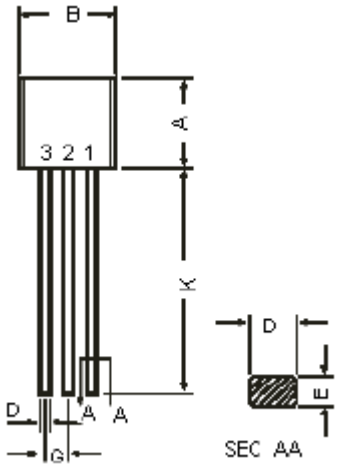
MPSA44

High Voltage Transistor

Features:

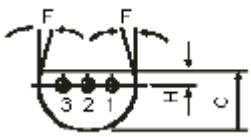
- Device with breakdown voltages of 160V minimum, for applications requiring relatively low collector current, such as lamp drivers and neon tubes.
- NPN epitaxial planar silicon transistor.
- Designed for General Purpose Applications Requiring High Breakdown Voltages, Low Saturation Voltages and Low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

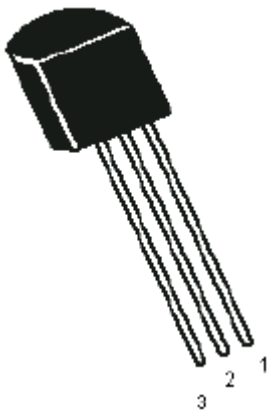
TO-92 Plastic Package



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

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Absolute Maximum Ratings (T_a = 25°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°C T_c = 25°C	P_{TA} P_{TC}	625 1.5	mW W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	°C
Thermal Resistance			
Junction to Case	$R_{th\ (j\text{-}a)}$	83.3	°C/W
Junction to Ambient	$R_{th\ (j\text{-}c)}$	200	

Electrical Characteristics (T_a = 25°C unless otherwise specified)

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

*Pulse Test : Pulse Width = 300µs, Duty Cycle = 2%.

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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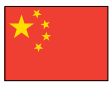

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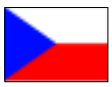

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