



T0415H8K 4A TRIACs

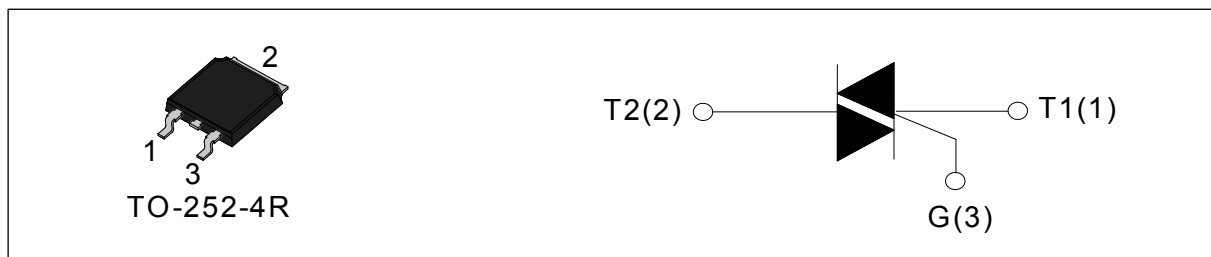
Rev.A-1

DESCRIPTION:

T0415H8K triacs of high junction temperature with high dv/dt rate with strong resistance to electromagnetic interference provide high ability to withstand the shock loading of large current. They are especially recommended for use on inductive load and high environment temperature condition.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	800	V
T_{jmax}	150	°C



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40 - 150	°C
Operating junction temperature range		T_j	-40 - 150	°C
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
Non repetitive surge peak Off-state voltage		V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage		V_{RSM}	$V_{RRM} + 100$	V
RMS on-state current	TO-252-4R ($T_C=100^\circ\text{C}$)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	40	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	8	A^2s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)		di/dt	50	$\text{A}/\mu\text{s}$
Peak gate current		I_{GM}	2	A

Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	15	mA
V_{GT}		I - II -III	MAX	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=150^\circ\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2	V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	20	mA
		II		35	
I_H	$I_T=100\text{mA}$		MAX	20	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=150^\circ\text{C}$		MIN	200	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=5.5\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.4	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	μA
I_{RRM}		$T_j=150^\circ\text{C}$	0.5	mA

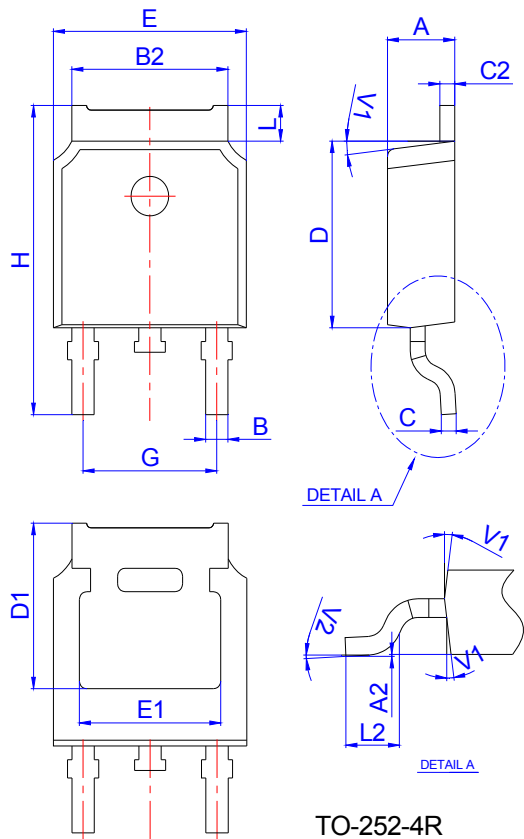
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	2.8	$^\circ\text{C/W}$

ORDERING INFORMATION

T Triacs $I_{T(RMS)}:4\text{A}$ $15:I_{GT1-3}\leq 15\text{mA}$	04	15	H	-8 $8:V_{DRM}/V_{RRM}\geq 800\text{V}$	K K:TO-252-4R High junction temperature
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

