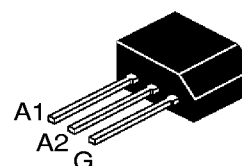


**Z04xxxF****SENSITIVE GATE TRIACS****FEATURES**

- $I_{T(RMS)} = 4A$
- $V_{DRM} = 400V$ to $800V$
- $I_{GT} \leq 3mA$ to $\leq 25mA$

DESCRIPTION

The Z04xxxF series of triacs uses a high performance TOP GLASS PNP technology. These parts are intended for general purpose applications where high gate sensitivity or high switching performances are required (like touch dimmers, fan, electrovalue control,...).

**TO202-3**
(Plastic)**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_c = 75^\circ C$	4	A
		$T_a = 25^\circ C$	0.95	
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = $25^\circ C$)	$t_p = 8.3 ms$	22	A
		$t_p = 10 ms$	20	
I^2t	I^2t Value for fusing	$t_p = 10 ms$	2	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 50 mA$ $di_G/dt = 0.1 A/\mu s$.	Repetitive $F = 50 Hz$	10	$A/\mu s$
		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 at 4.5mm from case		260	$^\circ C$

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

Z04xxxF

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction to ambient	100	°C/W
Rth(j-c)	Junction to case for D.C	10	°C/W
Rth(j-c)	Junction to case for A.C 360°conduction angle (F=50Hz)	7.5	°C/W

GATE CHARACTERISTICS

$P_G (AV) = 0.2 \text{ W max.}$ $P_{GM} = 3 \text{ W max. (tp = 20 } \mu\text{s)}$ $I_{GM} = 1.2 \text{ A max. (tp = 20 } \mu\text{s)}$
 $V_{GD} = 0.2 \text{ Vmin. (V}_D = V_{DRM} \text{ } R_L = 3.3 \text{ k}\Omega \text{ } T_j = 125^\circ\text{C)}$

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Sensitivity				Unit
					02	05	09	10	
I _{GT}	V _D =12V (DC) R _L =33Ω	T _j = 25°C	I-II-III-IV	MAX	3	5	10	25	mA
V _{GT}	V _D =12V (DC) R _L =33Ω	T _j = 25°C	I-II-III-IV	MAX	1.5				V
I _H *	I _T = 50 mA Gate open	T _j = 25°C		MAX	3	5	10	25	mA
I _L	I _G = 1.2 I _{GT}	T _j = 25°C	I-III-IV	MAX	6	10	15	25	mA
			II	MAX	12	15	25	50	
V _{TM} *	I _{TM} = 5.5A tp=380μs	T _j = 25°C		MAX	2				V
I _{DRM} I _{RRM}	V _D = V _{DRM} V _R = V _{RRM}	T _j = 25°C		MAX	5				μA
		T _j = 110°C		MAX	200				
dV/dt *	V _D =67%V _{DRM} Gate open	T _j = 110°C		MIN	10	20	100	200	V/μs
(dV/dt) _c *	(dI/dt) _c = 1.3 A/ms	T _j = 110°C		MIN	0.5	1	2		V/μs
	(dI/dt) _c = 1.8 A/ms	T _j = 110°C		MIN				5	V/μs

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

ORDERING INFORMATION

Z	04	05	M	F
TRIAC TOP GLASS	CURRENT	SENSITIVITY	VOLTAGE	PACKAGE : F=TO202-3

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

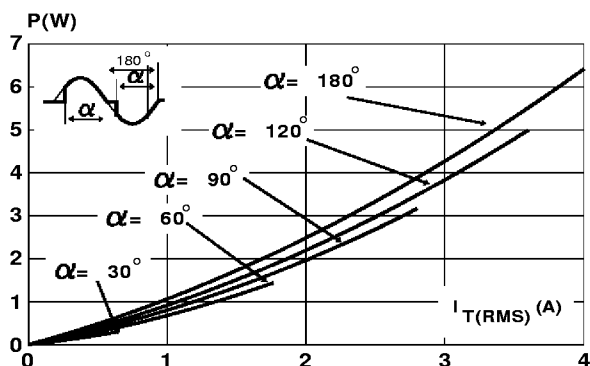


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperature (T_{amb} and T_{case}).

