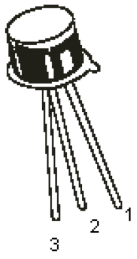
Low Power Bipolar Transistors
BC177 Series

multicomp PRO

General Purpose Amplifier / Switches

RoHS Compliant



Pin Configuration
1. Emitter
2. Base
3. Collector

Feature

- PNP silicon planar epitaxial transistors

Absolute Maximum Ratings

Description	Symbol	Values	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
	V_{CES}	50	
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}	5	
Collector Current Continuous	Ic	0.2	A
Power Dissipation at T_A = 25°C Derate Above 25°C	P_D	0.6 2.28	W mW / °C
Power Dissipation at Tc = 25°C Derate Above 25°C		1 6.67	
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +200	°C
Thermal Resistance			
Junction to Case	$R_{th\ (j-c)}$	175	°C / W

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

Description	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Cut Off Current	I_{CES}	V_{CE} = 20V, I_E = 0 Tamb = 125°C V_{CE} = 20V, I_E = 0	-	-	100 4	nA µA
Collector-Base Voltage	V_{CBO}	I_E = 10µA, I_E = 0	50	-	-	V
Collector-Emitter Voltage	V_{CEO}	I_C = 2mA, I_B = 0	45	-	-	
Emitter-Base Voltage	I_{EBO}	I_E = 10µA, I_C = 0	5	-	-	
DC Current	h_{FE}	I_C = 2mA, V_{CE} = 5V BC177 B Group	120 180	-	460 460	-
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5mA	-	-	0.2 0.6	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$		-	- 0.9	0.8 -	
Base Emitter on Voltage	$V_{BE\ (on)}$	I_C = 2mA, V_{CE} = 5V	0.6	-	0.75	

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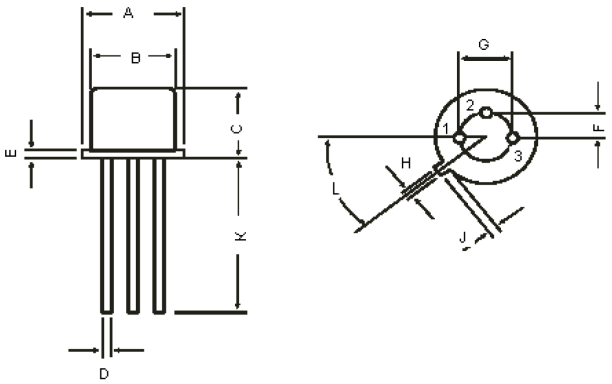
Description	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Knee Voltage	$V_{CE\ (K)}$	I_C = 10mA, I_B = The Value for which I_C = 11mA at V_{CE} = 1V	-	-	0.6	V
Transition Frequency	f_t	V_{CE} = 5V, I_C = 10mA f = 50MHz	200	-	-	MHz
Noise Figure	nF	V_{CE} = 5V, I_C = 0.2mA Rg = 2kΩ F = 1kHz, B = 200Hz	-	-	10	dB
Output Capacitance	Cobo	V_{CB} = 10V, f = 1MHz	-	-	4	pF
Small Signal Current Gain	h_{fe}	All f = 1kHz I_C = 2mA, V_{CE} = 5V BC177 B Group	125 240	-	500 500	-
Input Impedance	h_{ie}	I_C = 2mA, V_{CE} = 5V B Group	3.2	-	8.5	kΩ
Output Admittance	hoe	I_C = 2mA, V_{CE} = 5V B Group	-	-	60	μΩ

TO-18 Metal Can Package



Dim.	Min.	Max.
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.4	0.53
E	-	0.76

Dim.	Min.	Max.
F	-	1.27
G	-	2.97
H	0.91	1.17
J	0.71	1.21
K	12.7	-
L	45°	

Part Number Table

Description	Part Number
Low Power Bipolar Transistor, PNP, 45V, 200MHz, 600mW, 200mA, 120hFE	BC177
Low Power Bipolar Transistor, PNP, 45V, 200MHz, 600mW, 200mA, 180hFE	BC177B