



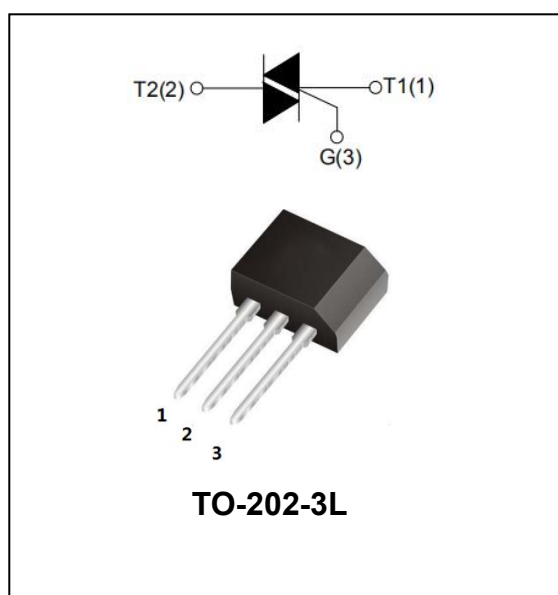
Z04 Series 4A Triacs

DESCRIPTION:

With low holding and latching current, Z04 series triacs are especially recommended for use on middle and small resistance type power load.

MAIN FEATURES:

symbol	value	unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600/800	V
V_{TM}	≤ 1.5	V



ABSOLUTE MAXIMUM RATINGS:

Parameter	Symbol	Value	Unit	
Storage junction temperature range	T_{stg}	-40~150	°C	
Operating junction temperature range	T_j	-40~125	°C	
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	600/800	V	
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600/800	V	
RMS on-state current	$I_{T(RMS)}$	4	A	
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	35	A	
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	6.1	A ² s	
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	I - II - III	50	A/ μs
		IV	10	
Peak gate current	I_{GM}	2	A	
Average gate power dissipation	$P_{G(AV)}$	0.5	W	
Peak gate power	P_{GM}	5	W	



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

Parameter	Test Condition	Quadrant		Z04xx				Unit
				02	05	09	10	
I_{GT}	$V_D=12\text{V}$, $R_L=33\Omega$	I - II - III - IV	MAX	3	5	10	25	mA
V_{GT}		I - II - III - IV		1.3				V
V_{GD}	$V_D=V_{DRM}$	I - II - III - IV	MIN	0.2				V
I_H	$I_T=100\text{mA}$		MAX	3	5	10	20	mA
I_L	$I_G=1.2I_{GT}$	I - III - IV	MAX	6	8	10	20	mA
		II		10	12	15	35	
dV/dt	$V_D=0.66 \times V_{DRM}$ $T_j=125^\circ\text{C}$ Gate open		MIN	10	20	50	100	V/ μs

STATIC CHARACTERISTICS

Symbol	Test Condition			Value	Unit
V_{TM}	$I_{TM}=5\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	MAX	1.7	V
I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$	$T_j=25^\circ\text{C}$	MAX	5	μA
		$T_j=125^\circ\text{C}$		0.5	mA

THERMAL RESISTANCES

Symbol	Test Condition		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-202-3L	14	$^\circ\text{C/W}$

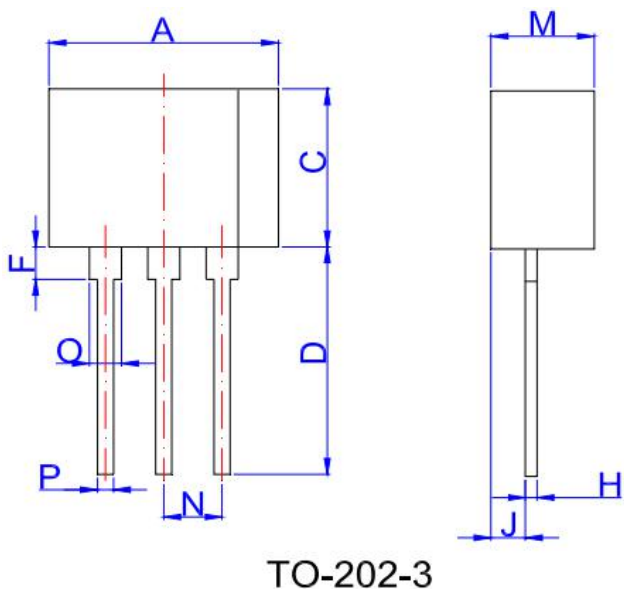


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ORDERING INFORMATION

Z	04	09	-	M	F
Triacs	$I_{T(RMS)}:4A$	02: $I_{GT1-4} \leq 3mA$ 05: $I_{GT1-4} \leq 5mA$ 09: $I_{GT1-4} \leq 10mA$ 10: $I_{GT1-4} \leq 25mA$		V_{DRM}, V_{RRM} 600: 600V 800: 800V	F: TO-202-3L

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.30		9.90	0.366		0.39
C	7.00		7.60	0.276		0.299
D	10.5		11.50	0.413		0.453
F	1.50		2.50	0.059		0.098
H	0.45		0.55	0.018		0.022
J	1.50		1.90	0.059		0.075
M	4.40		4.70	0.173		0.185
N	2	2.54			0.100	
O	1.20		1.50	0.047		0.059
P	0.60		0.80	0.024		0.031



