

## TO-92 Plastic-Encapsulate Thyristors

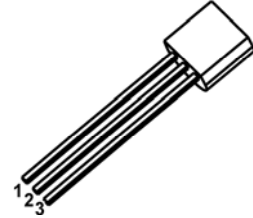
### MAC97A6,A8 TRIAC

#### MAIN FEATURES

Symbol	value	unit
$I_{T(RMS)}$	1	A
$V_{DRM}/V_{RRM}$	MAC97A6	400
	MAC97A8	600
$I_{TSM}$	8	A

#### TO-92

1. ANODE
2. GATE
3. ANODE



#### DESCRIPTION

Logic level sensitive gate triac intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

#### FEATURES

- Blocking voltage to 400 V (MAC97A6)
- RMS on-state current to 0.6 A
- General purpose bidirectional switching

#### APPLICATIONS

- General purpose bidirectional switching
- Phase control applications
- Solid state relays

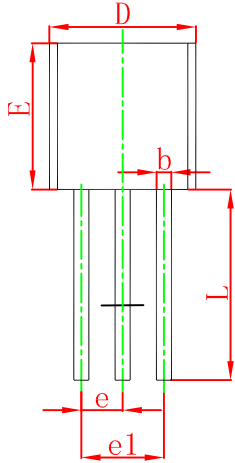
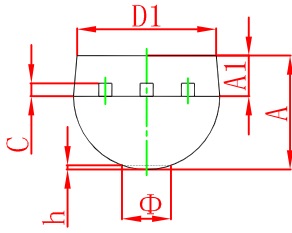
#### Limiting values

Symbol	Parameter	Conditions	Value	Unit
$V_{DRM}/V_{RRM}$	repetitive peak off-state voltage	MAC97A6 $T_j = 25 \text{ to } 125 \text{ }^\circ\text{C}$	400	V
		MAC97A8 $T_j = 25 \text{ to } 125 \text{ }^\circ\text{C}$	600	
$I_{GM}$	gate current(peak value)	$t = 2\mu\text{s max}$	1	A
$V_{GM}$	gate voltage(peak value)	$t = 2\mu\text{s max}$	5	V
$P_{GM}$	gate power(peak value)	$t = 2\mu\text{s max}$	5	W
$T_j$	Junction Temperature	-	-40 ~ 125	$^\circ\text{C}$
$T_{sta}$	Storage Temperature	-	-40 ~ 150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

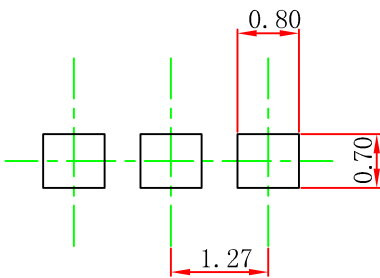
Parameter		Symbol	Test conditions		Min	Max	Unit
Rated repetitive peak off-state/reverse voltage		V <sub>DRM</sub> , V <sub>RRM</sub>	I <sub>D</sub> =10μA	MAC97A6 MAC97A8	400 600		V
Rated repetitive peak off-state current		I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub>			10	μA
On-state voltage		V <sub>TM</sub>	I <sub>T</sub> =1A, I <sub>G</sub> =50mA			1.9	V
Gate trigger current	I	I <sub>GT</sub>	T <sub>2</sub> (+), G(+)	V <sub>D</sub> =12V R <sub>L</sub> =100Ω		5	mA
	II		T <sub>2</sub> (+), G(-)			5	mA
	III		T <sub>2</sub> (-), G(-)			5	mA
	IV		T <sub>2</sub> (-), G(+)			-	mA
Gate trigger voltage	I	V <sub>GT</sub>	T <sub>2</sub> (+), G(+)	V <sub>D</sub> =12V R <sub>L</sub> =100Ω		1.5	V
	II		T <sub>2</sub> (+), G(-)			1.5	V
	III		T <sub>2</sub> (-), G(-)			1.5	V
	IV		T <sub>2</sub> (-), G(+)			-	V
Holding current		I <sub>H</sub>	I <sub>T</sub> =600mA, I <sub>G</sub> =20mA			10	mA

## TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

## TO-92 Suggested Pad Layout



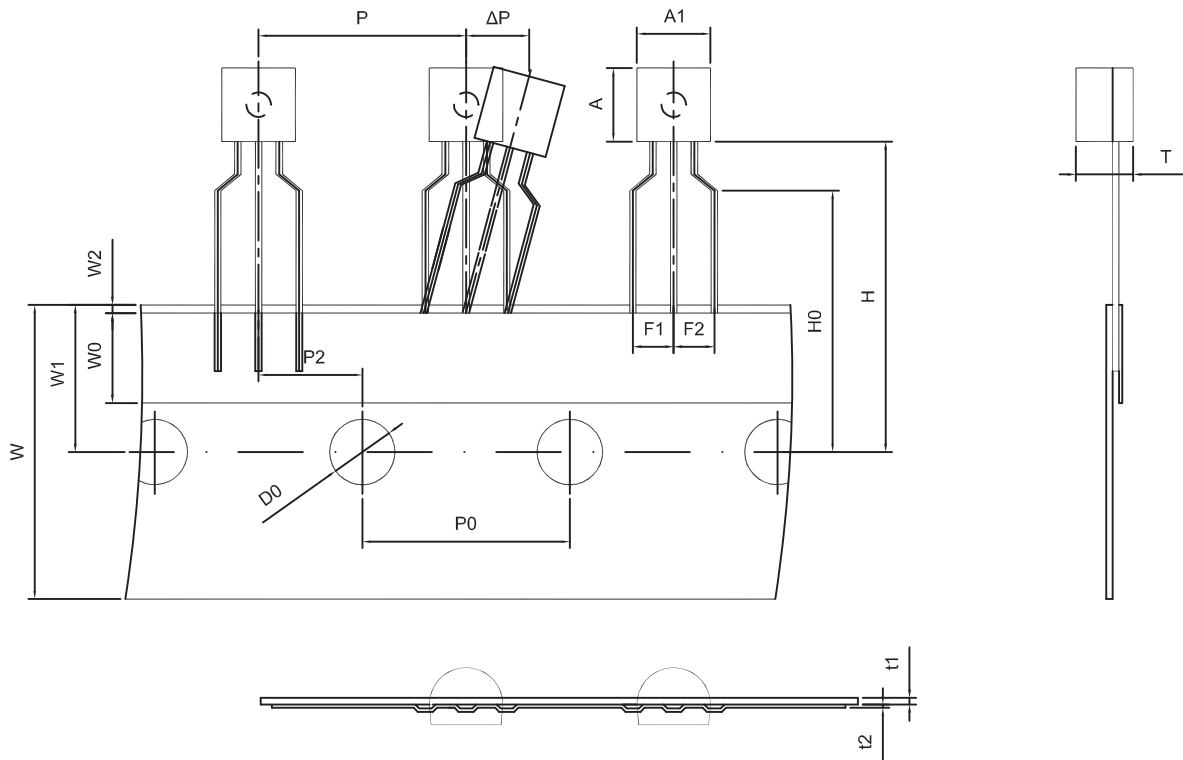
### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

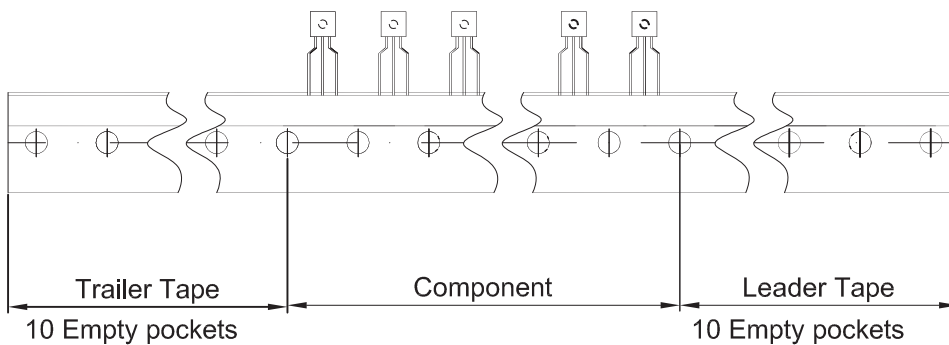
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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250