

BC177  
BC177A  
BC177B

**SILICON  
PNP TRANSISTORS**



**TO-18 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BC177, BC177A, and BC177B are silicon PNP transistors designed for general purpose amplifier applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Continuous Collector Current	
Peak Collector Current	
Peak Base Current	
Power Dissipation	
Operating and Storage Junction Temperature	
Thermal Resistance	

SYMBOL		UNITS
$V_{CBO}$	50	V
$V_{CEO}$	45	V
$V_{EBO}$	5.0	V
$I_C$	100	mA
$I_{CM}$	200	mA
$I_{BM}$	200	mA
$P_D$	300	mW
$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$
$\theta_{JA}$	583.3	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=20\text{V}$		1.0	15	nA
$I_{CBO}$	$V_{CB}=20\text{V}, T_A=150^\circ\text{C}$			10	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$			50	nA
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		75	300	mV
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		250		mV
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		730		mV
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		850		mV
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	600	650	750	mV
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC177)	125		500	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC177A)	125		260	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC177B)	240		500	
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100			MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		4.0	6.0	pF
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, f=1.0\text{kHz}, R_S=2.0\text{k}\Omega, B=200\text{Hz}$			10	dB

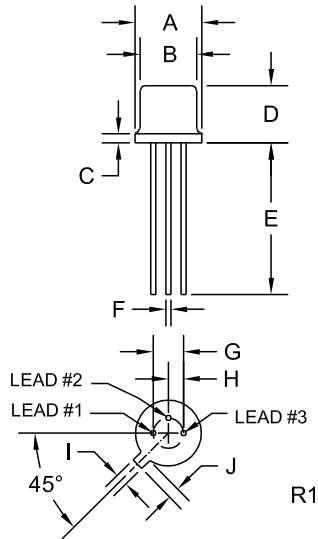
R0 (26-January 2016)

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TO-18 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

R0 (26-January 2016)