

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

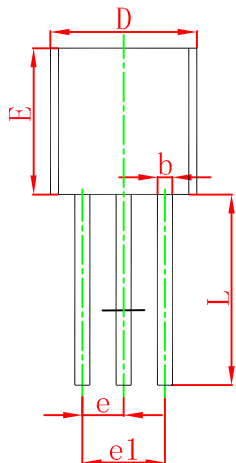
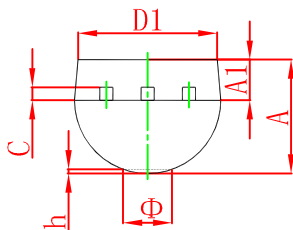
Limiting values

Symbol	Parameter	Conditions	Value	Unit
V_{DRM}/V_{RRM}	repetitive peak off-state voltage	$T_j = 25 \text{ to } 125^\circ\text{C}$ $T_j = 25 \text{ to } 125^\circ\text{C}$	400 600	V
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_a=25°C unless otherwise specified)

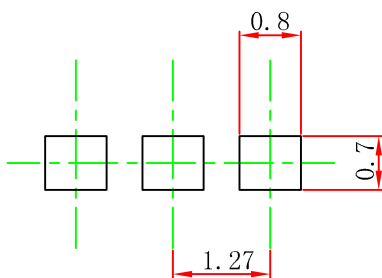
Parameter		Symbol	Test conditions		Min	Max	Unit
Rated repetitive peak off-state/reverse voltage		$V_{\text{DRM}}, V_{\text{RRM}}$	$I_{\text{D}}=10\mu\text{A}$	MAC97A6 MAC97A8	400 600		V
Rated repetitive peak off-state current		I_{DRM}	$V_{\text{D}}=V_{\text{DRM}}$			10	μA
On-state voltage		V_{TM}	$I_{\text{T}}=1\text{A}, I_{\text{G}}=50\text{mA}$			1.9	V
Gate trigger current	I	I_{GT}	$T_2(+), G(+)$	$V_{\text{D}}=12\text{V}$ $R_{\text{L}}=100\Omega$		5	mA
	II		$T_2(+), G(-)$			5	mA
	III		$T_2(-), G(-)$			5	mA
	IV		$T_2(-), G(+)$			-	mA
Gate trigger voltage	I	V_{GT}	$T_2(+), G(+)$	$V_{\text{D}}=12\text{V}$ $R_{\text{L}}=100\Omega$		1.5	V
	II		$T_2(+), G(-)$			1.5	V
	III		$T_2(-), G(-)$			1.5	V
	IV		$T_2(-), G(+)$			-	V
Holding current		I_{H}	$I_{\text{T}}=600\text{mA}, I_{\text{G}}=20\text{mA}$			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	4.400	4.700	0.173	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



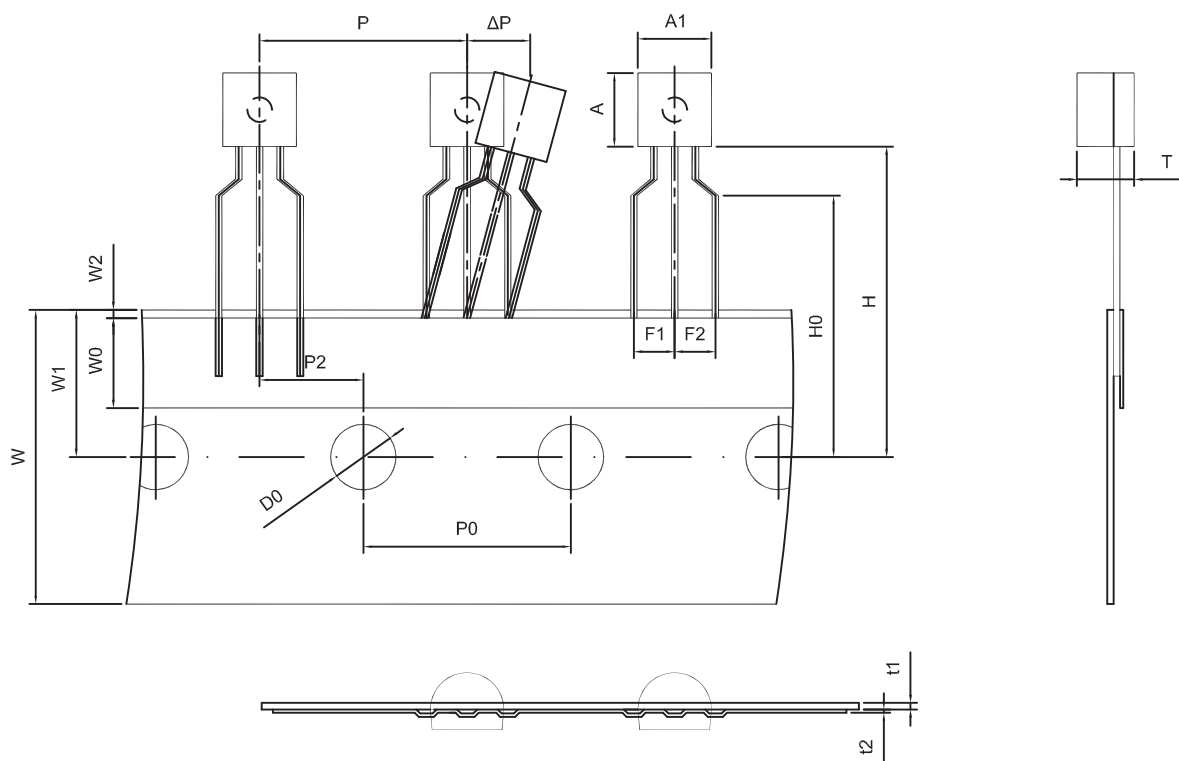
Note:

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

NOTICE

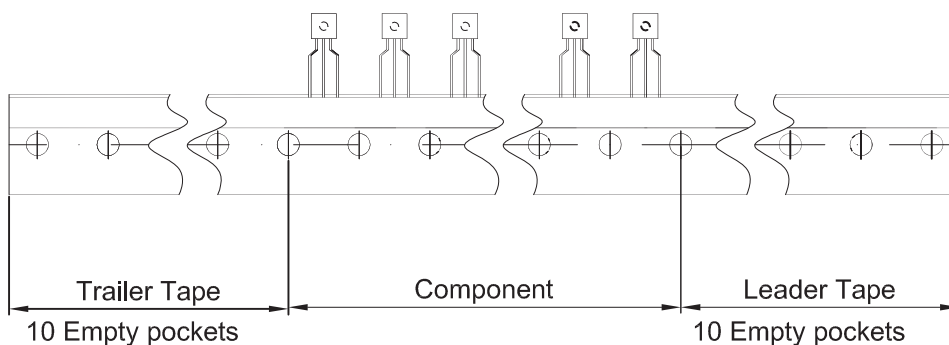
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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5±0.2	4.5±0.2	3.5±0.2	12.7±0.3	12.7±0.2	6.35±0.3	2.5±0.3	2.5±0.3	18.0+1.0/-0.5
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0±0.5	9.0±0.5	1.0 MAX.	19.0±1.0	16.0±0.5	4.0±0.5	0.4±0.05	0.2±0.05	0 ± 1.0



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