MAC97 Series
1A TRIACs
4 Quadrants

ShenZhenHanKingyuan
Electronic CO.,Ltd

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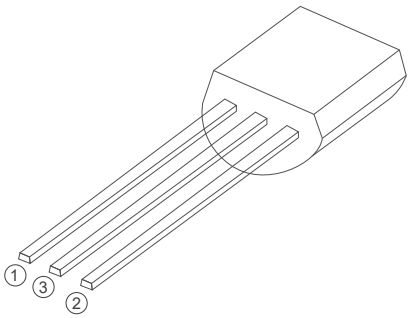
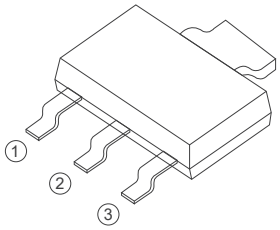


TO-92



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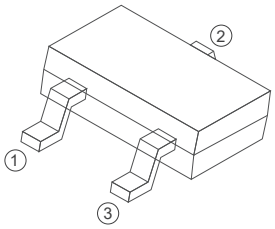

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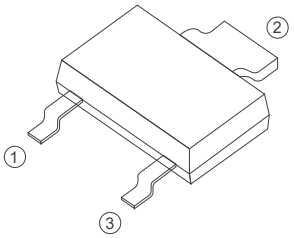

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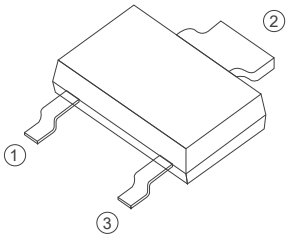

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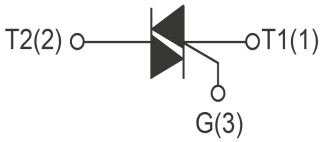

FEATURES

› IT(RMS): 1A › VGT: 1.5V › VDRM VRRM:600Vand800V

APPLICATIONS

Washing machine,vacuums, massager,solid state relay， AC Motor speed regulation and so on.

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Absolute Maximum Ratings (Tj=25°C unless otherwise specifed)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	MAC97A6	600/800	V
		MAC97A8		
IT(RMS)	R.M.S On-State Current	Tc=110°C	1	A
ITSM	Surge On-State Current	Tp=10ms	12	
I²t	I²t for fusing	Tp=10ms	0.72	A²s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	0.3	W
IGM	Peak Gate Current	tp=20us Tj=125°C	1.2	A
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	

Electrical Characteristics (Tj=25°C unless otherwise specifed)

Symbol	Parameter		Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current		Tj=25°C	≤10	uA
			Tj=110°C	≤200	uA
IRRM	Repetitive Peak Reverse Current		Tj=25°C	≤10	uA
			Tj=110°C	≤200	uA
VTM	Forward "on" voltage		IT=1.6A tp=380us	≤1.5	V
VGD	Gate non-trigger voltage		VD=VDRM, Tj=110°C	≥0.2	V
IH	Holding current	I,II,III	VD=12V ,IGT=0.1A	≤5	mA
		IV		≤10	mA
VGT	Gate trigger voltage		VD=12V	≤1.2	V
IGT	Gate trigger current	I,II,III	VD=12V	≤3	mA
		IV		≤7	mA
di/dt	Critical-rate of rise of commutation current.	I,II,III	IT=1A IG==0.2A,dIg/dt=0.2A/us	≥50	A /us
		IV		≥10	A /us
dv/dt	Critical-rate of rise of commutation voltage		TJ=110°C VD=2/3VDRM	≥30	V/us