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

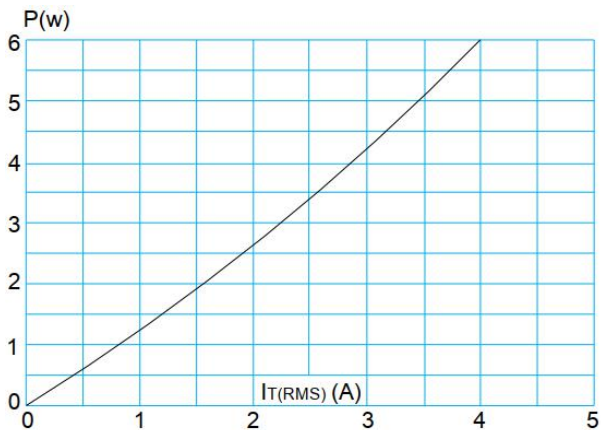


FIG.2: RMS on-state current versus case temperature

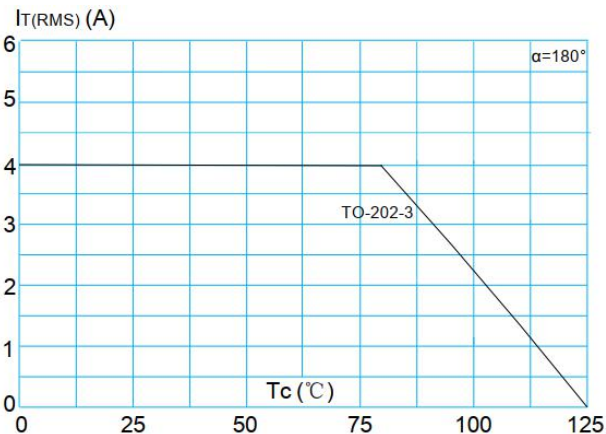


FIG.3: Surge peak on-state current versus number of cycles

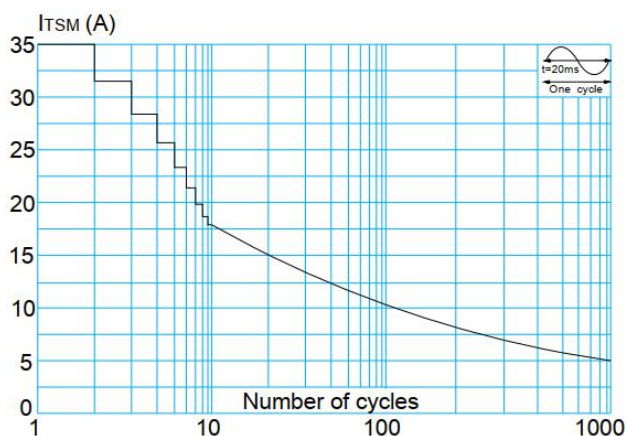


FIG.4: On-state characteristics (maximum values)

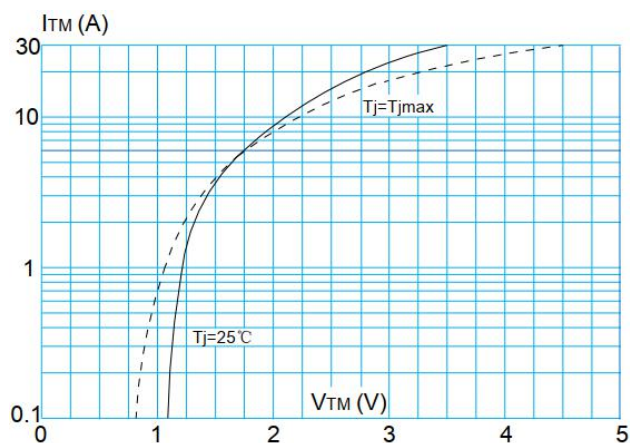


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($dI/dt < 50\text{A}/\mu\text{s}$)

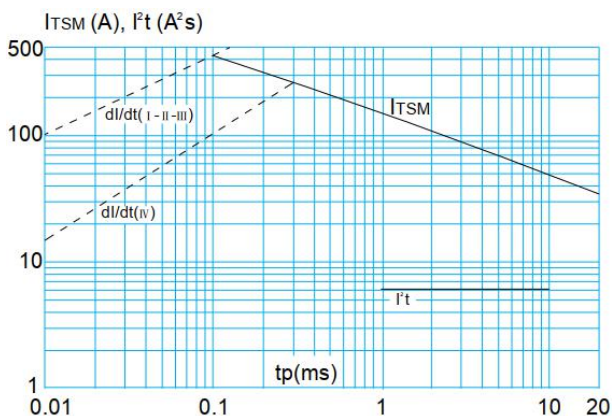
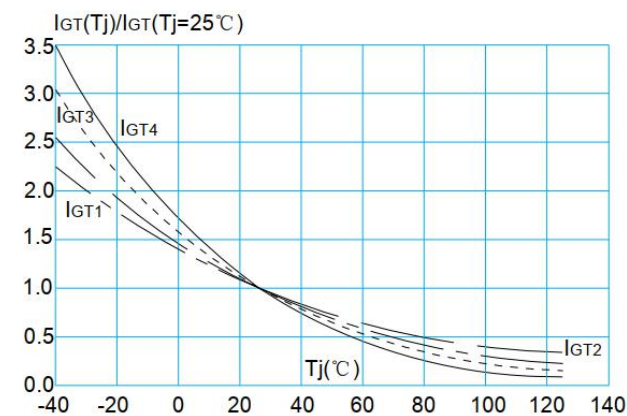


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature





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