

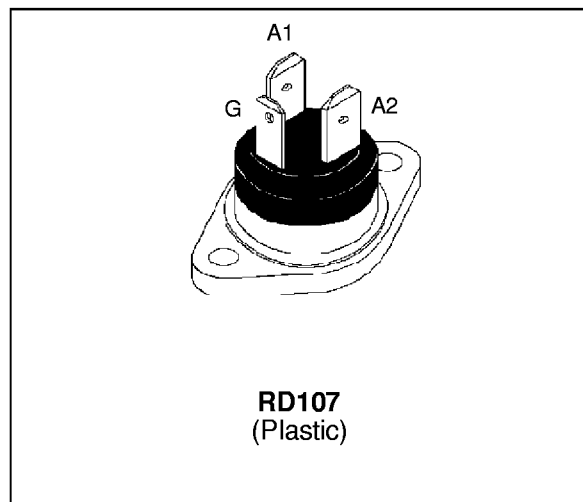
STANDARD TRIACS

FEATURES

- $I_{T(RMS)} = 40A$
- $V_{DRM} = 400V$ to $800V$
- INSULATING VOLTAGE $2500V_{(RMS)}$
(UL RECOGNIZED : E81734)

DESCRIPTION

The T40xxxKS series triacs uses a high performance MESA GLASS technology. These parts are intended for general purpose switching and phase control applications.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_c = 75^\circ C$	40	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = $25^\circ C$)	$t_p = 8.3$ ms	330	A
		$t_p = 10$ ms	300	
I_t^2	I_t^2 Value for fusing	$t_p = 10$ ms	450	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 500$ mA $di_G/dt = 1$ A/ μs .	Repetitive F = 50 Hz	10	A/ μs
		Non Repetitive	50	
T_{stg} T_j	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ C$
TI	Maximum lead temperature for soldering during 10s		260	$^\circ C$

Symbol	Parameter	Voltage				Unit
		D	M	S	N	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage $T_j = 125^\circ C$	400	600	700	800	V

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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case for D.C	1.2	°C/W
Rth(j-c)	Junction to case for A.C 360° conduction angle (F=50Hz)	0.9	°C/W

GATE CHARACTERISTICS (maximum values)

$P_G (AV) = 1 \text{ W}$ $P_{GM} = 10 \text{ W}$ ($t_p = 20 \mu\text{s}$) $I_{GM} = 4 \text{ A}$ ($t_p = 20 \mu\text{s}$)

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Sensitivity		Unit
					12	13	
I_{GT}	$V_D = 12\text{V (DC)}$ $R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III	MAX	50	50	mA
			IV	MAX	50	75	
V_{GT}	$V_D = 12\text{V (DC)}$ $R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III-IV	MAX	1.5		V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3\text{k}\Omega$	$T_j = 125^\circ\text{C}$	I-II-III-IV	MIN	0.2		V
tgt	$V_D = V_{DRM}$ $I_G = 500\text{mA}$ $I_T = 56\text{A}$ $di_G/dt = 3\text{A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$	I-II-III-IV	TYP	2		μs
I_H^*	$I_T = 250 \text{ mA}$ Gate open	$T_j = 25^\circ\text{C}$		MAX	50	75	mA
I_L	$I_G = 1.2 I_{GT}$	$T_j = 25^\circ\text{C}$	I-III-IV	TYP	50	75	
			II	TYP	100	150	
V_{TM}^*	$I_{TM} = 56\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$		MAX	1.7		V
I_{DRM} I_{RRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$		MAX	10		μA
		$T_j = 125^\circ\text{C}$		MAX	3		mA
dV/dt *	$V_D = 67\% V_{DRM}$ Gate open	$T_j = 125^\circ\text{C}$		MIN	500		V/ μs
(dV/dt)c *	(di/dt)c = 18 A/ms	$T_j = 125^\circ\text{C}$		MIN	5		V/ μs

* For either polarity of electrode A_2 voltage with reference to electrode A_1

ORDERING INFORMATION

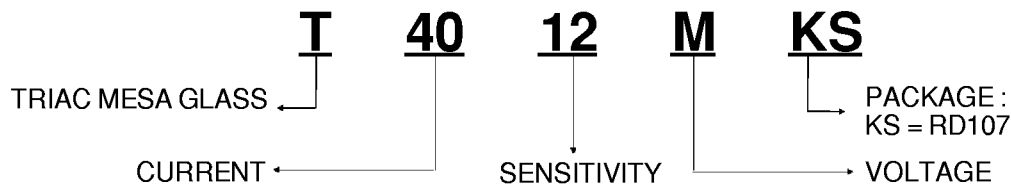


Fig.1 : Maximum RMS power dissipation versus RMS on-state current.