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FIG1

Maximum power dissipation versus RMS on-state current

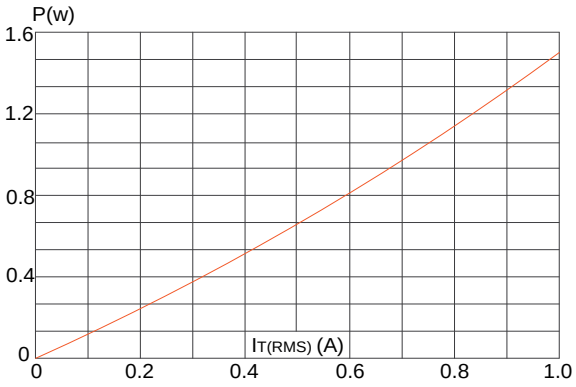


FIG2

RMS on-state current versus case temperature

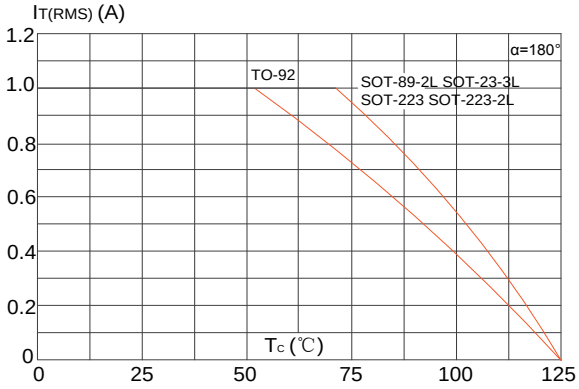


FIG3

Surge peak on-state current versus number of cycles

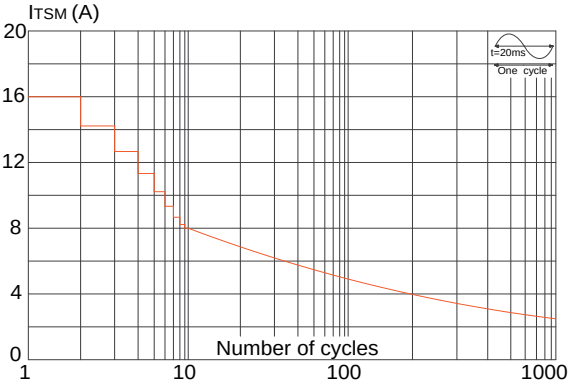


FIG4

On-state characteristics (maximum values)

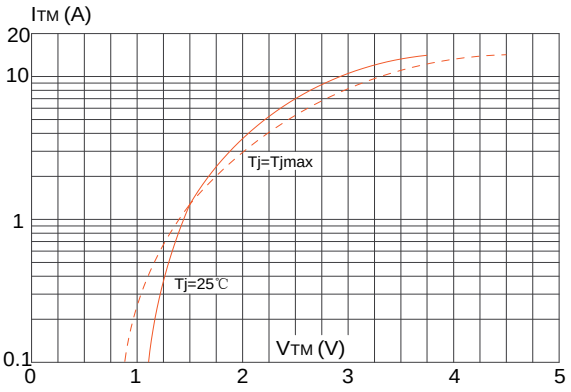


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

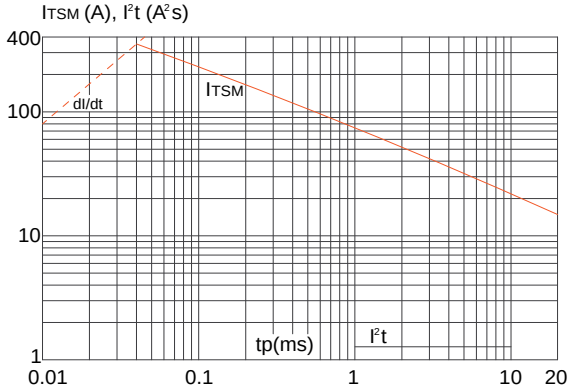
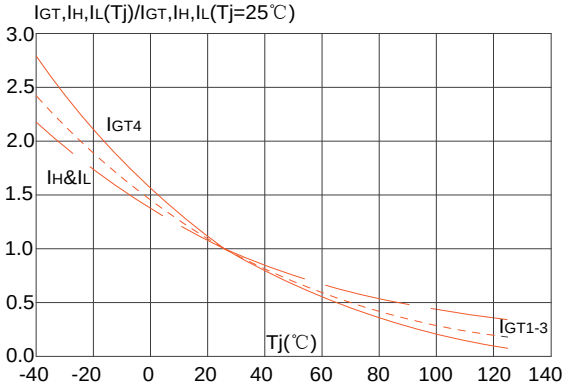