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

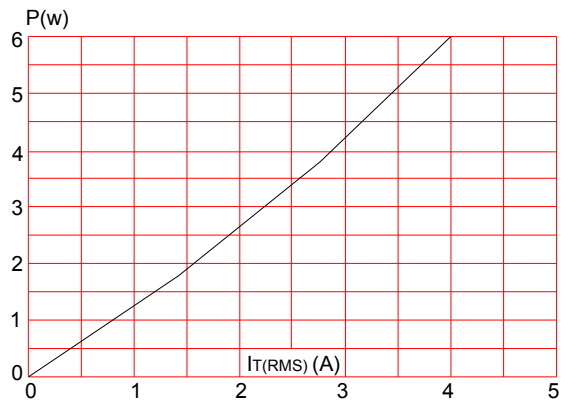


FIG.2: RMS on-state current versus case temperature

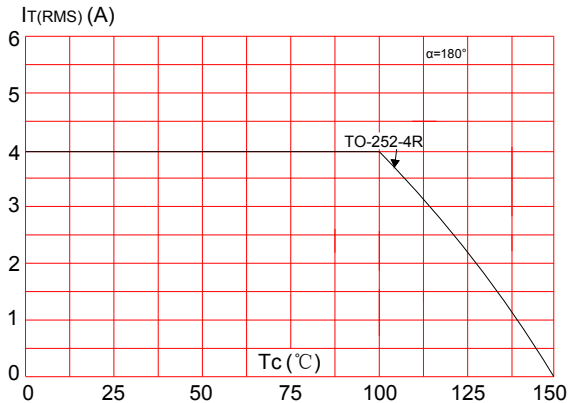


FIG.3: Surge peak on-state current versus number of cycles

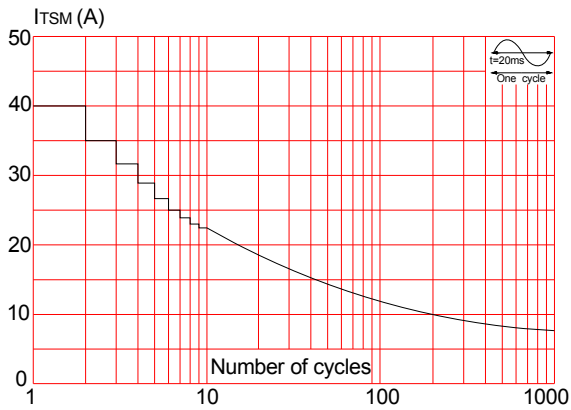


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

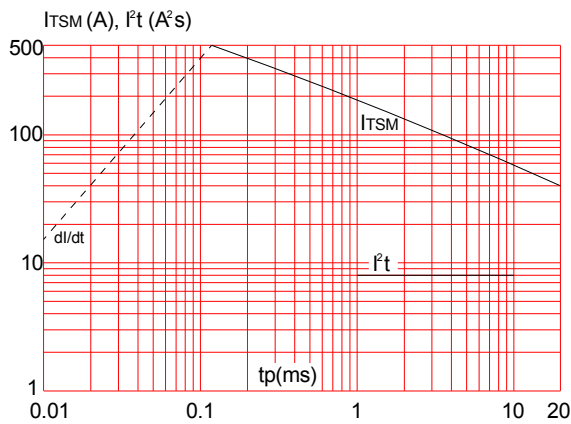


FIG.4: On-state characteristics (maximum values)

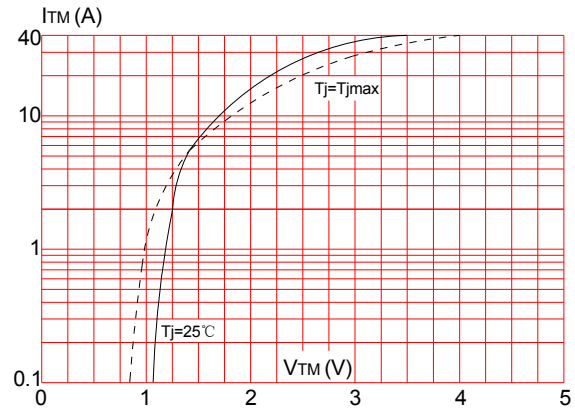
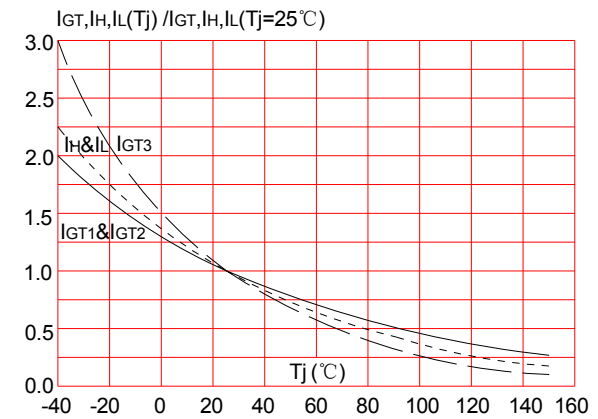



FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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