



## Jiangsu Weida Semiconductor Co., Ltd.

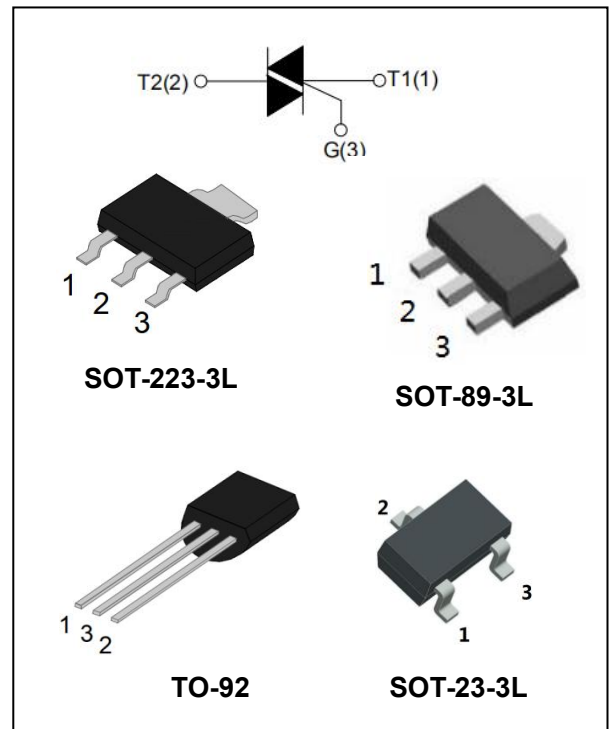
### 97A6/97A8 Series 0.8A Triacs

#### DESCRIPTION:

With low holding and latching current, 97A6/97A8 Series triacs are especially recommended for use on middle and small resistance type power load.

#### MAIN FEATURES:

symbol	value	unit
$I_{T(RMS)}$	0.8	A
$V_{DRM}/V_{RRM}$	600/800	V
$V_{TM}$	$\leq 1.5$	V



#### ABSOLUTE MAXIMUM RATINGS:

Parameter		Symbol	Value	Unit
Storage junction temperature range		$T_{stg}$	-40~150	$^{\circ}C$
Operating junction temperature range		$T_j$	-40~125	$^{\circ}C$
Repetitive peak off-state voltage ( $T_j=25^{\circ}C$ )		$V_{DRM}$	600/800	V
Repetitive peak reverse voltage ( $T_j=25^{\circ}C$ )		$V_{RRM}$	600/800	V
RMS on-state current		$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (full cycle, $F=50Hz$ )		$I_{TSM}$	9	A
$I^2t$ value for fusing ( $t_p=10ms$ )		$I^2t$	0.45	$A^2s$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	di/dt	I - II - III	50	$A/\mu s$
		IV	10	
Peak gate current		$I_{GM}$	1	A
Average gate power dissipation		$P_{G(AV)}$	0.1	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		Value	Unit
$I_{GT}$	$V_D=12\text{V}, R_L=33\Omega$	I - II - III	MAX	5	mA
		IV		10	
$V_{GT}$		I - II - III - IV		1.3	V
$V_{GD}$	$V_D=V_{DRM} T_j=125^{\circ}\text{C}$	I - II - III - IV	MIN	0.2	V
$I_H$	$I_T=100\text{mA}$		MAX	7	mA
$I_L$	$I_G=1.2I_{GT}$	I - III - IV	MAX	5	mA
		II		20	
dV/dt	$V_D=0.66 \times V_{DRM} T_j=125^{\circ}\text{C}$ Gate open		MIN	50	V/ $\mu\text{s}$

#### STATIC CHARACTERISTICS

Symbol	Test Condition			Value	Unit	
$V_{TM}$	$I_{TM}=1.1\text{A}$	$t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	MAX	1.5	V
$I_{DRM}$ $I_{RRM}$	$V_{DRM}=V_{RRM}$		$T_j=25^{\circ}\text{C}$	MAX	5	$\mu\text{A}$
			$T_j=125^{\circ}\text{C}$		0.5	mA

