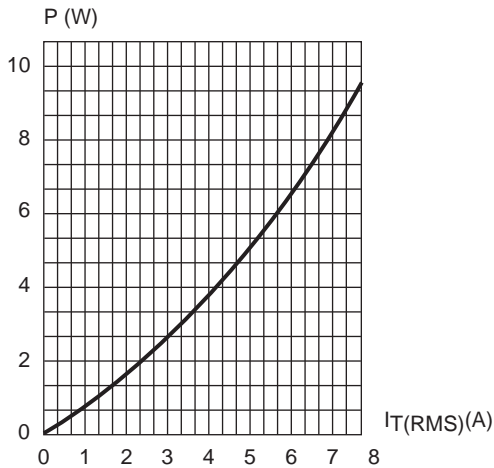


Fig. 2: RMS on-state current versus case temperature (full cycle).

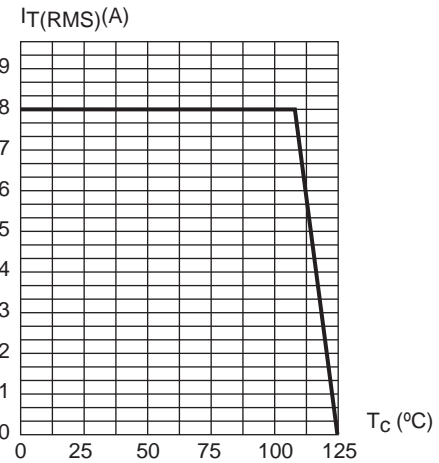


Fig. 3: Relative variation of thermal impedance versus pulse duration.

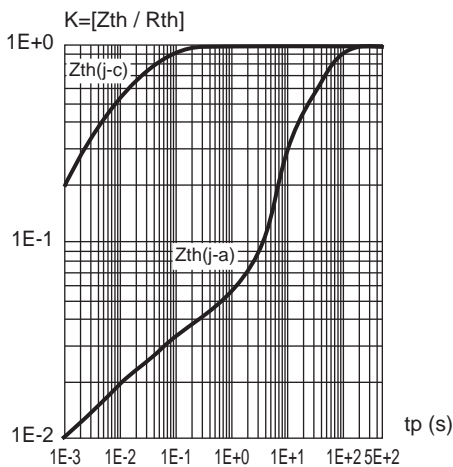


Fig. 4: On-state characteristics (maximum values)

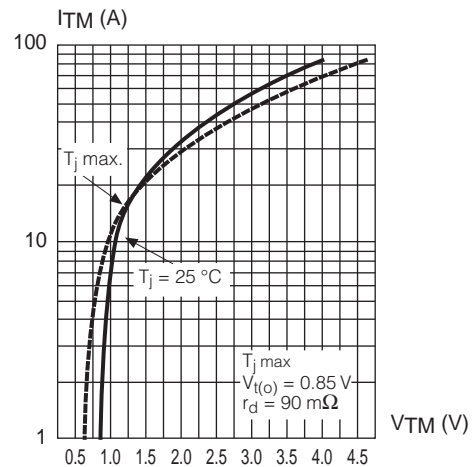


Fig. 5: Surge peak on-state current versus number of cycles

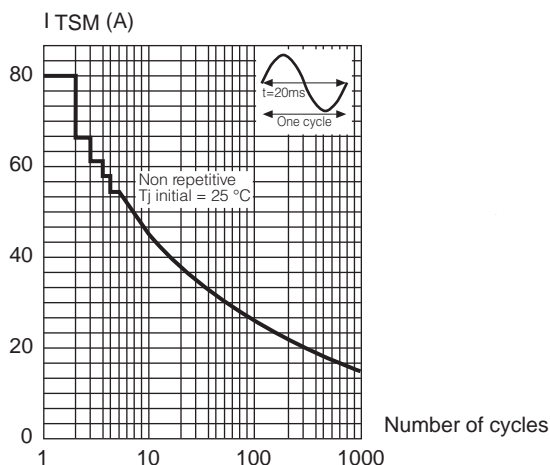
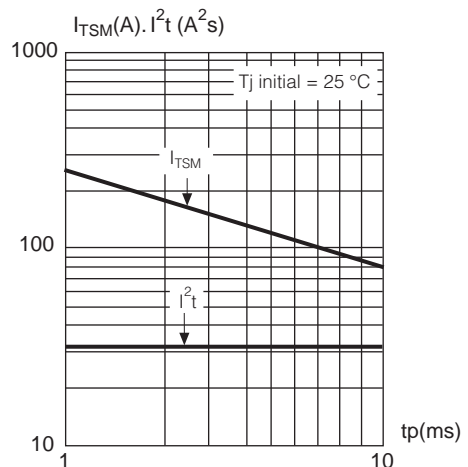


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 10 ms, and corresponding value of I²t.



