

BC237B

Amplifier Transistors

NPN Silicon

Features

- Pb-Free Packages are Available*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	Vdc
Collector-Emitter Voltage	V_{CES}	50	Vdc
Collector-Emitter Voltage	V_{EBO}	6.0	Vdc
Collector Current - Continuous	I_C	100	mA dc
Total Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $T_A = 25^\circ\text{C}$	P_D	350 2.8	mW mW/ $^\circ\text{C}$
Total Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $T_A = 25^\circ\text{C}$	P_D	1.0 8.0	W mW/ $^\circ\text{C}$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

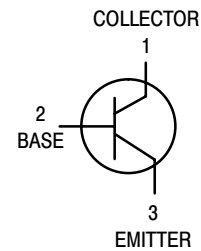
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	125	$^\circ\text{C/W}$

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.

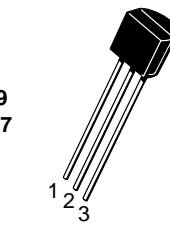


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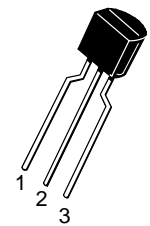
<http://onsemi.com>



TO-92
CASE 29
STYLE 17

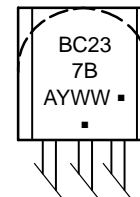


STRAIGHT LEAD
BULK PACK



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†
BC237B	TO-92	5000 Units / Bulk
BC237BG	TO-92 (Pb-Free)	5000 Units / Bulk
BC237BRL1G	TO-92 (Pb-Free)	2000 / Tape & Reel

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

†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.

BC237B

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}	45	–	–	V
Emitter–Base Breakdown Voltage (I _E = 100 μA, I _C = 0)	V _{(BR)EBO}	6.0	–	–	V
Collector Cutoff Current (V _{CE} = 50 V, V _{BE} = 0) (V _{CE} = 50 V, V _{BE} = 0) T _A = 125°C	I _{CES}	– –	0.2 0.2	15 4.0	nA μA
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)	h _{FE}	– 200 –	150 290 180	– 460 –	–
Collector–Emitter On Voltage (I _C = 10 mA, I _B = 0.5 mA) (I _C = 100 mA, I _B = 5.0 mA)	V _{CE(sat)}	– –	0.07 0.2	0.2 0.6	V
Base–Emitter Saturation Voltage (I _C = 10 mA, I _B = 0.5 mA) (I _C = 100 mA, I _B = 5.0 mA)	V _{BE(sat)}	– –	0.6 –	0.83 1.05	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)	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
Collector–Base Capacitance (V _{CB} = 10 V, I _C = 0, f = 1.0 MHz)	C _{obo}	–	–	4.5	pF
Emitter–Base Capacitance (V _{EB} = 0.5 V, I _C = 0, f = 1.0 MHz)	C _{ibo}	–	8.0	–	pF
Noise Figure (I _C = 0.2 mA, V _{CE} = 5.0 V, R _S = 2.0 kΩ, f = 1.0 kHz, Δf = 200 Hz)	NF	–	2.0	10	dB