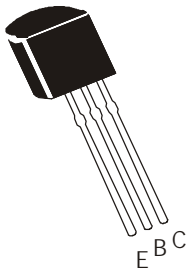


**NPN EPITAXIAL PLANAR SILICON TRANSISTORS**

**MPSA 42**  
**MPSA 43**  
**TO-92**  
**CBE**



**High Voltage Transistors.**

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

DESCRIPTION	SYMBOL	MPSA42	MPSA43	UNIT
Collector -Emitter Voltage	VCEO	300	200	V
Collector -Base Voltage	VCBO	300	200	V
Emitter -Base Voltage	VEBO		6	V
Collector Current Continuous	IC		500	mA
Power Dissipation @ Ta=25 degC	PD		625	mW
Derate above 25 deg C			5	mW./deg C
Power Dissipation @ Tc=25 degC	PD		1.5	W
Derate above 25 deg C			12	mW./deg C
Operating And Storage Junction Temperature Range	Tj, Tstg		-55 to +150	deg C
<b>THERMAL RESISTANCE</b>				
Junction to Case	Rth(j-c)		83.3	deg C/W
Junction to Ambient	Rth(j-a)		200	deg C/W

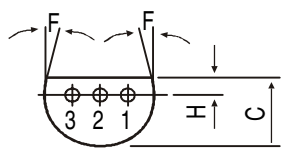
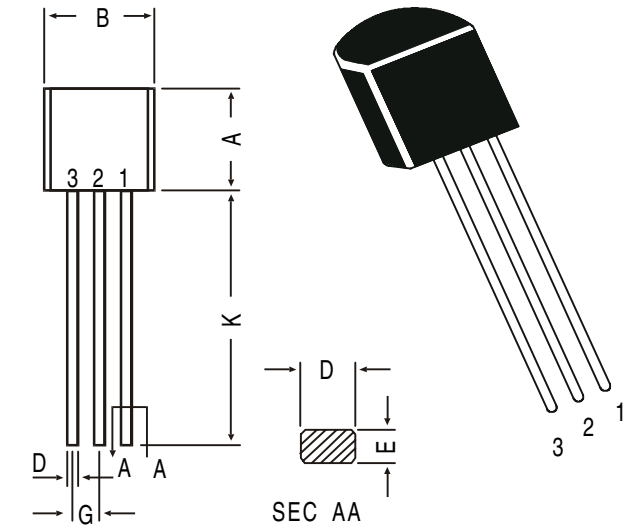
**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)**

DESCRIPTION	SYMBOL	TEST CONDITION	MPSA42	MPSA43	UNIT
Collector -Emitter Voltage	VCEO	IC=1mA, IB=0	>300	>200	V
Collector -Base Voltage	VCBO	IC=100uA, IE=0	>300	>200	V
Emitter-Base Voltage	VEBO	IE=100uA, IC=0	>6.0	>6.0	V
Collector-Cut off Current	ICBO	VCB=200V, IE=0	<100	-	nA
		VCB=160V, IE=0	-	<100	nA
Emitter-Cut off Current	IEBO	VEB=6V, IC=0	<100	-	nA
		VEB=4V, IC=0	-	<100	nA
DC Current Gain	hFE*	IC=1mA, VCE=10V	>25	>25	
		IC=10mA, VCE=10V	>40	>40	
		IC=30mA, VCE=10V	>40	>40	
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=20mA, IB=2mA	<0.5	<0.4	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=20mA, IB=2mA	<0.9	<0.9	V
<b>DYNAMIC CHARACTERISTICS</b>					
Current Gain-Bandwidth Product	ft	IC=10mA, VCE=20V f=100MHz	>50	>50	MHz
Collector Base Capacitance	Ccb	VCB=20V, IE=0 f=1MHz	<3.0	<4.0	pF

\*Pulse Test: Pulse Width=300us, Duty Cycle=2%

# TO-92 Plastic Package

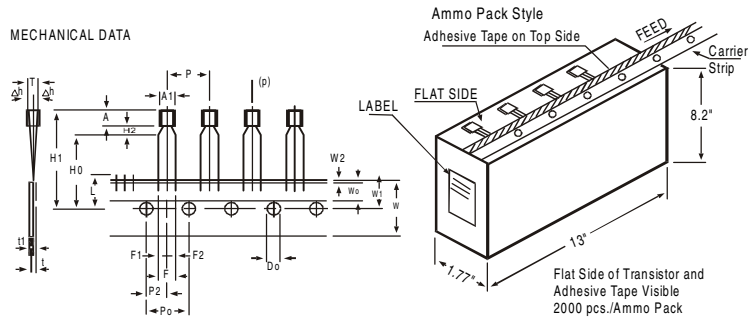
## TO-92 Transistors on Tape and Ammo Pack



- 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	—



All dimensions in mm unless specified otherwise

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	
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	Δh	0		1		AT TOP OF BODY
TAPE WIDTH	W	18			±0.5	
HOLD-DOWN TAPE WIDTH	W0	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		±0.3 - 0.6
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.

## 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

## Customer Notes

### Disclaimer

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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150,5141 1112 Fax + 91-11-2579 5290, 5141 1119

email@cdil.com www.cdilsemi.com