

TO-92 Plastic-Encapsulate Thyristors

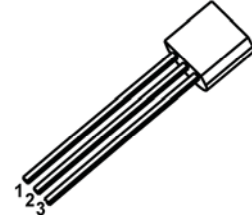
MAC97A6,A8 TRIAC

MAIN FEATURES

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

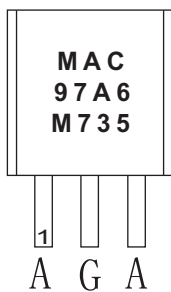
FEATURES

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

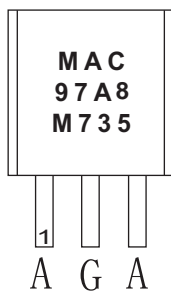
APPLICATIONS

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

MARKING



MARKING



MAC97A6,MAC97A8=Device code
M735=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MAC97A6	TO-92	Bulk	1000pcs/Bag
MAC97A6-TA	TO-92	Tape	2000pcs/Box
MAC97A8	TO-92	Bulk	1000pcs/Bag
MAC97A8-TA	TO-92	Tape	2000pcs/Box

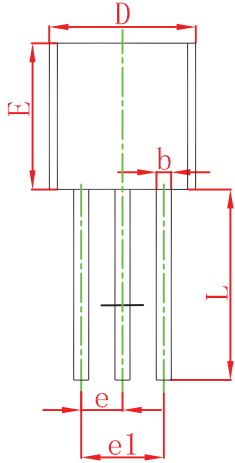
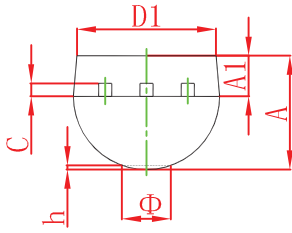
Limiting values

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_{stg}	Storage Temperature	-	-40 ~ 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

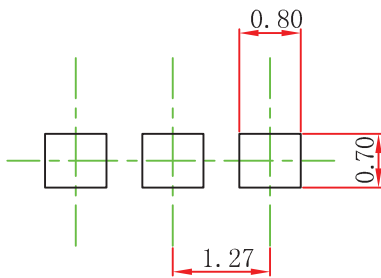
Parameter		Symbol	Test conditions	Min	Max	Unit	
Rated repetitive peak off-state/reverse voltage		V_{DRM}, V_{RRM}	$I_D=10\mu\text{A}$ MAC97A6 MAC97A8	400 600		V	
Rated repetitive peak off-state current		I_{DRM}	$V_D=V_{DRM}$		10	μA	
On-state voltage		V_{TM}	$I_T=1\text{A}, I_G=50\text{mA}$		1.9	V	
Gate trigger current	I	I_{GT}	$T_2(+), G(+)$	$V_D=12\text{V}$ $R_L=100\Omega$		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}	$T_2(+), G(+)$	$V_D=12\text{V}$ $R_L=100\Omega$		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	$I_T=600\text{mA}, I_G=20\text{mA}$		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	4.300	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



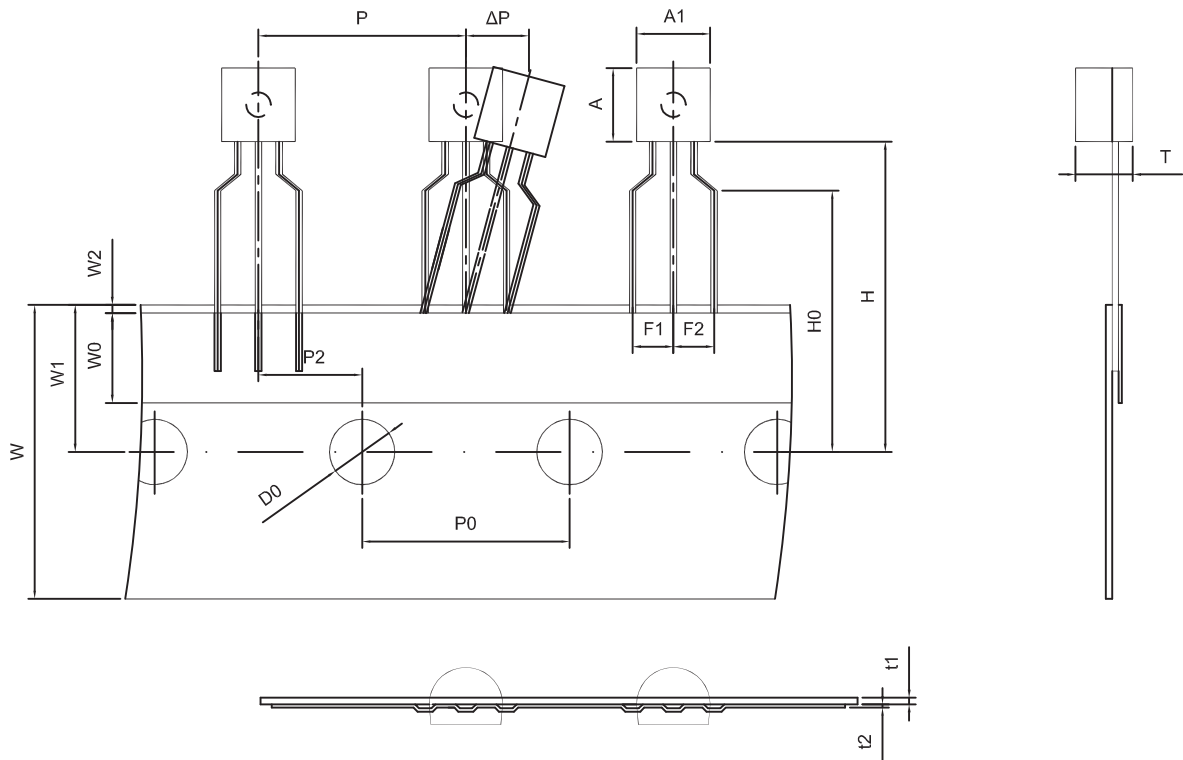
Note:

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

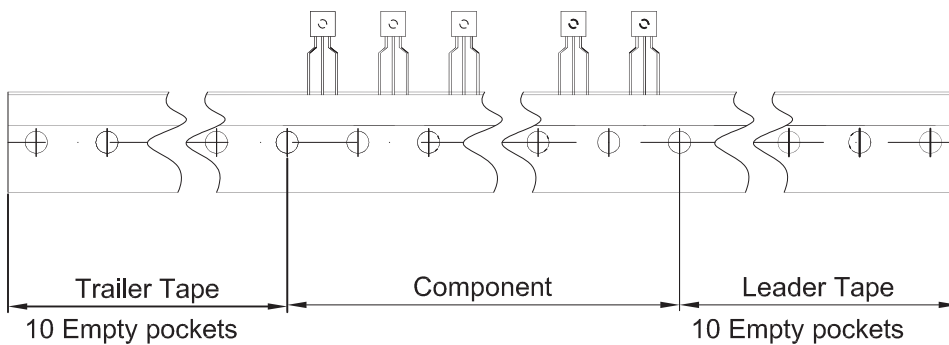
NOTICE

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TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	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