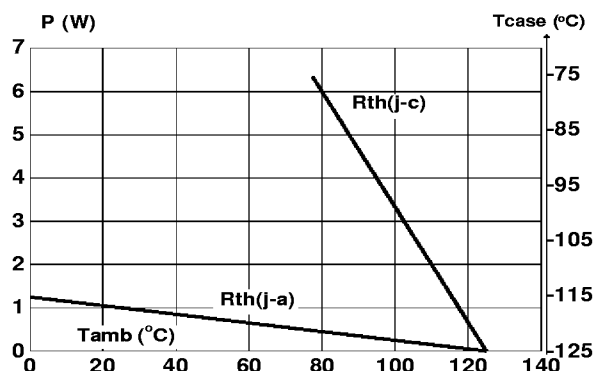


Fig.3 : RMS on-state current versus case temperature.

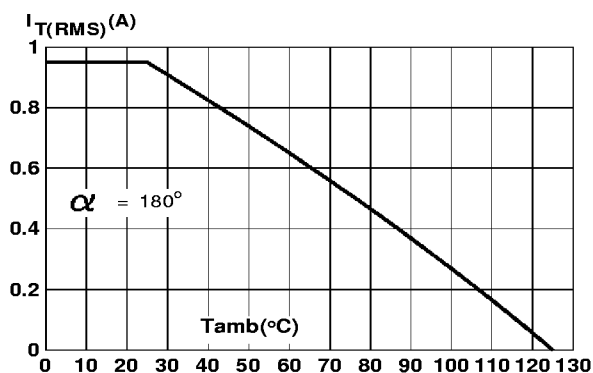


Fig.4 : Relative variation of thermal impedance junction to ambient versus pulse duration.

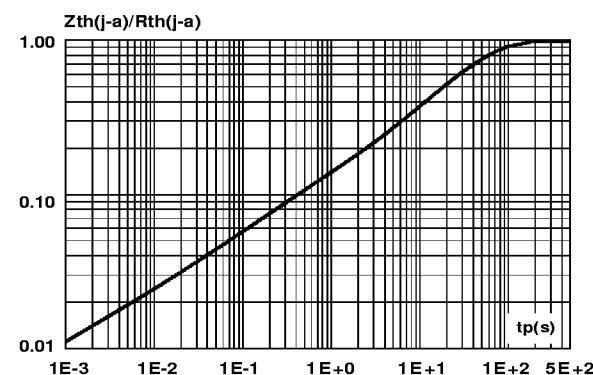


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

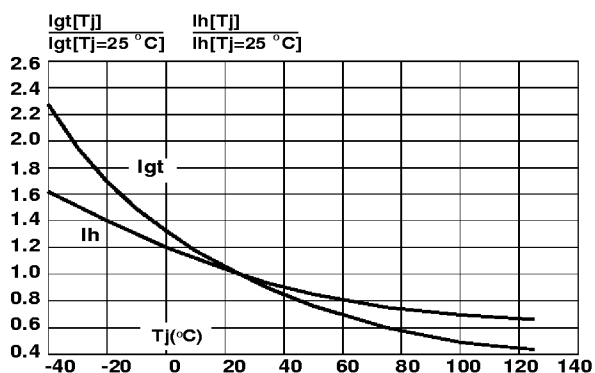
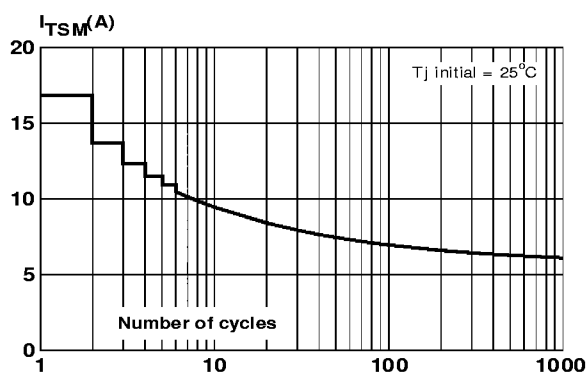


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.