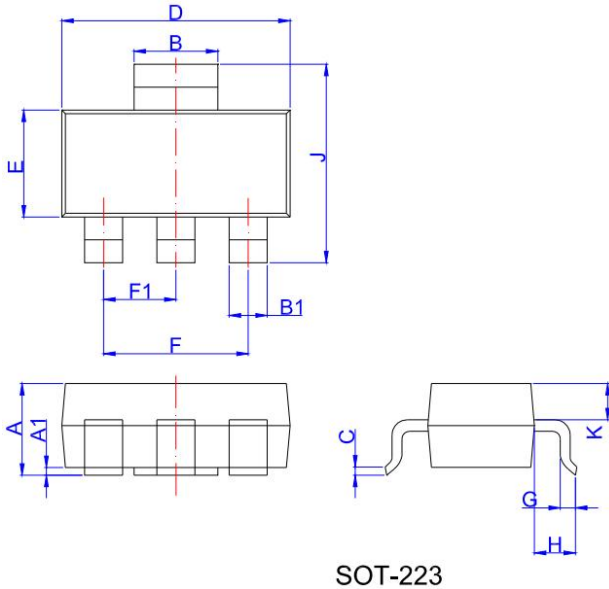
#### THERMAL RESISTANCES

Symbol	Test Condition		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	75	$^{\circ}\text{C/W}$
		SOT-223/SOT-23-2L	45	
		SOT-89-2L	60	

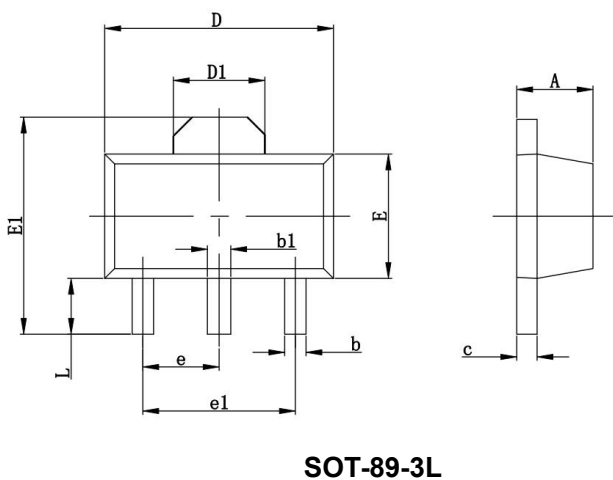


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**PACKAGE MECHANICAL DATA**



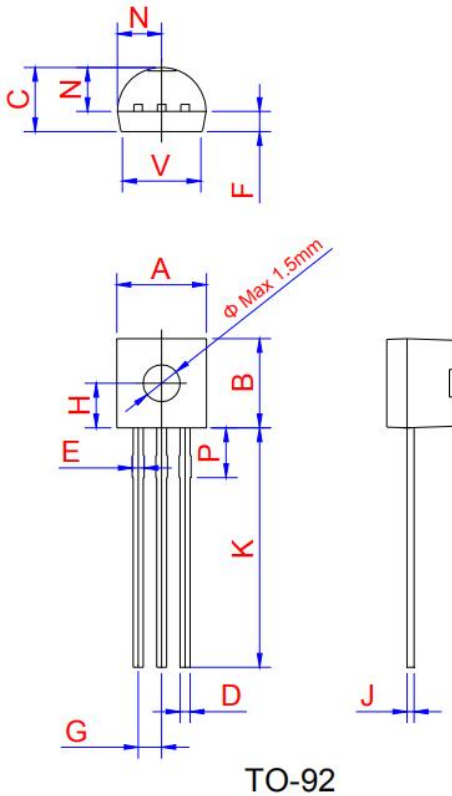
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.25	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6	6.8	0.252	0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039



