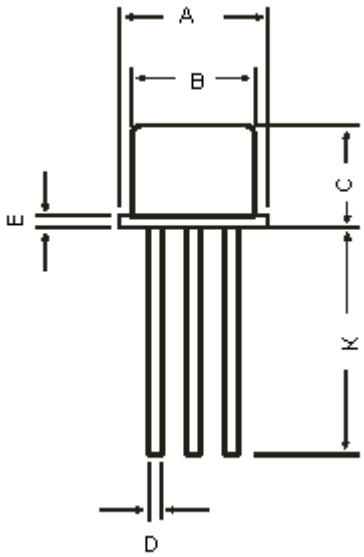
BC177/BC177B Series

Low Power Bipolar Transistors

Feature:

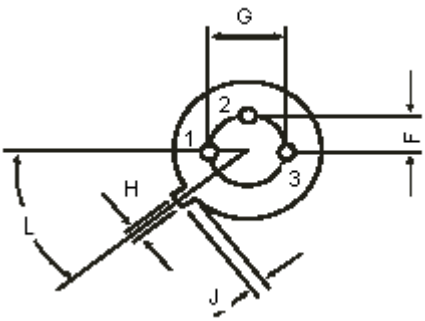
- PNP Silicon Planar Epitaxial Transistors.

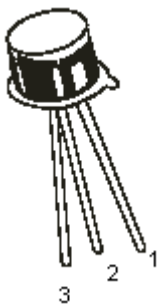
TO-18 Metal Can Package



Dimensions	Minimum	Maximum
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	-	0.76
F	-	1.27
G	-	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	-
L	45°	

Dimensions : Millimetres





Pin Configuration:

1. Emitter
2. Base
3. Collector

Absolute Maximum Ratings

Description	Symbol	BC177	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
	V_{CES}	50	
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}	5.0	
Collector Current Continuous	I_C	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 T_C = 25°C Derate above 25°C		1.0 6.67	
Operating and Storage Junction Temperature Range	T_J, Tstg	-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	Minimum	Typical	Maximum	Unit
Collector-Cut off Current	I_{CES}	V_{CE} = 20V, I_E = 0 T_{amb} = 125°C V_{CE} = 20V, I_E = 0	-	-	100 4.0	nA µA
Collector-Base Voltage	V_{CBO}	I_C = 10µA, I_E = 0	50	-	-	V
Collector-Emitter Voltage	V_{CEO}	I_C = 2mA, I_B = 0	45	-		V
Emitter-Base Voltage	V_{EBO}	I_E = 10µA, I_C = 0	5.0	-	-	V
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	-	-	0.20 0.60	V
Base Emitter Saturation Voltage	$V_{BE\ (Sat)}$		-	- 0.90	0.80 -	
Base Emitter On Voltage	$V_{BE\ (on)}$	I_C = 2mA, V_{CE} = 5V	0.60	-	0.75	

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

Description	Symbol	Test Condition	Minimum	Maximum	Unit
Collector Knee Voltage	$V_{CE\ (K)}$	I_C = 10mA, I_B = The value for which I_C = 11mA at V_{CE} = 1V	-	0.60	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 R_g = 2kΩ F = 1kHz,B = 200Hz	-	10	dB
Output Capacitance	C_{obo}	V_{CB} = 10V, f = 1MHz	-	4.0	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	h_{oe}	I_C = 2mA, V_{CE} = 5V **B Group**	-	60	umohs

Specifications

V_{CEO} (V)	V_{CBO} maximum (V)	I_C (A)	h_{FE} minimum at I_C = 2mA	f_T minimum (V)	P_{tot} (mW)	Type	Package	Part Number
45	50	0.2	120	200	600	PNP	TO-18	BC177
			180					BC177B

Notes:

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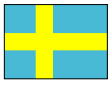

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