

BC182, BC182B

Amplifier Transistors

NPN Silicon

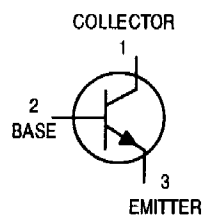
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	50	Vdc
Collector-Base Voltage	V_{CB0}	60	Vdc
Emitter-Base Voltage	V_{EB0}	6.0	Vdc
Collector Current - Continuous	I_C	100	mAdc
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	$^\circ\text{C}$

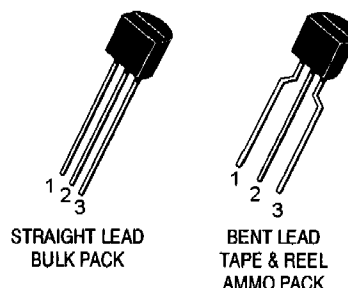
THERMAL CHARACTERISTICS

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	$^\circ\text{C/W}$

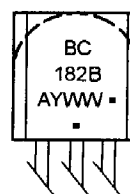
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



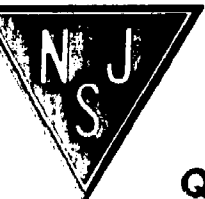
TO-92



MARKING DIAGRAM



A = Assembly Location
Y = Year
WW = Work Week



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Quality Semi-Conductors

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)	h _{FE}	40	-	-	-
(I _C = 2.0 mA, V _{CE} = 5.0 V)		120	-	500	
(I _C = 100 mA, V _{CE} = 5.0 V)		180	-	500	
		80	-	-	
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)}	-	0.5 0.62 0.83	-	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	-	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)	h _{fe}	125	-	500	-
		240	-	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%.