Low Power Bipolar Transistor

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°C Power Dissipation at T_C = 25°C	P_{tot} P_{tot}	0.3 1.2	W
Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{stg}	-55°C to +200	

Thermal Resistance

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

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

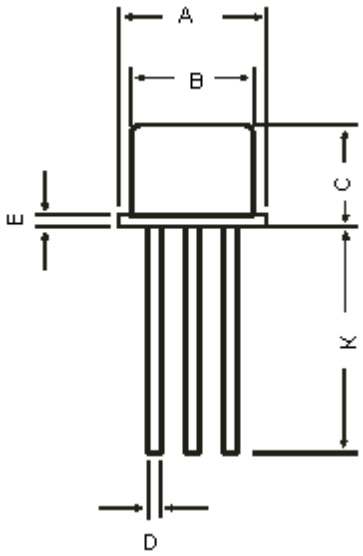
Parameter	Symbol	Test Condition	Min.	Typical	Max.	Unit
Collector Cut off Current	I_{CES}	V_{CE} = 70V, V_{BE} = 0 Ta = 125°C	-	-	10	nA
		V_{CE} = 70V, V_{BE} = 0				µA
Emitter Cut off Current	I_{EBO}	V_{EB} = 4V, I_C = 0			10	nA
Collector-Emitter Voltage	V_{CES}	I_C = 10µA, V_{BE} = 0	90		-	V
	V_{CEO}	I_C = 5mA, I = 0	80			
Emitter-Base Voltage	V_{EBO}	I_E = 10µA, 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 = 10µA, 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	Ccbo	I_E = 0, V_{CB} = 5V	-	-	6	pF
Emitter Base Capacitance	Cebo	I_C = 0, V_{EB} = 0.5V			15	pF
Noise Figure	NF	V_{CE} = 5V, I_C = 200µA Rg = 2kΩ, f = 1kHz B = 200Hz			10	dB

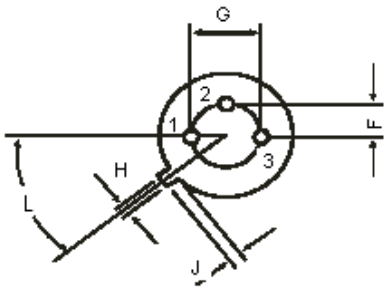
*Pulsed: Pulse Duration = 300µs, Duty Cycle = 1%

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