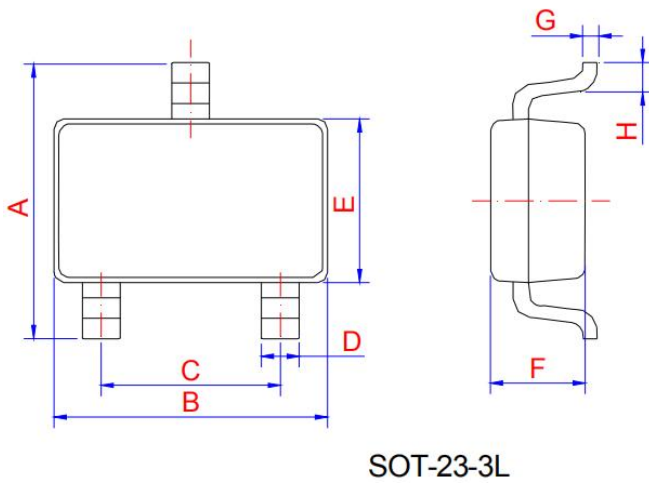
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.4		1.6	0.055		0.063
b	0.35		0.52	0.013		0.197
b1	0.4		0.58	0.016		0.023
c	0.35		0.44	0.014		0.017
D	4.4		4.6	0.173		0.181
D1		1.55			0.061	
E	2.35		2.55	0.091		0.102
E1	3.94		4.25	0.155		0.167
e		1.500			0.060	
e1		3.000			0.118	
L	0.9		1.1	0.035		0.047



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Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45	4.6	5.2	0.175	0.181	0.205
B	4.32	4.6	5.33	0.17	0.181	0.21
C	3.18	3.55	4.19	0.125	0.14	0.165
D	0.407		0.533	0.016		0.021
E	0.6		0.8	0.024	0	0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.05	-
H	-	2.3	-	-	0.091	-
J	0.36	0.38	0.5	0.014	0.015	0.02
K	12.7		15	0.5		0.591
N	2.04	2.3	2.66	0.08	0.091	0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169

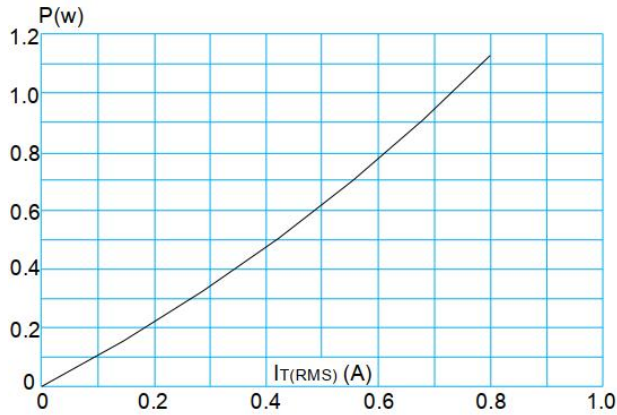


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.65	2.8	2.95	0.104	0.11	0.116
B	2.82	2.92	3.02	0.111	0.115	0.119
C	1.8	1.9	2	0.071	0.075	0.079
D	0.3	0.35	0.5	0.012	0.014	0.02
E	1.5	1.6	1.7	0.059	0.063	0.067
F	1.07	1.17	1.27	0.042	0.046	0.05
G	0.05	0.15	0.25	0.002	0.006	0.01
H	0.25	0.4	0.55	0.01	0.016	0.022

