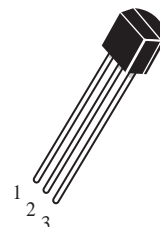


## High-Voltage PNP Transistors

**(Pb)** Lead(Pb)-Free

**TO-92**

1. EMITTER  
2. BASE  
3. COLLECTOR



### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	-400	V <sub>dc</sub>
Collector-Base Voltage	V <sub>CBO</sub>	-400	V <sub>dc</sub>
Emitter-Base Voltage	V <sub>EBO</sub>	-5.0	V <sub>dc</sub>
Collector Current	I <sub>C</sub>	-200	mA <sub>dc</sub>
Total Device Dissipation T <sub>A</sub> =25°C	P <sub>D</sub>	0.625	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I <sub>C</sub> = 1.0 mA <sub>dc</sub> , I <sub>B</sub> =0)	V <sub>(BR)CEO</sub>	-400	-	V <sub>dc</sub>
Collector-Base Breakdown Voltage (I <sub>C</sub> = -100 uA <sub>dc</sub> , I <sub>E</sub> =0)	V <sub>(BR)CBO</sub>	-400	-	V <sub>dc</sub>
Emitter-Base Breakdown Voltage (I <sub>E</sub> = -100 uA <sub>dc</sub> , I <sub>C</sub> =0)	V <sub>(BR)EBO</sub>	-5.0	-	V <sub>dc</sub>
Collector Cutoff Current (V <sub>CE</sub> = -400 V <sub>dc</sub> , I <sub>B</sub> =0)	I <sub>CE0</sub>	-	-5.0	uA <sub>dc</sub>
Collector Cutoff Current (V <sub>CB</sub> = -400 V <sub>dc</sub> , I <sub>E</sub> =0)	I <sub>CBO</sub>	-	-0.1	uA <sub>dc</sub>
Emitter Cutoff Current (V <sub>EB</sub> = -4.0V <sub>dc</sub> , I <sub>C</sub> =0)	I <sub>EBO</sub>	-	-0.1	uA <sub>dc</sub>

**MPSA94****Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted) (Continued)

Characteristics	Symbol	Min	Max	Unit
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**On Characteristics**

DC Current Gain ( $I_C = -1.0\text{ mA dc}, V_{CE} = -10\text{ V dc}$ )	$H_{FE(1)}$	70	-	-
( $I_C = -10\text{ mA dc}, V_{CE} = -10\text{ V dc}$ )	$H_{FE(2)}$	80	300	-
( $I_C = -100\text{ mA dc}, V_{CE} = -10\text{ V dc}$ )	$H_{FE(3)}$	60	-	-
Collector-Emitter Saturation Voltage ( $I_C = -10\text{ mA dc}, I_B = -1.0\text{ mA dc}$ )	$V_{CE(sat)}$	-	-0.2	Vdc
( $I_C = -50\text{ mA dc}, I_B = -5.0\text{ mA dc}$ )		-	-0.3	
Base-Emitter Saturation Voltage ( $I_C = -10\text{ mA dc}, I_B = -1.0\text{ mA dc}$ )	$V_{BE(sat)}$	-	-0.75	Vdc
Current-Gain-Bandwidth Product ( $I_C = 10\text{ mA dc}, V_{CE} = -20\text{ V dc}, f = 30\text{ MHz}$ )	$f_T$	50	-	MHz

