

BC182, BC182B

Amplifier Transistors

NPN Silicon

Features

- These are Pb-Free Devices*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector – Emitter Voltage	V_{CEO}	50	Vdc
Collector – Base Voltage	V_{CBO}	60	Vdc
Emitter – Base Voltage	V_{EBO}	6.0	Vdc
Collector Current – Continuous	I_C	100	mA dc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	350 2.8	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	125	$^\circ\text{C/W}$

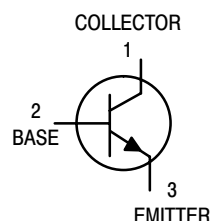
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

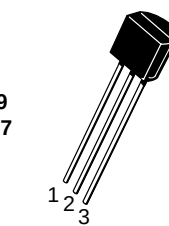


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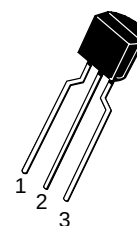
<http://onsemi.com>



TO-92
CASE 29
STYLE 17

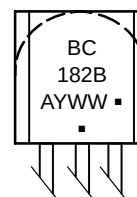


STRAIGHT LEAD
BULK PACK



BENT LEAD
TAPE & REEL
AMMO PACK

MARKING DIAGRAM



A = Assembly Location
Y = Year
WW = Work Week
■ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BC182G	TO-92 (Pb-Free)	5000 Units / Bulk
BC182BG	TO-92 (Pb-Free)	5000 Units / Bulk
BC182BRL1G	TO-92 (Pb-Free)	2000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

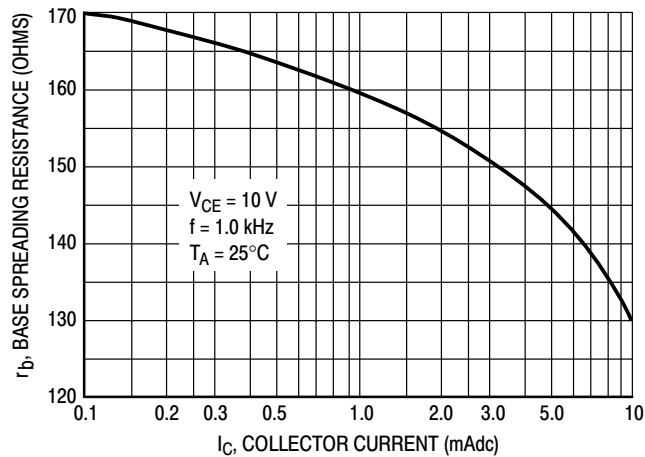
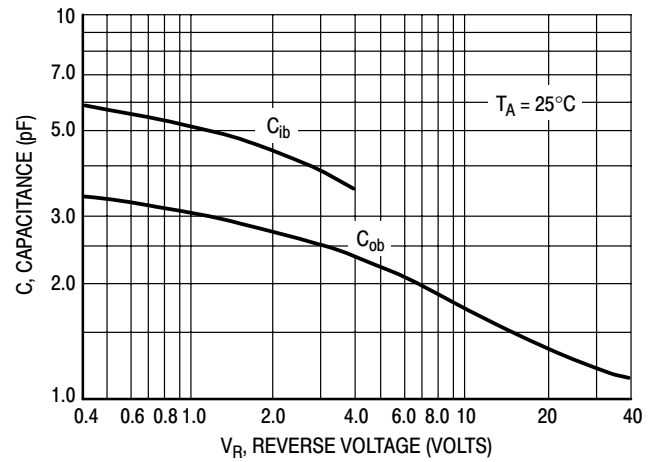
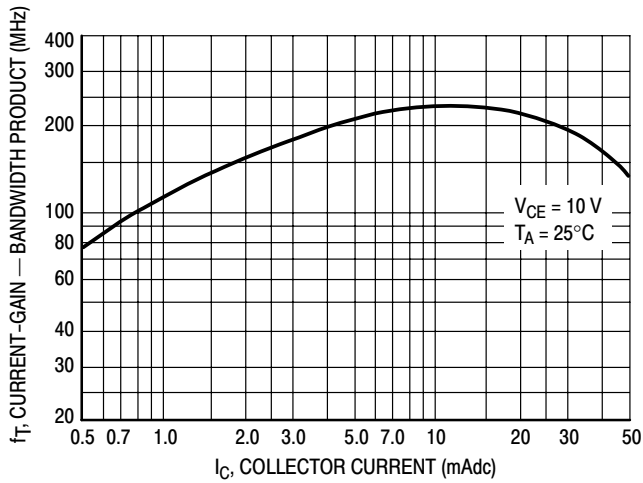
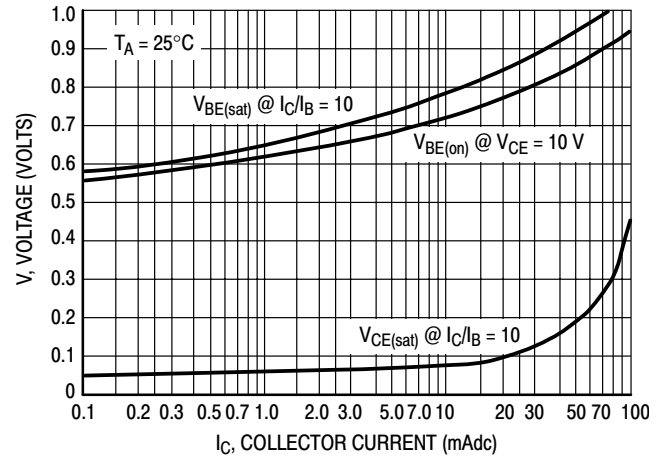
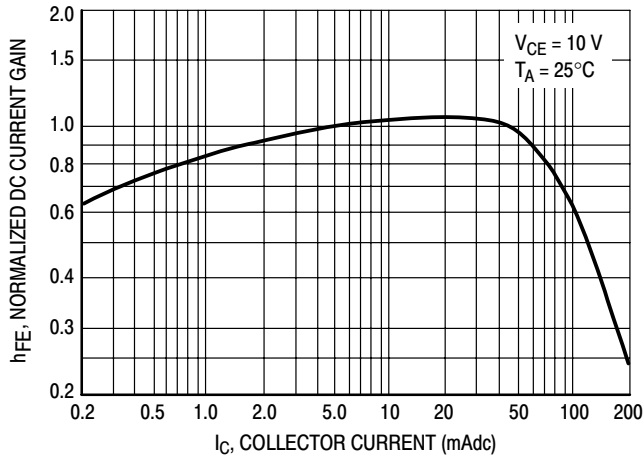
BC182, BC182B

