

MPSA06

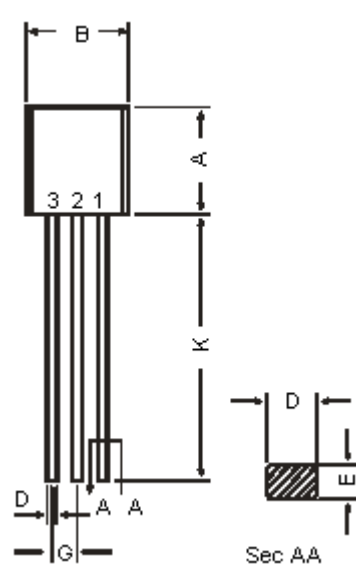
NPN Silicon Transistor



Feature:

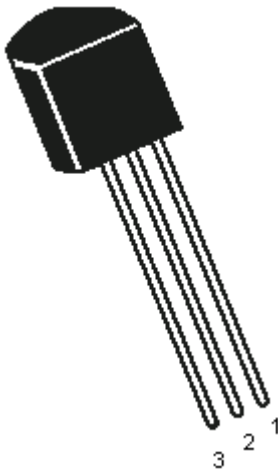
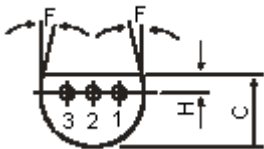
- General Purpose NPN Silicon Planar Epitaxial Amplifier Transistor.

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	1.14	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}	80	V
Collector Base Voltage	V_{CBO}		
Emitter Base Voltage	V_{EBO}		
Collector Current Continuous	I_C	500	mA
Total Device Dissipation at $T_a = 25^\circ\text{C}$ Derate Above 25°C	P_D	625 5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate Above 25°C		1.5 12	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance			
Junction to Ambient	$R_{th(j-a)}$ (1)	200	$^\circ\text{C/mW}$
Junction to Case	$R_{th(j-c)}$	83.3	

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

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

Parameters	Symbol	Test Condition	Minimum	Maximum	Units
Collector Emitter Voltage	V_{CEO}^*	$I_C = 1\text{mA}, I_B = 0$	80	-	V
Emitter-Base Voltage	V_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	4.0	-	
Collector-Cut off Current	I_{CBO}	$V_{CB} = 80\text{V}, I_E = 0$	-	0.1	μA
Collector-Cut off Current	I_{CEO}	$V_{CE} = 60\text{V}, I_B = 0$	-	0.1	
Collector-Emitter (sat) Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	-	0.25	V
Base-Emitter (on) Voltage	$V_{BE(on)}$	$I_C = 100\text{mA}, V_{CE} = 1\text{V}$	-	1.2	
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$ $V_{CE} = 1\text{V}, I_C = 100\text{mA}$	100 100	-	-
Dynamic Characteristics					
Transition Frequency	f_T^{**}	$I_C = 10\text{mA}, V_{CE} = 2\text{V}$ $f = 100\text{MHz}$	100	-	MHz

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

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

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Specifications

V_{CEO} (V)	V_{CBO} maximum (V)	I_C (A)	h_{FE} minimum at $I_C = 100mA$	P_{tot} (mW)	Package	Part Number
80	80	0.5	50	625	TO-92	MPSA06

Notes:

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