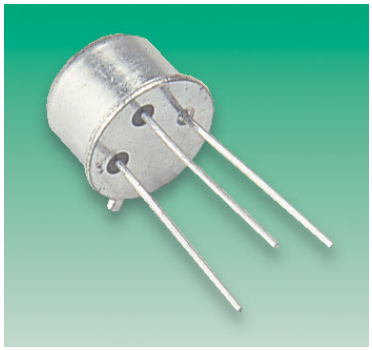
BC160, 161

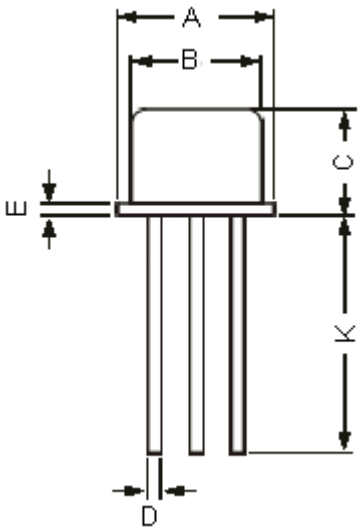
PNP Medium Power Transistors



Features:

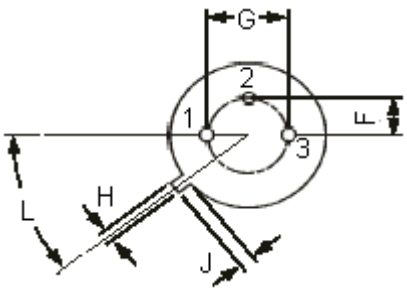
- PNP Silicon Power Switching Transistors.
- Medium Power Amplifier and Switching Applications.

TO-39 Metal Can Package



Dimension	Minimum	Maximum
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	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	12.70	-
L	42°	48°

Dimensions: Millimetres



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

Absolute Maximum Ratings

Description	Symbol	BC160	BC161	Units
Collector Emitter Voltage	V_{CEO}	40	60	V
Collector Base Voltage	V_{CBO}			
Emitter Base Voltage	V_{EBO}	5.0		
Collector Current - Continuous	I_C	1.0		A
Power Dissipation at T_a = 25ºC Derate Above 25ºC	P_D	0.8 4.57		W mW/°C
Power Dissipation at T_c = 25ºC Derate Above 25ºC		4.0 22.73		
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		°C

Thermal Characteristics

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

Electrical Characteristics (T_a = 25ºC unless specified otherwise)

Description	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Collector Emitter Voltage	V_{CES}	I_C = 100µA, V_{BE} = 0 BC160 BC161	 40 60	-	-	V
Collector Emitter Voltage	*V_{CEO}	I_C = 10mA, I_B = 0 BC160 BC161	 40 60	-	-	
Emitter Base Voltage	V_{EBO}	I_E = 100µA, I_C = 0	5	-	-	
Collector Cut off Current	I_{CES}	V_{CE} = 40V, V_{BE} = 0, BC160 V_{CE} = 60V, V_{BE} = 0, BC161 T_a = 150ºC V_{CE} = 40V, V_{BE} = 0, BC160 V_{CE} = 60V, V_{BE} = 0, BC161	-	-	100 100 100 100	nA µA
DC Current Gain	*h_{FE}	I_C = 100mA, V_{CE} = 1V BC160/BC161 Group-6 Group-10 Group-16 I_C = 1A, V_{CE} = 1V BC160/BC161 Group-6 Group-10 Group-16	 40 40 63 100	 26 15 20 30	 400 100 160 250	-
Collector Emitter Saturation Voltage	*$V_{CE(sat)}$	I_C = 1A, I_B = 0.1A	-	-	1.0	V
Base Emitter on Voltage	*$V_{BE(on)}$	I_C = 1A, V_{CE} = 1V	-	-	1.7	
Dynamic Characteristics						
Transition Frequency	f_T	I_C = 50mA, V_{CE} = 10V, f = 20MHz	50	-	-	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	-	30	pF
Input Capacitance	C_{ib}	V_{EB} = 10V, I_C = 0, f = 1MHz	-	-	180	
Switching Characteristics						
Turn On Time	t_{on}	I_C = 150mA, I_{B1} = 5µA	-	-	500	ns
Turn Off Time	t_{off}	I_C = 100mA, I_{B1} = I_{B2} = 5µA	-	-	650	

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

Specifications

Package	Part Number
TO-39	BC160-6
	BC160-10
	BC160-16
	BC161-6
	BC161-10
	BC161-16

Notes:

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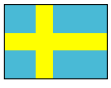

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