FIG6

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



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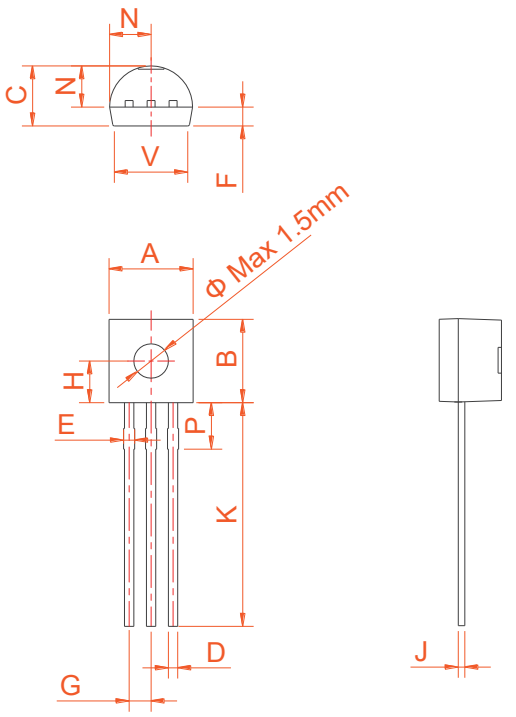
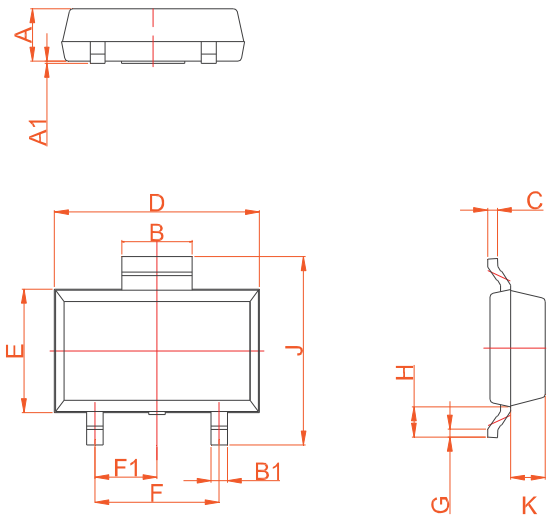


TO-92

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169



SOT-89-2L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.3	1.4	1.5	0.051	0.055	0.059
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	1.6	1.7	1.8	0.063	0.067	0.071
B1	0.3	0.4	0.5	0.012	0.016	0.020
C	0.22	0.254	0.32	0.009	0.010	0.013
D	4.75	4.95	5.15	0.187	0.195	0.203
E	2.75	2.95	3.15	0.108	0.116	0.124
F		3.0			0.118	
F1		1.5			0.059	
G	0.2	0.3	0.4	0.008	0.012	0.016
H	0.58	0.78	0.98	0.023	0.031	0.039
J	4.3	4.5	4.7	0.169	0.177	0.185
K		0.88			0.035	

