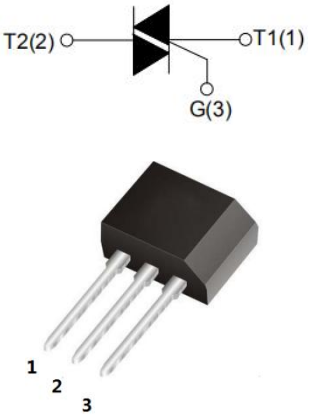
Jiangsu Weida Semiconductor Co., Ltd.

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.



TO-202-3L

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	℃
Operating junction temperature range		T_j	-40~125	℃
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	600/800	V
Repetitive peak reverse voltage (T_j=25℃)		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=10ms)		I^2t	6.1	A^2s
Critical rate of rise of on-state current (I_G=2×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

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Parameter	Test Condition	Quadrant		Z04xx				Unit
				02	05	09	10	
I_{GT}	V_D=12V, R_L=33Ω	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=100mA		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×V_{DRM} T_j=125℃ Gate open		MIN	10	20	50	100	V/μs

STATIC CHARACTERISTICS

Symbol	Test Condition			Value	Unit
V_{TM}	I_{TM}=5A t_p=380μs	T_j=25℃	MAX	1.7	V
I_{DRM} I_{RRM}	V_{DRM}= V_{RRM}	T_j=25℃	MAX	5	μA
		T_j=125℃		0.5	mA

THERMAL RESISTANCES

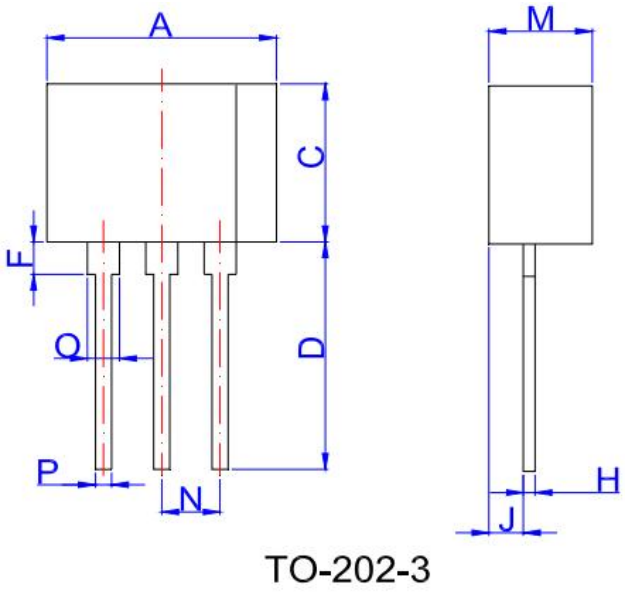
Symbol	Test Condition		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-202-3L	14	℃/W

