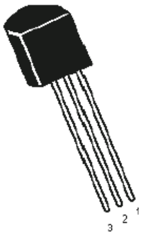
NPN Silicon Transistor



Feature:

- NPN Silicon Planar Epitaxial RF Transistor

Pin Configuration:
1. Collector
2. Base
3. Emitter

Absolute Maximum Ratings

Parameters	Symbol	Value	Units
Collector Emitter Voltage	V_{CEO}	80	V
Collector Base Voltage	V_{CBO}		
Emitter Base Voltage	V_{EBO}	4	
Collector Current Continuous	I_C	500	mA
Power Dissipation at T_a = 25°C Derate Above 25°C	P_D	625 5	mW mW/°C
Power Dissipation at T_C = 25°C Derate Above 25°C		1.5 12	W mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	°C

Thermal Resistance

Junction to Ambient	$R_{th\ (j\text{-}a)\ (1)}$	200	°C/mW
Junction to Case	$R_{th\ (j\text{-}c)}$	83.3	

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

Parameters	Symbol	Test Condition	Min.	Max.	Units
Collector Emitter Voltage	$V_{CEO}{}^*$	I_C = 1mA, I_B = 0	80	-	V
Emitter-Base Voltage	V_{EBO}	I_E = 100µA, I_C = 0	4	-	
Collector-Cut off Current	I_{CBO}	V_{CB} = 80V, I_E = 0	-	0.1	µA

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

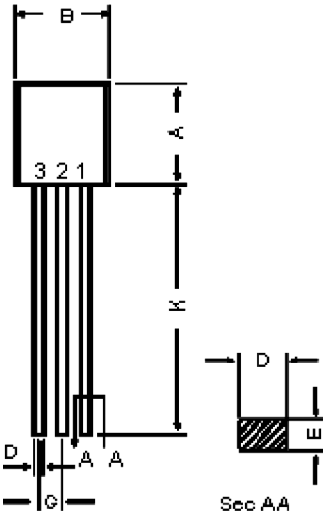
Parameters	Symbol	Test Condition	Min.	Max.	Units
Collector-Cut off Current	I_{CEO}	V_{CE} = 60V, I_B = 0	-	0.1	µA
Collector-Emitter (sat) Voltage	$V_{CE\ (sat)}$	I_C = 100mA, I_B = 10mA	-	0.25	V
Base-Emitter (on) Voltage	$V_{BE\ (on)}$	I_C = 100mA, V_{CE} = 1V	-	1.2	
DC Current Gain	h_{FE}	V_{CE} = 1V, I_C = 10mA V_{CE} = 1V, I_C = 100mA	100 100	-	-

Dynamic Characteristics

Parameters	Symbol	Test Condition	Min.	Max.	Units
Transition Frequency	f_T**	I_C = 10mA, V_{CE} = 2V f = 100MHz	100	-	MHz

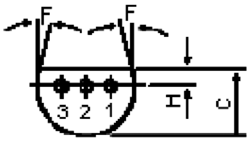
*Pulse Test : pulse width ≤300µs, duty cycle ≤2%.

** fT is defined as the frequency at which |hfe| extrapolates to unity.



Dimensions	Min.	Max.
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.41	0.55
E	0.35	0.5
F	5°	
G	1.14	1.4
H		1.53
K	12.7	-

Dimensions : Millimetres



Pin Configuration:

1. Collector
2. Base
3. Emitter

Part Number Table

Description	Part Number
Transistor, NPN, TO-92	MPSA06

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