HIGH COMMUTATION TRIAC

Fig. 7: Relative variation of gate trigger current, holding current and latching versus junction temperature (typical values)

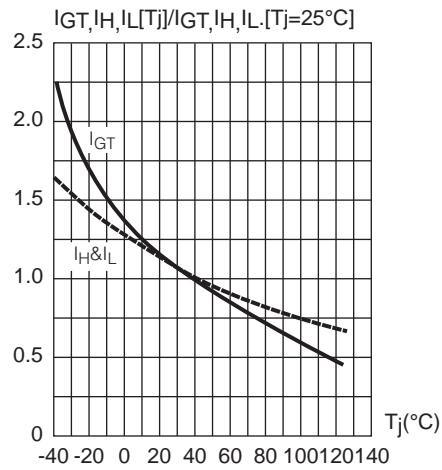
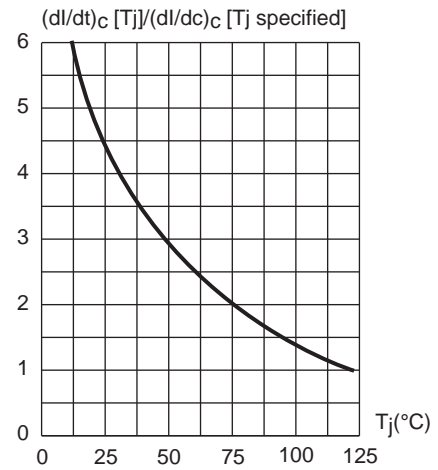


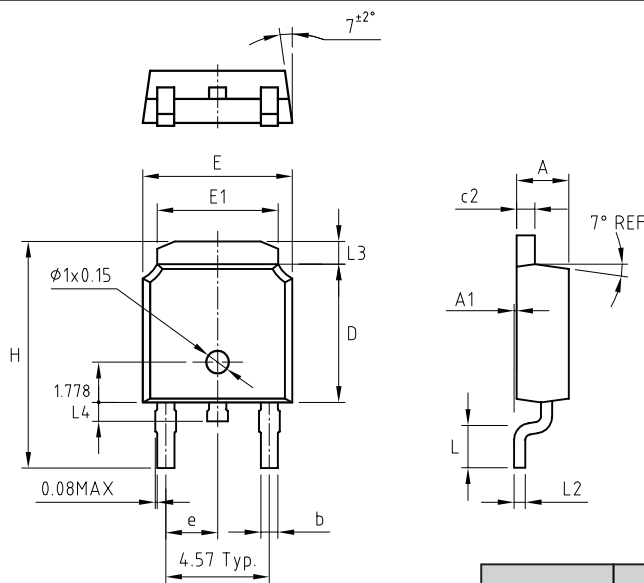
Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature



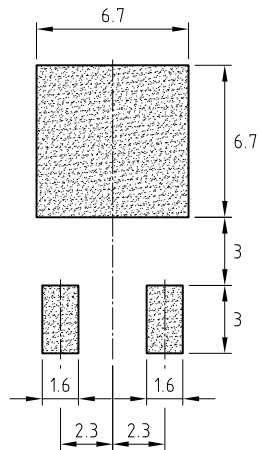
HIGH COMMUTATION TRIAC

PACKAGE MECHANICAL DATA

DPAK / TO252-AA



FOOT PRINT (mm)



REF.	DIMENSIONS		
	Milimeters		
	Min.	Nominal	Max.
A	2.18	2.3	2.39
A1	0	0.127	0.127
b	0.64	0.75	0.89
c2	0.46	0.51	0.56
D	5.97	6.1	6.22
E	6.47	6.6	6.73
E1	5.20	5.34	5.46
e	2.28BSC		
H	9.77	10.03	10.28
L	1.31	1.44	1.57
L2	0.46	0.51	0.56
L3	0.89	1.02	1.14
L4	0.51	0.76	1.02

Marking: type number
Weight: 0.2 g