

Low Power Bipolar Transistor

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Features:

- PNP Silicon Planar Epitaxial Transistors
- General Purpose Audio Amplifier

Absolute Maximum Ratings:

Description	Symbol	BC477	Unit
Collector-Emitter Voltage	V_{CES}	90	V
	V_{CEO}	80	
Emitter-Base Voltage	V_{EBO}	6	
Collector Current	I_C	150	mA
Power Dissipation at $T_a = 25^\circ\text{C}$	P_{tot}	0.3	W
Power Dissipation at $T_C = 25^\circ\text{C}$	P_{tot}	1.2	
Junction Temperature	T_J	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 $^\circ\text{C}$ to +200	

Thermal Resistance

Junction to Case	$R_{th(j-c)}$	146	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-a)}$	485	

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Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typical	Max.	Unit	
Collector Cut off Current	I_{CES}	$V_{CE} = 70V, V_{BE} = 0$ $T_a = 125^{\circ}C$	-	-	10	nA	
		$V_{CE} = 70V, V_{BE} = 0$				μA	
Emitter Cut off Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	10		nA		
Collector-Emitter Voltage	V_{CES}	$I_C = 10\mu A, V_{BE} = 0$	90		-	-	V
	V_{CEO}	$I_C = 5mA, I = 0$	80				
Emitter-Base Voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6				
Collector Emitter Saturation Voltage	$V_{CE(Sat)}^*$	$I_C = 10mA, I_B = 0.5mA$	-			0.25	
		$I_C = 100mA, I_B = 5mA$				0.3	
Base Emitter On Voltage	$V_{BE(on)}^*$	$I_C = 2mA, V_{CE} = 5V$	0.55	-		0.75	
Base Emitter Saturation Voltage	$V_{BE(Sat)}^*$	$I_C = 10mA, I_B = 0.5mA$	-			0.9	
		$I_C = 100mA, I_B = 5mA$		0.9		-	
DC Current	h_{FE}^*	$I_C = 10\mu A, V_{CE} = 5V$	30	-	-	-	
		$I_C = 2mA, V_{CE} = 5V$	110		250		
		$I_C = 10mA, V_{CE} = 5V$	-	160	-		
Small Signal Current Gain	h_{fe}	$I_C = 2mA, V_{CE} = 5V,$ $f = 1kHz$	125	-	260		
		$I_C = 10mA, V_{CE} = 5V,$ $f = 20MHz$	-	7.5	-		

Dynamic Characteristics

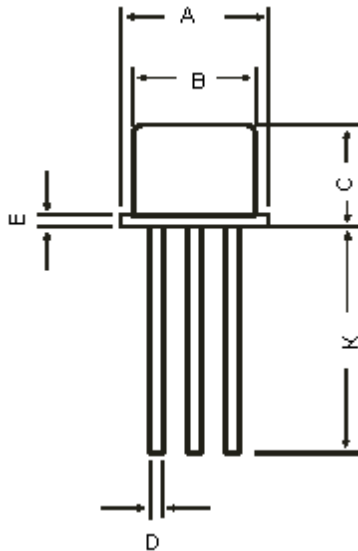
Collector Base Capacitance	C_{cbo}	$I_E = 0, V_{CB} = 5\text{V}$	-	-	6	pF
Emitter Base Capacitance	C_{ebo}	$I_C = 0, V_{EB} = 0.5\text{V}$			15	pF
Noise Figure	NF	$V_{CE} = 5\text{V}, I_C = 200\mu\text{A}$ $R_g = 2\text{k}\Omega, f = 1\text{kHz}$ $B = 200\text{Hz}$			10	dB

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

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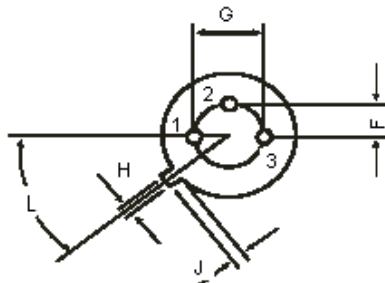
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TO-18 Metal Can Package



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

Dimensions : Millimetres



1. Emitter
2. Base
3. Collector

Part Number Table

Description	Part Number
Transistor, PNP, TO-18	BC477

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