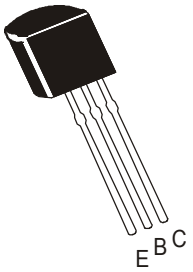
PNP SILICON PLANAR AMPLIFIER TRANSISTORS

MPS8598
MPS8599

TO-92
Plastic Package



ABSOLUTE MAXIMUM RATINGS(T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	MPS8598	MPS8599	UNITS
Collector Emitter Voltage	V_{CEO}	60	80	V
Collector Base Voltage	V_{CBO}	60	80	V
Emitter Base Voltage	V_{EBO}	5	5	V
Collector Current Continuous	I_C	500		mA
Power Dissipation @ T_a=25ºC	P_D	625		mW
Derate Above 25ºC		5.0		mW/ ºC
Power Dissipation @ T_c=25ºC	P_D	1.5		W
Derate Above 25ºC		12		mW/ ºC
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150		ºC

THERMAL RESISTANCE

Junction to Ambient in free air	$R_{th(j-a)}$	200		ºC/W
Junction to Case in free air	$R_{th(j-c)}$	83.3		ºC/W

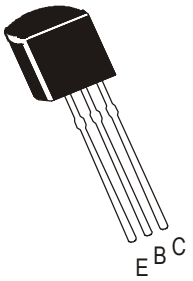
ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Breakdow Voltage	BV_{CEO}	I_C=10mA,I_B=0			
MPS8598			60		V
MPS8599			80		V
Collector Base Voltage	BV_{CBO}	I_C=100µA,I_E=0			
MPS8598			60		V
MPS8599			80		V
Emitter Base Voltage	BV_{EBO}	I_E=10µA, I_C=0	5		V
Collector Cutoff Current	I_{CEO}			100	nA
Collector Cutoff Current	I_{CBO}				
MPS8598		V_{CE}=60V, I_E=0		100	nA
MPS8599				100	nA
Emitter Cut off Current	I_{EBO}	V_{BE}=4V, I_C = 0			
DC Current Gain					
	h_{FE}	V_{CE}=5V,I_C=1mA	100	300	
		V_{CE}=5V,I_C=10mA	100		
		V_{CE}=5V,I_C=100mA*	75		

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

PNP SILICON PLANAR AMPLIFIER TRANSISTORS

MPS8598
MPS8599



TO-92
Plastic Package

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

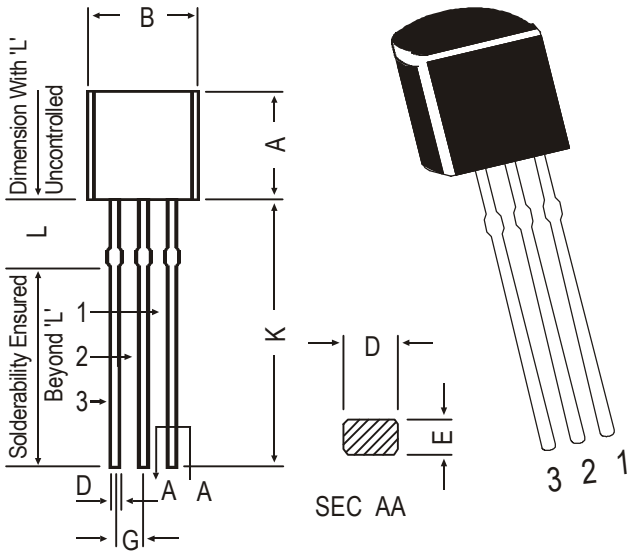
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$ *	I_C=100ma, I_B=5mA		0.4	V
		I_C=100ma, I_B=10mA		0.3	V
Base Emitter on Voltage	$V_{BE\ (on)}$				
MPS8598		I_C=1mA, V_{CE}=5V	0.5	0.7	V
MPS8599		I_C=10mA, V_{CE}=5V	0.6	0.8	V

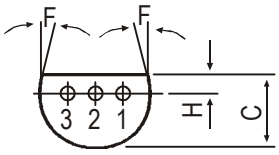
DYNAMIC CHARACTERISTICS

Transition Frequency	f_T	I_C=10mA, V_{CE}=5V			
		f=100MHz	150		MHz
Output Capacitance	C_{ob}	I_E=0, V_{CB}=5V			
		f=1MHz		8	pF
Input Capacitance	C_{ib}	Ic=0, V_{EB}=0.5V			
		f=1MHz		30	pF

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

TO-92 Plastic Package



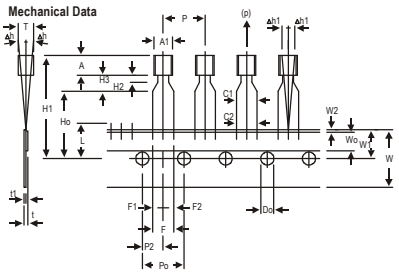


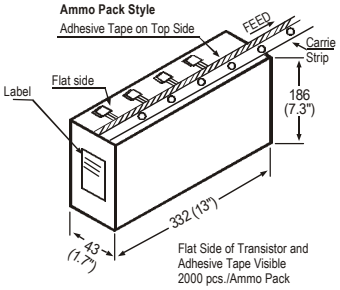
PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER

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 diminsions in mm.

TO-92 Transistors in Tape and Ammo Pack





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 to 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**

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

CDIL is a registered Trademark of
Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290
e-mail sales@cdil.com www.cdil.com