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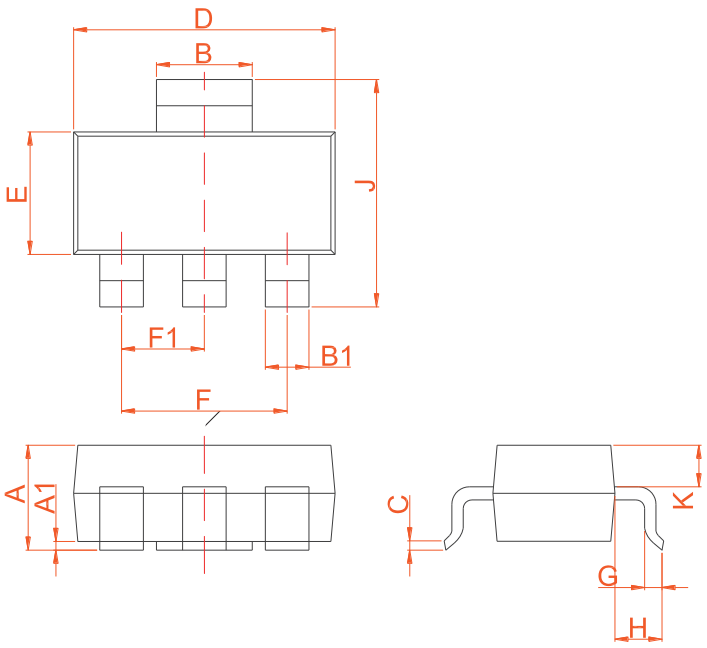
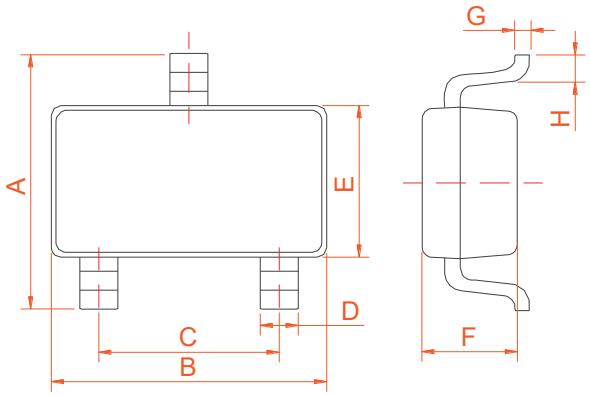


SOT-223

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	0.06	0.10	0	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	0.26	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			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	2.65		2.95	0.104		0.116
B		2.92			0.115	
C		1.90			0.075	
D	0.34		0.36	0.013		0.014
E		1.60			0.063	
F		1.17			0.046	
G		0.15			0.006	
H	0.25		0.55	0.010		0.022



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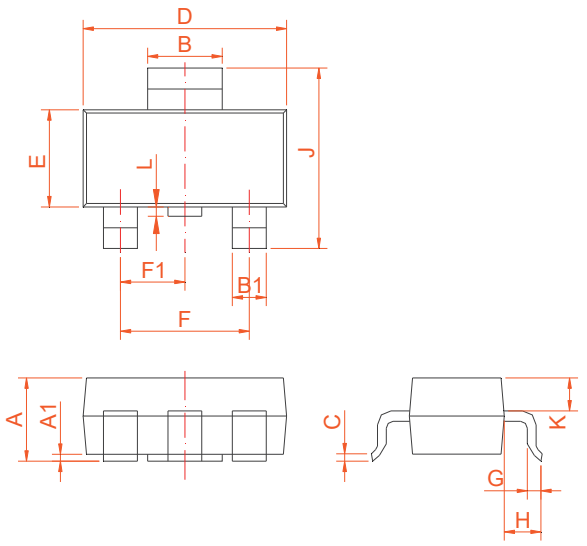

SOT-223-2L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50	1.60	1.80	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.90	3.00	3.10	0.114	0.118	0.122
B1	0.60	0.70	0.80	0.024	0.028	0.031
C	0.22	0.254	0.32	0.009	0.010	0.013
D	6.30	6.50	6.70	0.248	0.256	0.264
E	3.30	3.50	3.70	0.130	0.138	0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70	0.90	1.10	0.028	0.035	0.043
H	1.50	1.75	2.00	0.059	0.069	0.079
J	6.70	7.00	7.30	0.264	0.276	0.287
K		0.90			0.035	
L	0	0.10	0.20	0	0.004	0.008

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