Z04xxxF

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 .

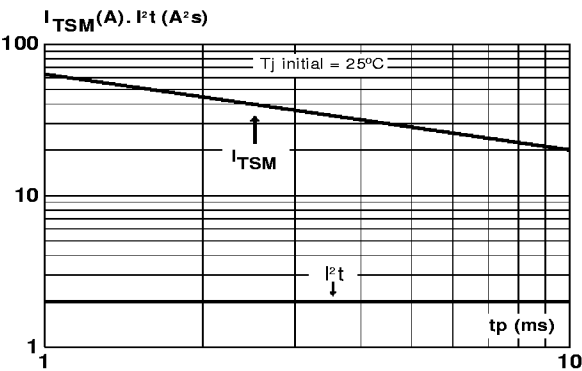
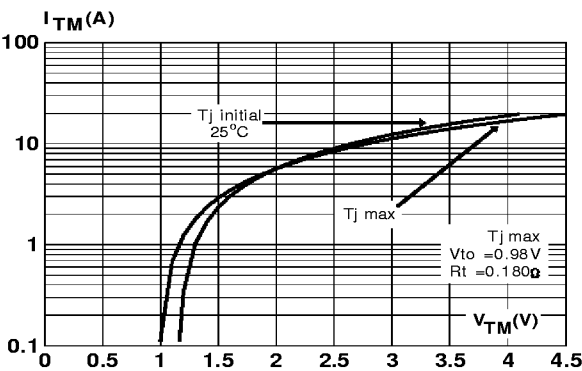
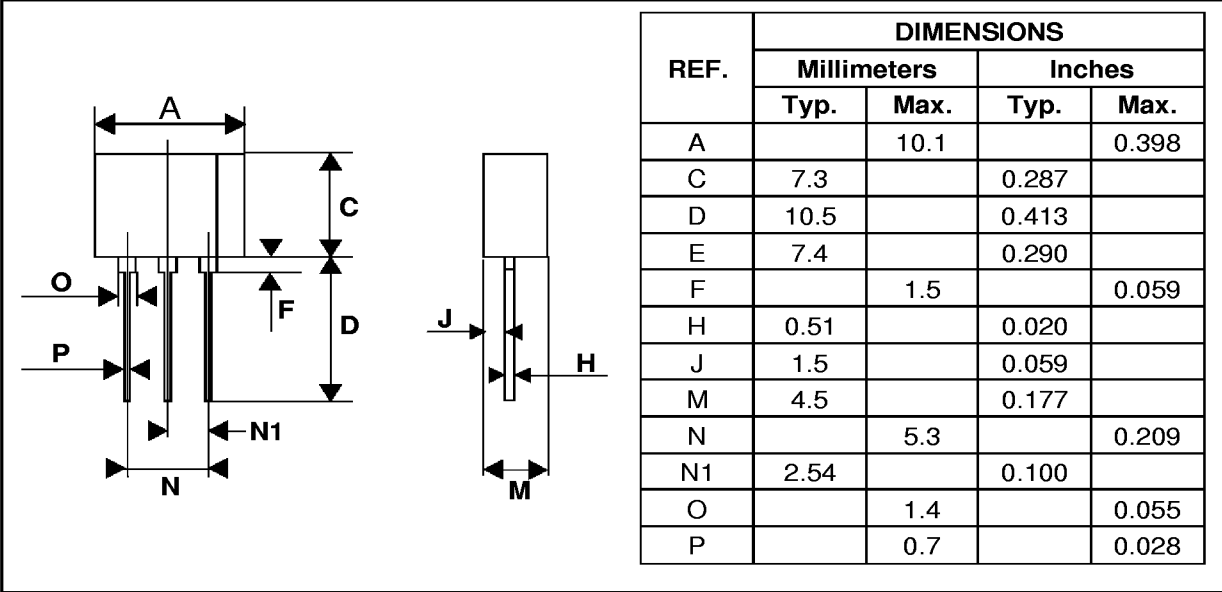


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA
TO202-3 (Plastic)



Marking : type number
Weight : 1 g

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