

# PNP Medium Power Transistor

multicomp<sup>PRO</sup>



## Pin Configuration

1. Emitter
2. Base
3. Collector

## Features:

- PNP Silicon Power Switching Transistors
- Medium Power Amplifier and Switching Applications

## Absolute Maximum Ratings:

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

Characteristic	Symbol	BC160-16	BC161-16	Unit
Collector Emitter Voltage	$V_{\text{CEO}}$	40	60	V
Collector Base Voltage	$V_{\text{CBO}}$			
Emitter Base Voltage	$V_{\text{EBO}}$			
Collector Current Continuous	$I_{\text{C}}$	1		A
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{\text{D}}$	0.8		W
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$		4.57		
Operating Storage Temperature Range	$T_j, T_{\text{stg}}$	-65 to +200		$^\circ\text{C}$

## Thermal Resistance

Junction to Ambient in Free Air	$R_{\text{th(j-a)}}$	219	$^\circ\text{C/W}$
Junction to Case	$R_{\text{th(j-c)}}$	44	

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Element14.com/multicomp-pro

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## Electrical Characteristics:

(T<sub>a</sub> = +25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Emitter Voltage	V <sub>CES</sub>	I <sub>C</sub> = 100μA, V <sub>BE</sub> = 0 BC160-16 BC161-16	40 60		-	V
	*V <sub>CEO</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> = 0 BC160-16 BC161-16	40 60			
Emitter Base Voltage	V <sub>EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> = 0	5		-	
Collector Cut off Current	I <sub>CES</sub>	V <sub>CE</sub> = 40V, V <sub>BE</sub> = 0, BC160-16 V <sub>CE</sub> = 60V, V <sub>BE</sub> = 0, BC161-16	-		100 100	nA
		Ta = 150°C V <sub>CE</sub> = 40V, V <sub>BE</sub> = 0, BC160-16 V <sub>CE</sub> = 60V, V <sub>BE</sub> = 0, BC161-16			100 100	μA
DC Current Gain	*h <sub>FE</sub>	I <sub>C</sub> = 100mA, V <sub>CE</sub> = 1V BC160-16/BC161-16 Group-6 Group-10 Group-16	40 40 63 100		400 100 160 250	-
		I <sub>C</sub> = 1A, V <sub>CE</sub> = 1V BC160-16/BC161-16 Group-6 Group-10 Group-16	-		26 15 20 30	
Collector Emitter Saturation Voltage	*V <sub>CE(sat)</sub>	I <sub>C</sub> = 1A, I <sub>B</sub> = 0.1A			1	V
Base Emitter on Voltage	*V <sub>BE(on)</sub>	I <sub>C</sub> = 1A, V <sub>CE</sub> = 1V			1.7	

## Dynamic Characteristics

Transition Frequency	f <sub>T</sub>	I <sub>C</sub> = 50mA, V <sub>CE</sub> = 10V, f = 20MHz	50		-	MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz	-		30	pF
Input Capacitance	C <sub>ib</sub>	V <sub>EB</sub> = 10V, I <sub>C</sub> = 0, f = 1MHz			180	

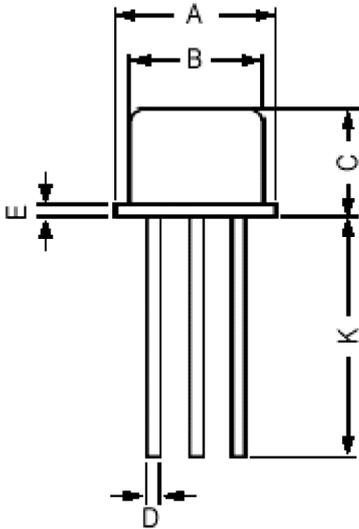
## Switching Characteristics

Turn On Time	t <sub>on</sub>	I <sub>C</sub> = 150mA, I <sub>B1</sub> = 5μA	-	-	500	ns
Turn Off Time	t <sub>off</sub>	I <sub>C</sub> = 100mA, I <sub>B1</sub> = I <sub>B2</sub> = 5μA			650	

\*Pulsed : Pulse Duration ≤300μs, Duty Cycle ≤1%

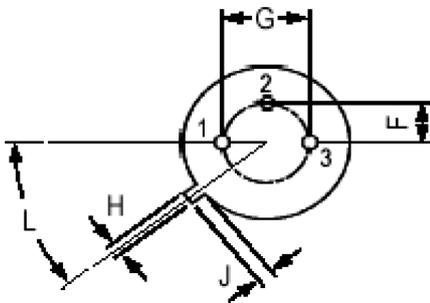
# PNP Medium Power Transistor

## TO-39 Metal Can Package



Dim.	Min.	Max.
A	8.5	9.39
B	7.74	8.5
C	6.09	6.6
D	0.4	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.7	-
L	42°	48°

Dimensions : Millimetres



### Pin Configuration

1. Emitter
2. Base
3. Collector

### Part Number Table

Description	Part Number
Transistor, PNP, TO-39	BC160-16
	BC161-16

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