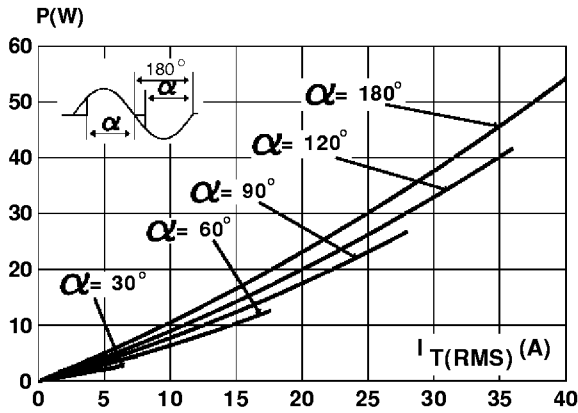


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperature (Tamb and Tcase) for different thermal resistances heatsink + contact.

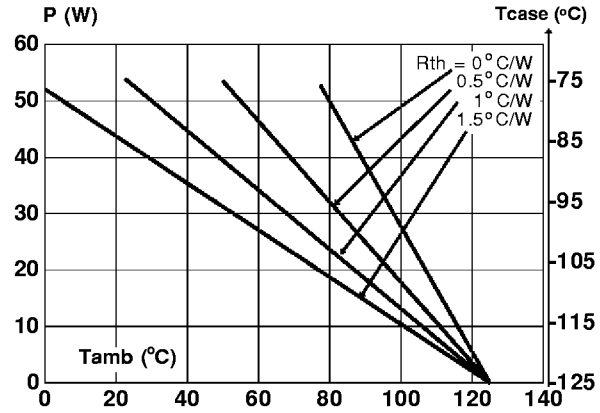


Fig.3 : RMS on-state current versus case temperature.

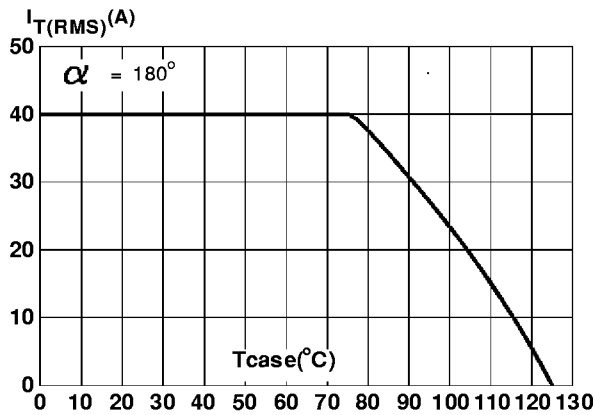


Fig.4 : Relative variation of thermal impedance junction to case versus pulse duration.

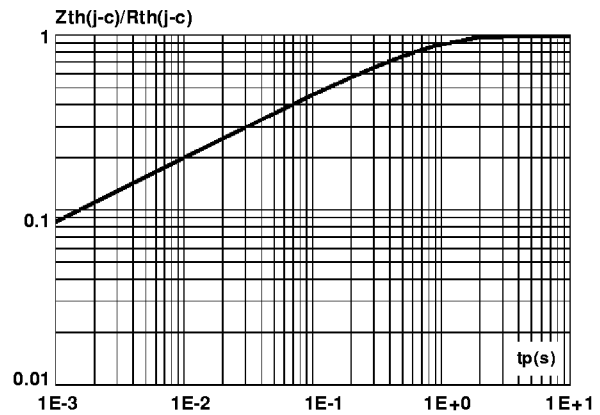


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

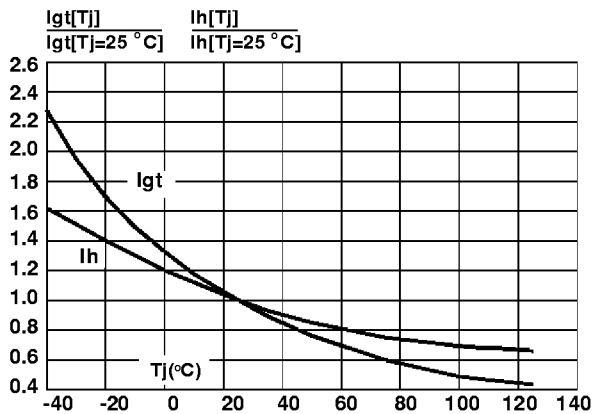
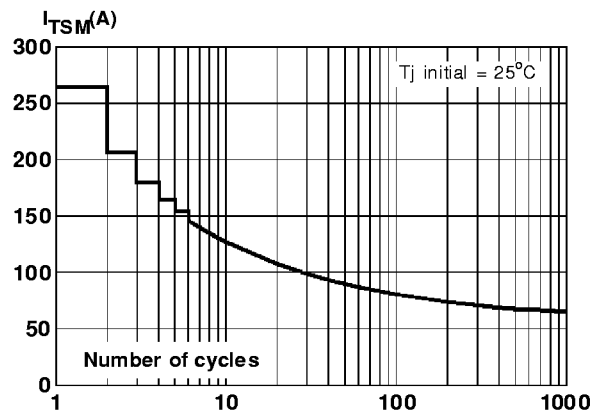


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.



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Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t_p \leq 10\text{ms}$, and corresponding value of I^2t .

