

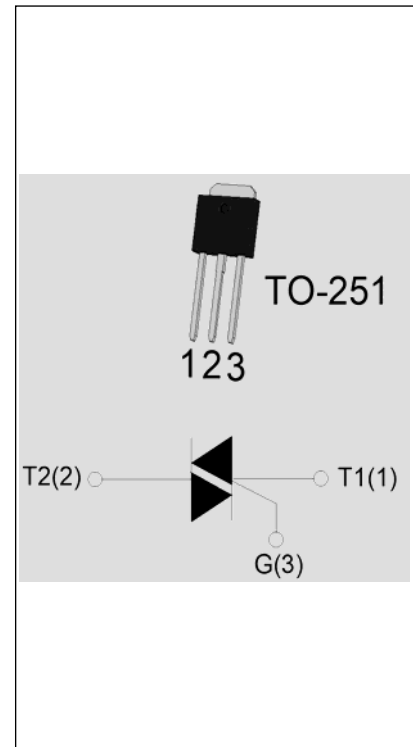


T0450H-8H 4A TRIAC

Rev.A.1.0

DESCRIPTION:

The T0450H-8H triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, T0450H-8H provides a very high switching capability up to junction temperatures of 150°C. From T2 terminals to external heatsink. Package TO-251 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	800	V
$I_{GT} / /$	50/50/50	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-150	
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	V
RMS on-state current ($T_c = 128^\circ\text{C}$)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		44	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	8	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=150^\circ\text{C}$)	di/dt	100	$\text{A}/\mu\text{s}$
Peak gate current ($t_p=20\mu\text{s}$, $T_j=150^\circ\text{C}$)	I_{GM}	4	A
Average gate power dissipation ($T_j=150^\circ\text{C}$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.7)	V_{pp}	4	kV
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ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=150$ $R_L=3.3K\Omega$	- -	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	50	mA
				60	
I_H	$I_T=100mA$		MAX.	40	mA
dV/dt	$V_D=540V$ Gate Open $T_j=150$		MIN.	1200	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=20V/\mu s$, $T_j=150$		MIN.	10	A/ms
t_{on}	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	5	μs
t_{off}				50	

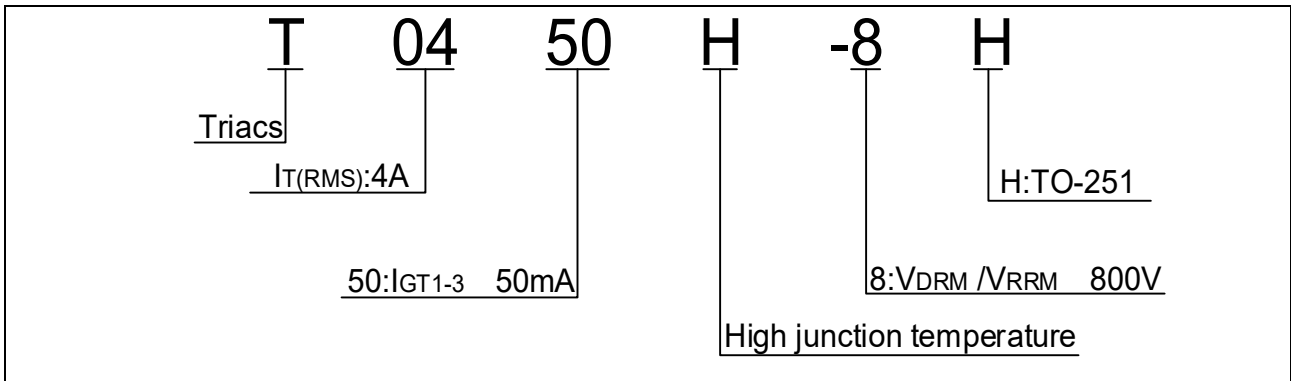
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=5.5A$ $t_p=380\mu s$	$T_j=25$	1.4	V
V_{TO}	Threshold voltage	$T_j=150$	0.6	V
R_D	Dynamic resistance	$T_j=150$	129	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=150$	1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	4.3	/W
$R_{th(j-a)}$	junction to ambient (AC)	120	/W

ORDERING INFORMATION



MARKING

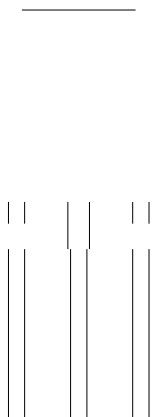


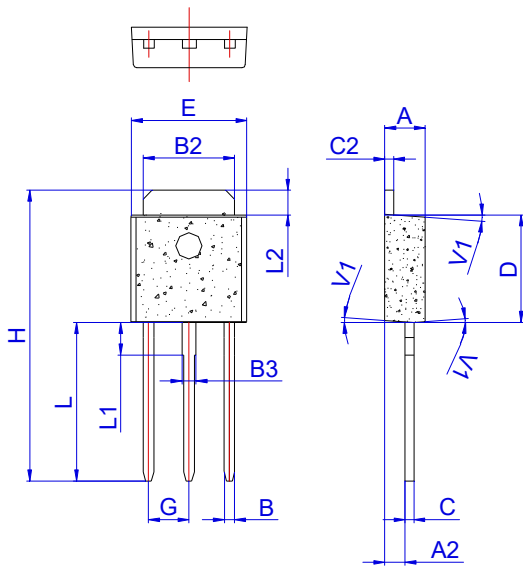
FIG.1 Maximum power dissipation versus RMS on-state current



FIG.2: RMS on-state current versus case temperature

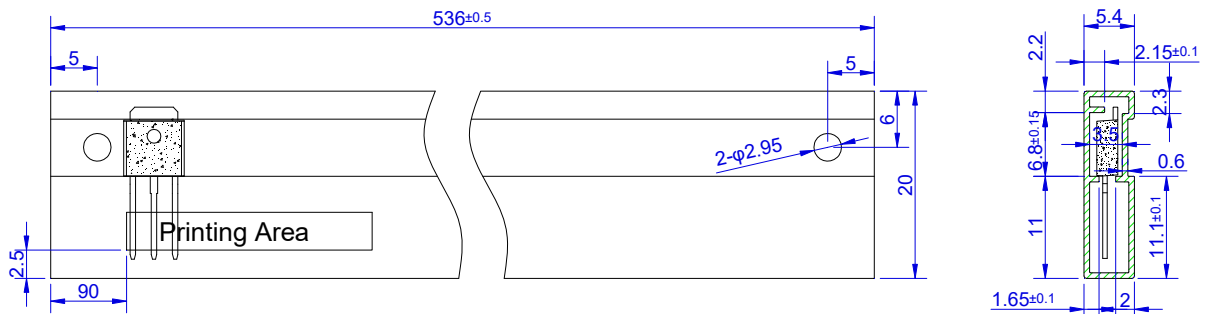
ORDERING INFORMATION

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	1.00		1.30	0.039		0.051
B	0.50		0.70	0.020		0.028
B2	5.10		5.40	0.200		0.213
B3	0.70		1.00	0.028		0.039
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	2.20		2.40	0.087		0.094
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		2.20	0.071		0.087
L2	1.25		1.55	0.049		0.061
V1		4°			4°	


DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-251	TUBE	80	4,000	20,000

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