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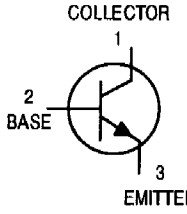
BC182, BC182B

Amplifier Transistors

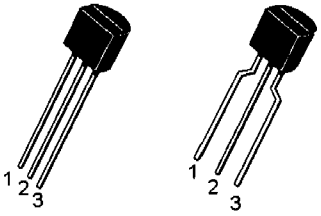
NPN Silicon



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	mAdc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	350 2.8	mW mW/°C
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.0 8.0	W mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−55 to +150	°C

TO–92



STRAIGHT LEAD
BULK PACK

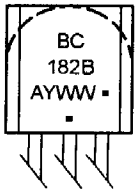
BENT LEAD
TAPE & REEL
AMMO PACK

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction–to–Ambient	$R_{\theta JA}$	357	°C/W
Thermal Resistance, Junction–to–Case	$R_{\theta JC}$	125	°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.

MARKING DIAGRAM



A = Assembly Location
Y = Year
WW = Work Week

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		h_{FE}				–
(I_C = 10 μA, V_{CE} = 5.0 V)	BC182		40	–	–	
(I_C = 2.0 mA, V_{CE} = 5.0 V)	BC182		120	–	500	
	BC182B		180	–	500	
(I_C = 100 mA, V_{CE} = 5.0 V)	BC182		80	–	–	
Collector−Emitter On Voltage		$V_{CE(sat)}$				V
(I_C = 10 mA, I_B = 0.5 mA)			–	0.07	0.25	
(I_C = 100 mA, I_B = 5.0 mA) (Note 1)			–	0.2	0.6	
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		$V_{BE(on)}$				V
(I_C = 100 μA, V_{CE} = 5.0 V)			–	0.5	–	
(I_C = 2.0 mA, V_{CE} = 5.0 V)			0.55	0.62	0.7	
(I_C = 100 mA, V_{CE} = 5.0 V) (Note 1)			–	0.83	–	
DYNAMIC CHARACTERISTICS						
Current−Gain — Bandwidth Product		f_T				MHz
(I_C = 0.5 mA, V_{CE} = 3.0 V, f = 100 MHz)			–	100	–	
(I_C = 10 mA, V_{CE} = 5.0 V, f = 100 MHz)			150	200	–	
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		h_{fe}				–
(I_C = 2.0 mA, V_{CE} = 5.0 V, f = 1.0 kHz)	BC182		125	–	500	
	BC182B		240	–	500	
Noise Figure		NF				dB
(I_C = 0.2 mA, V_{CE} = 5.0 V, R_S = 2.0 kΩ, f = 1.0 kHz)			–	2.0	10	

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