ORDERING INFORMATION

Z 04 09 – M F

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

PACKAGE MECHANICAL DATA



TO-202-3

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

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

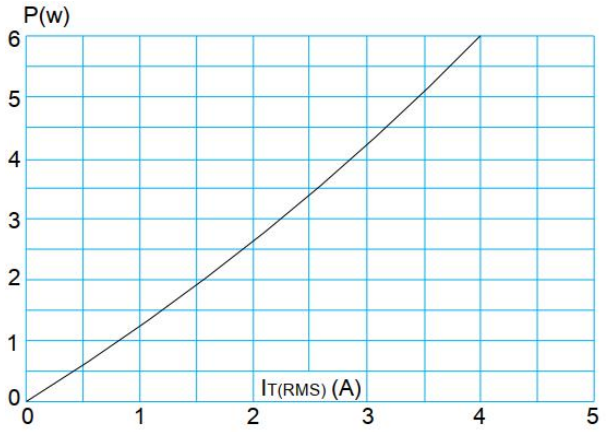


FIG.2: RMS on-state current versus case temperature

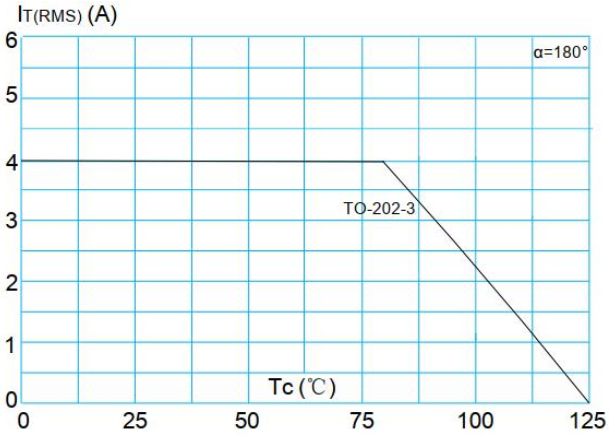


FIG.3: Surge peak on-state current versus number of cycles

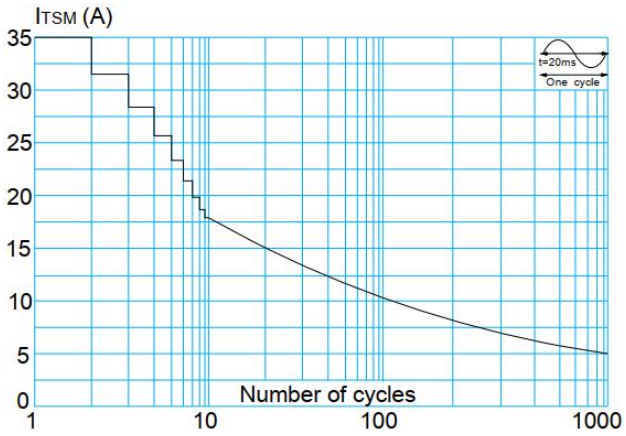


FIG.4: On-state characteristics (maximum values)

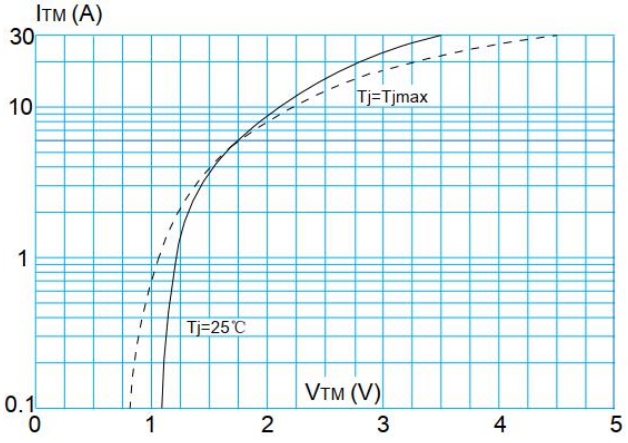


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 50A/μs)

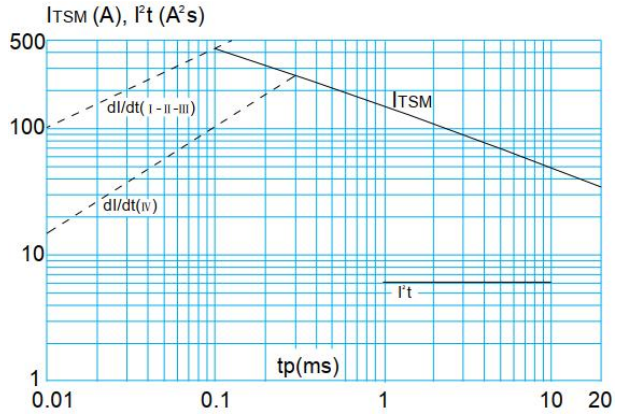
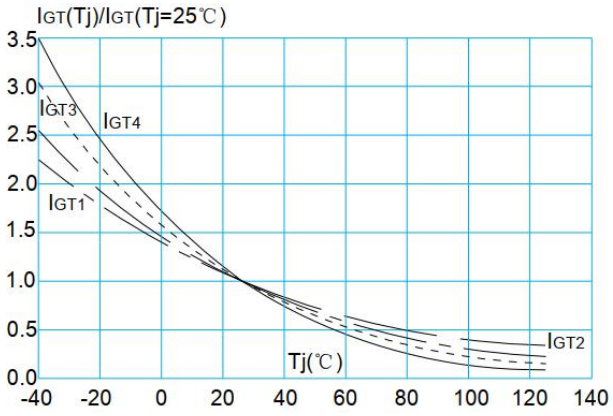


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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