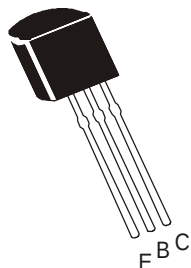


NPN/PNP SILICON PLANAR EPITAXIAL TRANSISTORS



MPSA05,MPSA06
MPSA55,MPSA56

TO-92
Plastic Package

Amplifier Transistors

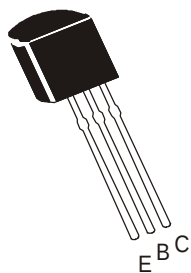
ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless otherwise specified)

ABSOLUTE MAXIMUM RATINGS (Ta=25 °C unless otherwise specified)				
DESCRIPTION	SYMBOL	MPSA05 MPSA55	MPSA06 MPSA56	UNITS
Collector Emitter Voltage	V _{CEO}	60	80	V
Collector Base Voltage	V _{CBO}	60	80	V
Emitter Base Voltage	V _{EBO}		4	V
Collector Current Continuous	I _C		500	mA
Total Device Dissipation@Ta=25°C	P _D		625	mW
Derate Above 25°C			5.0	mW/°C
Total Device Dissipation@ Tc=25°C	P _D		1.5	W
Derate Above 25°C			12	mW/°C
Operating And Storage Junction Temperature Range	T _j , T _{stg}	-55 to +150		°C
THERMAL RESISTANCE				
Junction to ambient	R _{th(j-a)} (1)		200	°C/mW
Junction to case	R _{th(j-c)}		83.3	°C/mW

(1) $R_{th(j-a)}$ is measured with the device soldered into a typical printed circuit board.

NPN SILICON PLANAR EPITAXIAL TRANSISTORS

MPSA05,MPSA06
MPSA55,MPSA56



TO-92
Plastic Package

ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Emitter Voltage	V_{CEO} *	$I_C=1mA, I_B=0$				
MPSA05/55			60			V
MPSA06/56			80			V
Emitter-Base Voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	4.0			V
Collector-Cut off Current	I_{CBO}					
MPSA05/55		$V_{CB}=60V, I_E=0$			0.1	μA
MPSA06/56		$V_{CB}=80V, I_E=0$			0.1	μA
Collector-Cut off Current	I_{CEO}	$V_{CE}=60V, I_B=0$			0.1	μA
Collector-Emitter (sat) Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$			0.25	V
Base-Emitter(on) Voltage	$V_{BE(on)}$	$I_C=100mA, V_{CE}=1V$			1.2	V
DC Current Gain						μA
	h_{FE}	$V_{CE}=1V, I_C=10mA$	100			
		$V_{CE}=1V, I_C=100mA$	100			

ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified)

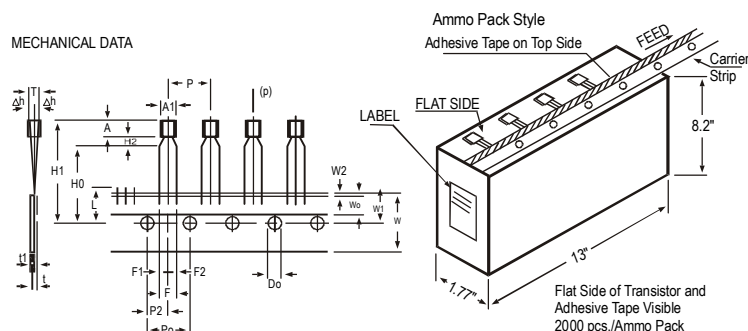
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
DYNAMIC CHARACTERISTICS					
Transition Frequency					
NPN	f_T^{**}	$I_C=10mA, V_{CE}=2V$	100		MHz
		$f=100MHz$			
PNP		$I_C=100mA, V_{CE}=1V$	50		MHz
		$f=100MHz$			

*Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

** f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

TO-92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack

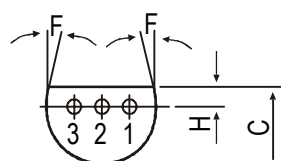
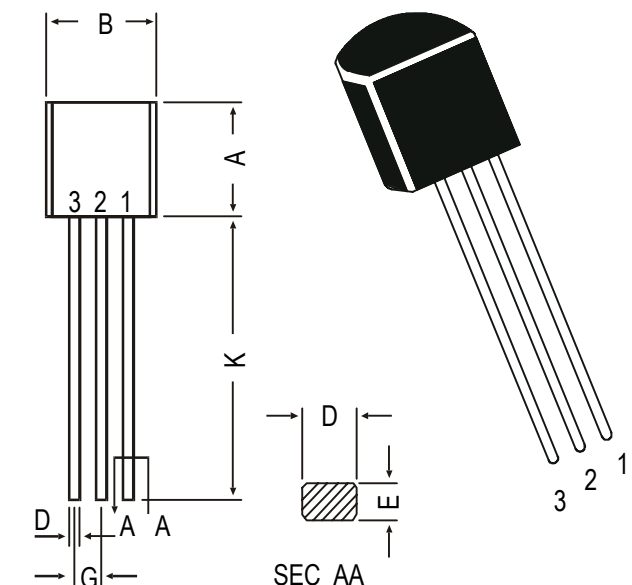


All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION				REMARKS
		MIN.	NOM.	MAX.	TOL.	
BODY WIDTH	A1	4.0		4.8		CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH TO BE MEASURED AT BOTTOM OF CLINCH
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	AT TOP OF BODY
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	Δh		0	1		
TAPE WIDTH	W		18		±0.5	t1 0.3 - 0.6
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		
LEAD - TO - LEAD DISTANCE F1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)	6N				

NOTES

1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.



PIN CONFIGURATION

1. COLLECTOR
2. BASE
3. EMITTER

All dimensions in mm.

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	—

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"	5.0K	17" x 15" x 13.5"	80.0K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2.0K	17" x 15" x 13.5"	32.0K	12.5 kgs

Disclaimer

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