

# Low Power Transistor

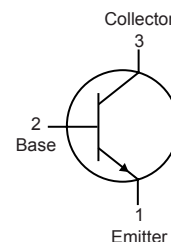


## Description:

Plastic, PNP, Silicon Power Transistor in A TO-18 PK Designed for low power audio amplifier and low current, high speed switching.

**RoHS  
Compliant**

**PNP**



## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO}$	80	V
Collector-Base Voltage	$V_{CBO}$	100	
Emitter-Base Voltage	$V_{EBO}$	7	
Continuous Collector Current	$I_C$	3	A
Total Device Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1.5 0.012	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
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### OFF Characteristics

Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	80	-	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_B=0$	-	0.1	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=7\text{V}, I_C=0$	-	0.1	

### ON Characteristics

DC Current Gain	$h_{FE}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	50	250	-
		$V_{CE}=1\text{V}, I_C=500\text{mA}$	30	-	-
		$V_{CE}=1\text{V}, I_C=1.5\text{A}$	12	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	0.3	V
		$I_C=1.5\text{A}, I_B=150\text{mA}$	-	0.9	
			-	1.7	
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5\text{A}, I_B=150\text{mA}$	-	1.5	
		$I_C=3\text{A}, I_B=600\text{mA}$	-	2	
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=500\text{mA}, V_{CE}=1\text{V}$	-	1.2	

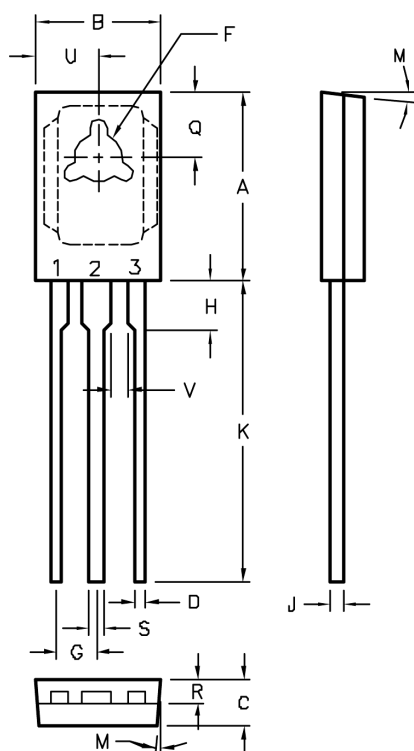
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## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
<b>Small-Signal Characteristics</b>					
Current Gain-Bandwidth Product (Note 1)	$f_T$	$V_{CE}=10\text{V}$ , $I_C=100\text{mA}$ , $f=10\text{MHz}$	50	-	MHz
Output Capacitance	$C_{obo}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=0.1\text{MHz}$	-	60	pF

Note 1.  $f_T = |h_{fe}| \cdot f_{test}$



Dimensions	Min.	Max.
A	10.8	11.05
B	7.49	7.75
C	2.41	2.67
D	0.51	0.66
F	2.92	3.18
G	2.31	2.46
H	1.27	2.41
J	0.38	0.64
K	15.11	16.64
M	3° Typical	
Q	3.76	4.01
R	1.14	1.4
S	0.64	0.89
U	3.68	3.94
V	1.02	-

Dimensions : Millimetres

### Pin Configuration:

1. Emitter
2. Base
3. Collector

### Part Number Table

Description	Part Number
Transistor, PNP, 3A, 80V, TO-126	MJE172

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