

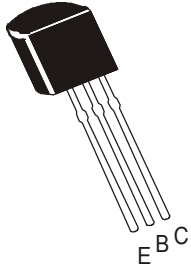
**PNP SILICON PLANAR AMPLIFIER TRANSISTORS**

**MPS8598**

**MPS8599**

**TO-92**

**Plastic Package**



**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	MPS8598	MPS8599	UNITS
Collector Emitter Voltage	V <sub>CEO</sub>	60	80	V
Collector Base Voltage	V <sub>CBO</sub>	60	80	V
Emitter Base Voltage	V <sub>EBO</sub>	5	5	V
Collector Current Continuous	I <sub>C</sub>	500		mA
Power Dissipation @ T <sub>a</sub> =25°C	P <sub>D</sub>	625		mW
Derate Above 25°C		5.0		mW/ °C
Power Dissipation @ T <sub>c</sub> =25°C	P <sub>D</sub>	1.5		W
Derate Above 25°C		12		mW/ °C
Operating And Storage Junction Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 to +150		°C

**THERMAL RESISTANCE**

Junction to Ambient in free air	R <sub>th(j-a)</sub>	200	°C/W
Junction to Case in free air	R <sub>th(j-c)</sub>	83.3	°C/W

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Breakdow Voltage	BV <sub>CEO</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0			
MPS8598			60		V
MPS8599			80		V
Collector Base Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =100µA, I <sub>E</sub> =0			
MPS8598			60		V
MPS8599			80		V
Emitter Base Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =10µA, I <sub>C</sub> =0	5		V
Collector Cutoff Current	I <sub>CEO</sub>			100	nA
Collector Cutoff Current	I <sub>CBO</sub>				
MPS8598		V <sub>CE</sub> =60V, I <sub>E</sub> =0		100	nA
MPS8599				100	nA
Emitter Cut off Current	I <sub>EBO</sub>	V <sub>BE</sub> =4V, I <sub>C</sub> = 0			
DC Current Gain					
	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA	100	300	
		V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	100		
		V <sub>CE</sub> =5V, I <sub>C</sub> =100mA*	75		

\*Pulse Condition: = Width ≤ 300ms, Duty Cycle ≤ 2%.

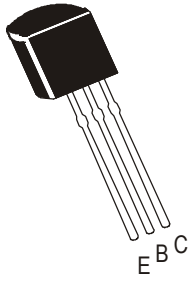
# PNP SILICON PLANAR AMPLIFIER TRANSISTORS

MPS8598

MPS8599

TO-92

Plastic Package



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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS	
<b>Collector Emitter Saturation Voltage</b>	V <sub>CE (sat)</sub> *	I <sub>C</sub> =100ma, I <sub>B</sub> =5mA		0.4	V	
		I <sub>C</sub> =100ma, I <sub>B</sub> =10mA		0.3	V	
<b>Base Emitter on Voltage</b>	V <sub>BE (on)</sub>					
		<b>MPS8598</b>	I <sub>C</sub> =1mA, V <sub>CE</sub> =5V	0.5	0.7	V
		<b>MPS8599</b>	I <sub>C</sub> =10mA, V <sub>CE</sub> =5V	0.6	0.8	V

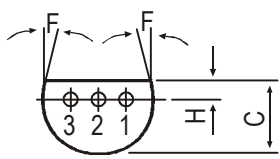
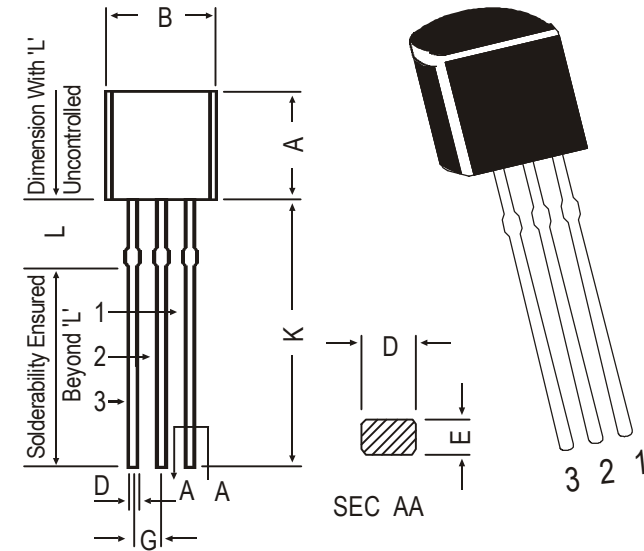
## DYNAMIC CHARACTERISTICS

<b>Transition Frequency</b>	f <sub>T</sub>	I <sub>C</sub> =10mA, V <sub>CE</sub> =5V			
		f=100MHz	150		MHz
<b>Output Capacitance</b>	C <sub>ob</sub>	I <sub>E</sub> =0, V <sub>CB</sub> =5V			
		f=1MHz		8	pF
<b>Input Capacitance</b>	C <sub>ib</sub>	I <sub>C</sub> =0, V <sub>EB</sub> =0.5V			
		f=1MHz		30	pF

\*Pulse Condition: = Width ≤ 300ms, Duty Cycle ≤ 2%.

**TO-92 Plastic Package**

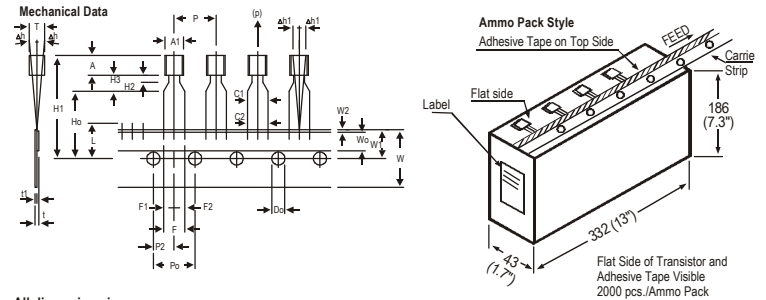
**TO-92 Transistors in Tape and Ammo Pack**



- PIN CONFIGURATION**
1. COLLECTOR
  2. BASE
  3. EMITTER

DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—
L	1.982	2.082

All dimensions in mm.



All dimensions in mm

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		± 1.0	
FEED HOLE PITCH	Po		12.7		± 0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		± 0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+ 0.6 - 0.2	
COMPONENT ALIGNMENT SIDE VIEW	Δh		0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW	Δh1		0	1.3		AT TOP OF BODY
TAPE WIDTH	W		18		± 0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		± 0.2	
HOLE POSITION	W1		9		+ 0.7 - 0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		± 0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		± 0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		± 0.2	
TOTAL TAPE THICKNESS	t			1.2		t1 0.3-0.6
LEAD - TO - LEAD DISTANCE	F1, F2		2.54		+ 0.4 - 0.1	
STAND OFF	H2	0.45		1.45		
CLINCH HEIGHT	H3			3.0		
LEAD PARALLELISM	C1 - C2			0.22		
PULL - OUT FORCE	(P)		6N			

**NOTES**

1. Maximum alignment deviation between leads will not be greater than 0.2mm.
2. Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
3. Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
4. There will be no more than three (3) consecutive missing components in a tape.
5. A tape trailer, having at least three feed holes are provided after the last component in a tape.
6. Splices should not interfere with the sprocket feed holes.

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

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