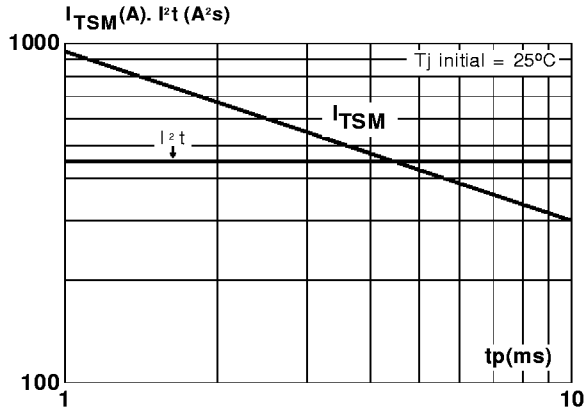
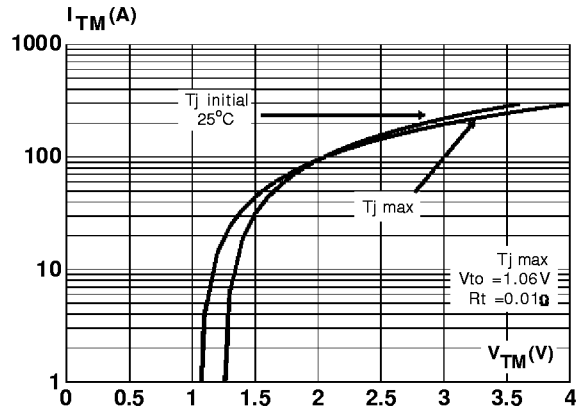
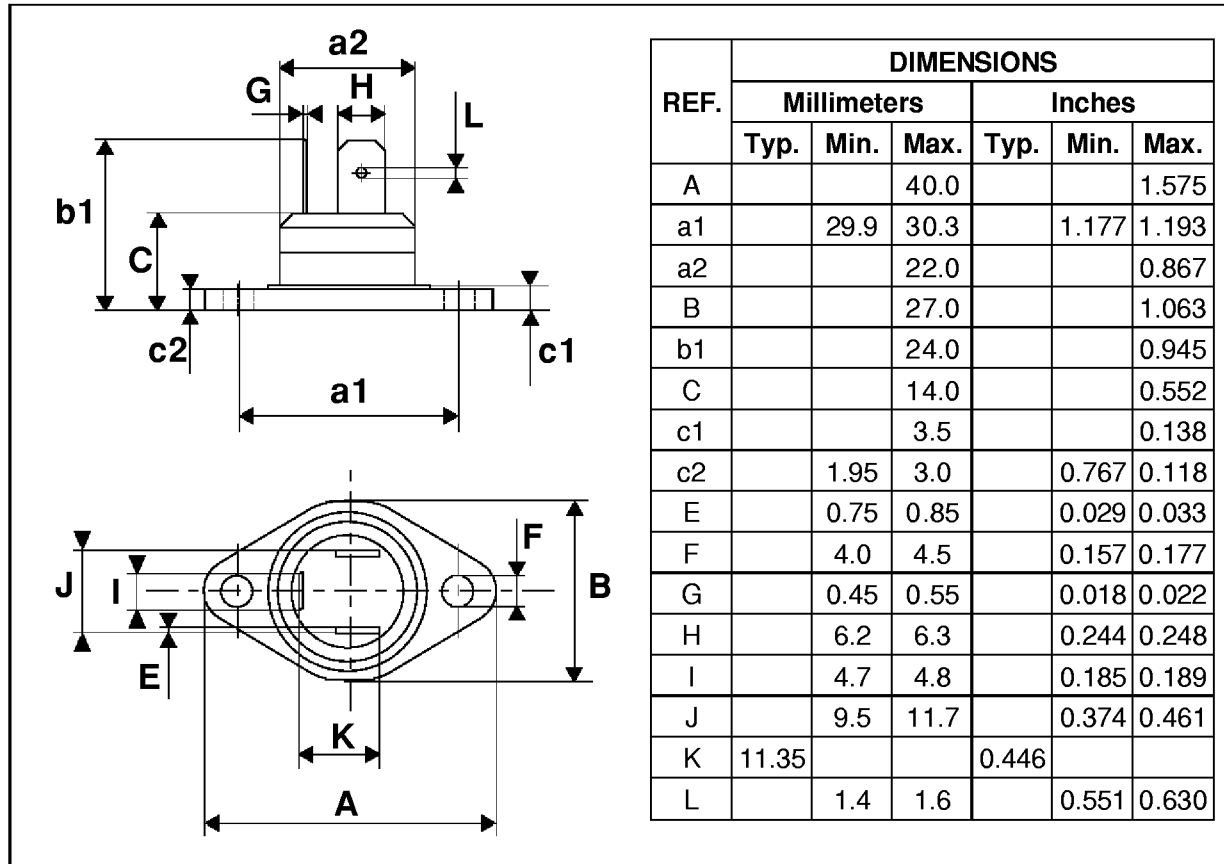


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA
RD107 (Plastic)



Marking : type number
Weight : 20 g

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