

# MPSA44

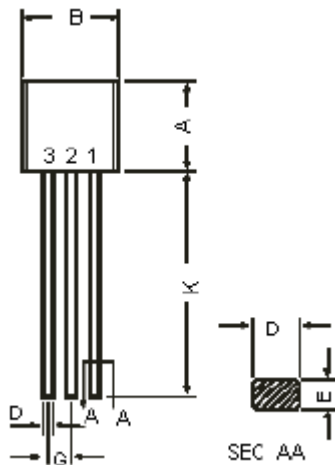
## High Voltage Transistor



### Features:

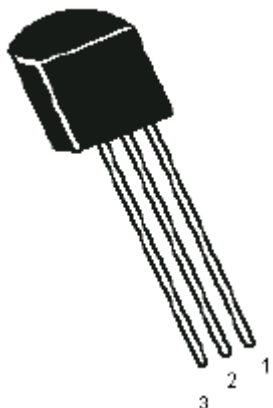
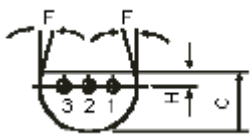
- Device with breakdown voltages of 160V minimum, for applications requiring relatively low collector current, such as lamp drivers and neon tubes.
- NPN epitaxial planar silicon transistor.
- Designed for General Purpose Applications Requiring High Breakdown Voltages, Low Saturation Voltages and Low Capacitance.

### TO-92 Plastic Package



Dimensions	Minimum	Maximum
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°	
G	1.14	1.40
H		1.53
K	12.70	-

Dimensions : Millimetres



### Pin Configuration:

1. Collector
2. Base
3. Emitter

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameters	Symbol	Value	Units
Collector-Emitter Voltage	$V_{CEO}$	400	V
Collector-Base Voltage	$V_{CBO}$	500	
Emitter-Base Voltage	$V_{EBO}$	6	
Collector Current Continuous	$I_C$	300	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ $T_c = 25^\circ\text{C}$	$P_{TA}$	625	mW
	$P_{TC}$	1.5	W
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$
<b>Thermal Resistance</b>			
Junction to Case	$R_{th(j-a)}$	83.3	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-c)}$	200	

### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameters	Symbol	Test Condition	Minimum	Units
Collector-Emitter Voltage	$V_{CEO}^*$	$I_C = 1.0\text{mA}, I_B = 0$	>400	V
	$V_{CES}$	$I_C = 100\mu\text{A}, V_{BE} = 0$	>500	
Collector-Base Voltage	$V_{CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	>500	
Emitter-Base Voltage	$V_{EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	>6.0	
Collector-Cut off Current	$I_{CBO}$	$V_{CB} = 400\text{V}, I_E = 0$	<100	nA
	$I_{CES}$	$V_{CE} = 400\text{V}, I_B = 0$	<500	
Emitter-Cut off Current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$	<100	
DC Current Gain	$h_{FE}^*$	$I_C = 1\text{mA}, V_{CE} = 10\text{V}$	>40	
		$I_C = 10\text{mA}, V_{CE} = 10\text{V}$	50-200	
		$I_C = 50\text{mA}, V_{CE} = 10\text{V}$	>45	
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 1\text{mA}, I_B = 0.1\text{mA}$	<0.4	V
		$I_C = 10\text{mA}, I_B = 1\text{mA}$	<0.5	
		$I_C = 50\text{mA}, I_B = 5\text{mA}$	<0.75	
Base Emitter Saturation Voltage	$V_{BE(sat)}^*$	$I_C = 10\text{mA}, I_B = 1\text{mA}$	<0.75	
<b>Dynamic Characteristics</b>				
Output Capacitance	$C_{ob}$	$V_{CB} = 20\text{V}, I_E = 0,$ $f = 1\text{MHz}$	<7.0	pF
Input Capacitance	$C_{ib}$	$V_{EB} = 0.5\text{V}, I_C = 0,$ $f = 1\text{MHz}$	<130	
Small Signal Current Gain	$h_{fe}$	$I_C = 10\text{mA}, V_{CE} = 10\text{V},$ $f = 10\text{MHz}$	>2.0	-

\*Pulse Test : Pulse Width = 300 $\mu\text{s}$ , Duty Cycle = 2%.

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### Specifications

$V_{CEO}$ Maximum (V)	$I_C$ (av) Maximum (A)	$h_{FE}$ Minimum at $I_C = 100mA$	$V_{CE}$ (Sat) Maximum (V) at $I_C = 50mA$	$P_{tot}$ at 25°C (mW)	Package and Pin Out	Type	Part Number
400	0.3	40	0.75	625	TO-92	NPN	MPSA44



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### Notes:

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