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I _C = 2.0 mA, I _B = 0)	V _{(BR)CEO}	50	–	–	V
Collector–Base Breakdown Voltage (I _C = 10 µA, I _E = 0)	V _{(BR)CBO}	60	–	–	V
Emitter–Base Breakdown Voltage (I _E = 100 µA, I _C = 0)	V _{(BR)EBO}	6.0	–	–	V
Collector Cutoff Current (V _{CB} = 50 V, V _{BE} = 0)	I _{CBO}	–	0.2	15	nA
Emitter–Base Leakage Current (V _{EB} = 4.0 V, I _C = 0)	I _{EBO}	–	–	15	nA
ON CHARACTERISTICS					
DC Current Gain (I _C = 10 µA, V _{CE} = 5.0 V) (I _C = 2.0 mA, V _{CE} = 5.0 V) (I _C = 100 mA, V _{CE} = 5.0 V)	BC182 BC182 BC182B BC182	h _{FE} 40 120 180 80	– – – –	– 500 500 –	–
Collector–Emitter On Voltage (I _C = 10 mA, I _B = 0.5 mA) (I _C = 100 mA, I _B = 5.0 mA) (Note 1)	V _{CE(sat)}	– –	0.07 0.2	0.25 0.6	V
Base–Emitter Saturation Voltage (I _C = 100 mA, I _B = 5.0 mA) (Note 1)	V _{BE(sat)}	–	–	1.2	V
Base–Emitter On Voltage (I _C = 100 µA, V _{CE} = 5.0 V) (I _C = 2.0 mA, V _{CE} = 5.0 V) (I _C = 100 mA, V _{CE} = 5.0 V) (Note 1)	V _{BE(on)}	– 0.55 –	0.5 0.62 0.83	– 0.7 –	V
DYNAMIC CHARACTERISTICS					
Current–Gain — Bandwidth Product (I _C = 0.5 mA, V _{CE} = 3.0 V, f = 100 MHz) (I _C = 10 mA, V _{CE} = 5.0 V, f = 100 MHz)	f _T	– 150	100 200	– –	MHz
Common Base Output Capacitance (V _{CB} = 10 V, I _C = 0, f = 1.0 MHz)	C _{ob}	–	–	5.0	pF
Common Base Input Capacitance (V _{EB} = 0.5 V, I _C = 0, f = 1.0 MHz)	C _{ib}	–	8.0	–	pF
Small–Signal Current Gain (I _C = 2.0 mA, V _{CE} = 5.0 V, f = 1.0 kHz) BC182 BC182B	h _{fe}	125 240	– –	500 500	–
Noise Figure (I _C = 0.2 mA, V _{CE} = 5.0 V, R _S = 2.0 kΩ, f = 1.0 kHz)	NF	–	2.0	10	dB

1. Pulse Test: T_p 300 s, Duty Cycle 2.0%.

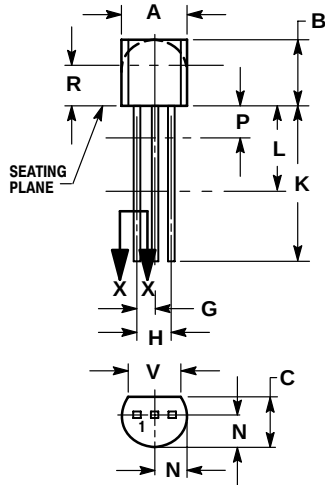
BC182, BC182B



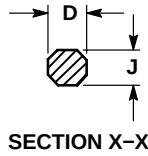
BC182, BC182B

PACKAGE DIMENSIONS

TO-92 (TO-226)
CASE 29-11
ISSUE AM



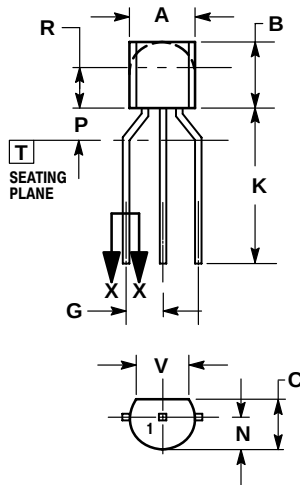
STRAIGHT LEAD
BULK PACK



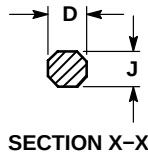
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---



BENT LEAD
TAPE & REEL
AMMO PACK



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	MILLIMETERS	
	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---

STYLE 17:

1. COLLECTOR
2. BASE
3. EMITTER

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