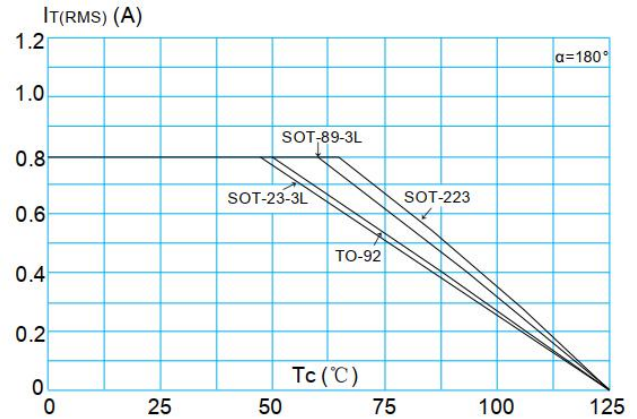


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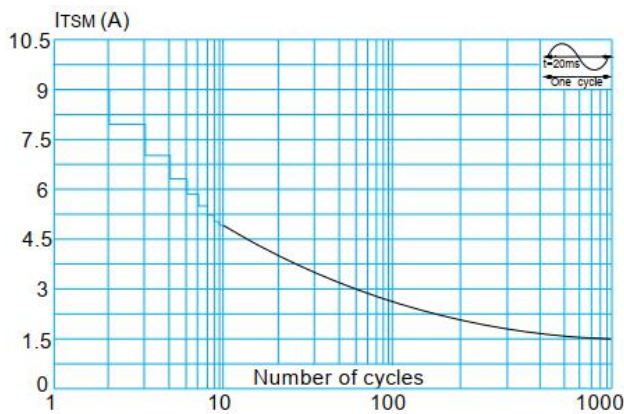
**FIG.1:** Maximum power dissipation versus RMS on-state current



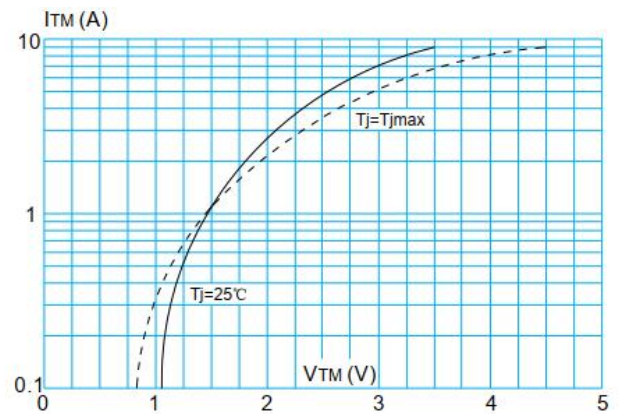
**FIG.2:** RMS on-state current versus case temperature



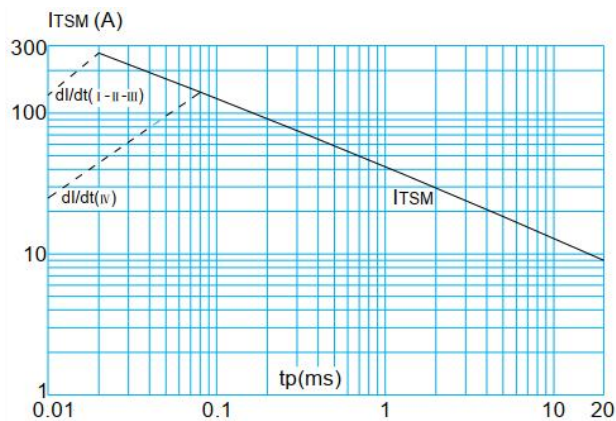
**FIG.3:** Surge peak on-state current versus number of cycles



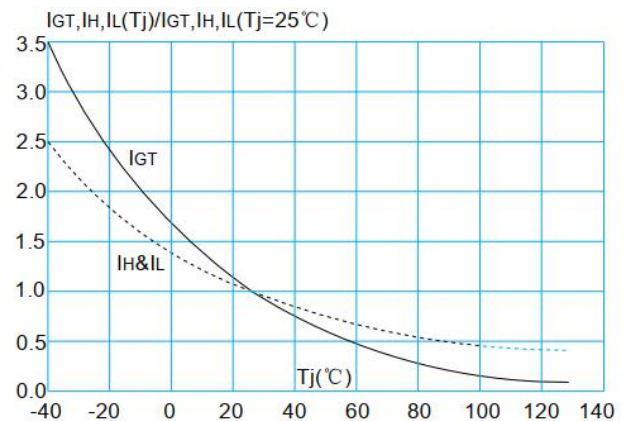
**FIG.4:** On-state characteristics (maximum values)



**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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