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## Typical Characteristics

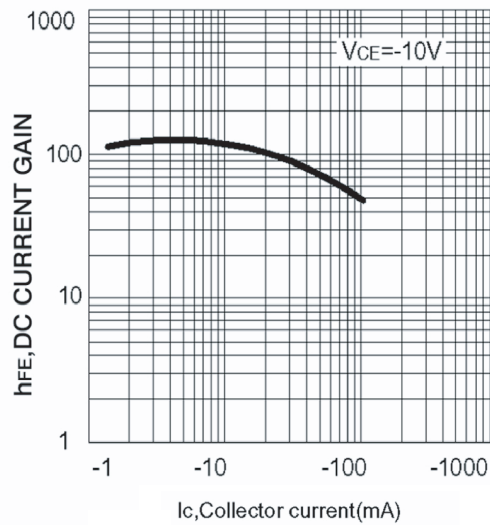


FIG1. DC CURRENT GAIN

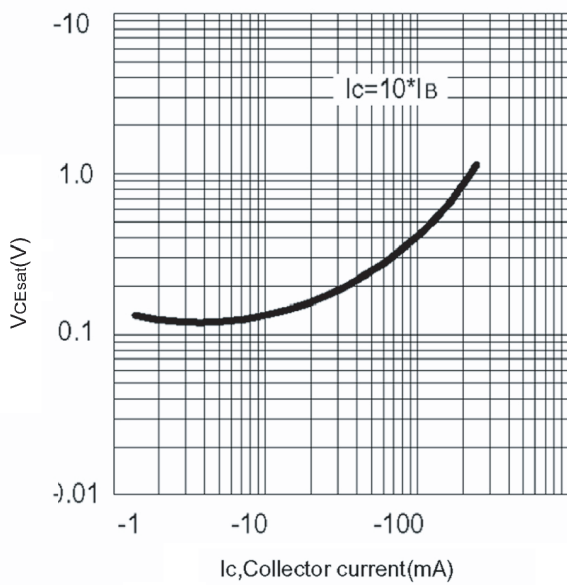


FIG2. COLLECTOR-EMITTER SATURATION VOLTAGE

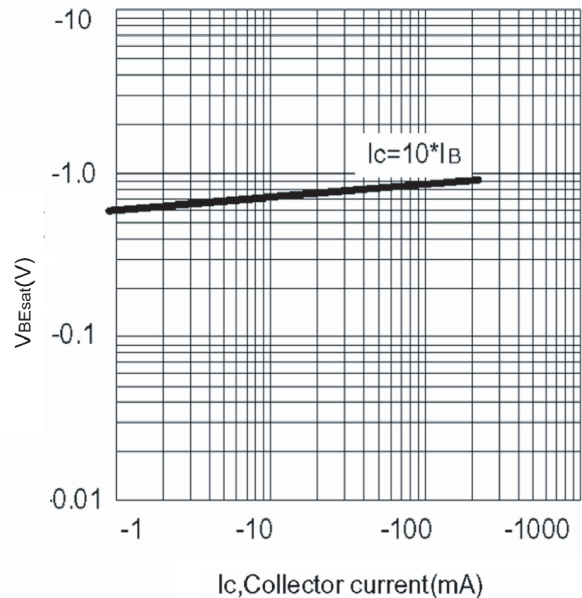
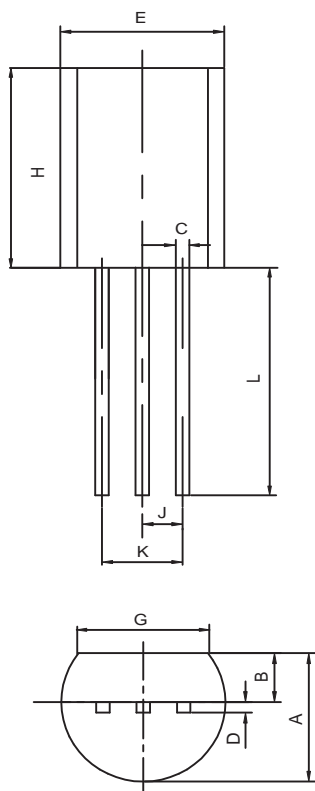


FIG3. BASE-EMITTER SATURATION VOLTAGE

**MPSA94****WEITRON****TO-92 Outline Dimensions**

unit:mm



<b>TO-92</b>		
<b>Dim</b>	<b>Min</b>	<b>Max</b>
<b>A</b>	3.30	3.70
<b>B</b>	1.10	1.40
<b>C</b>	0.38	0.55
<b>D</b>	0.36	0.51
<b>E</b>	4.40	4.70
<b>G</b>	3.43	-
<b>H</b>	4.30	4.70
<b>J</b>	1.270TYP	
<b>K</b>	2.44	2.64
<b>L</b>	14.10	14.50