

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-6	V
Continuous Collector Current	I _C	-500	mA
Peak Collector Current	I _{CM}	-1.0	A
Peak Base Current	I _{BM}	-200	mA

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

ESD Ratings (Note 6)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Emitter Breakdown Voltage (Note 7)	BV _{CEO}	-45	—	—	V	I _C = -10mA
Emitter-Base Breakdown Voltage	BV _{EBO}	-6	—	—	V	I _C = -100μA
Collector-Emitter Cutoff Current	I _{CES}	—	—	-100 -5.0	nA μA	V _{CE} = -45V V _{CE} = -25V, T _J = +150°C
Collector	I _{CBO}	—	—	-100 -5.0	nA μA	V _{CB} = -20V V _{CB} = -20V, T _J = +150°C
Emitter-Base Cutoff Current	I _{EBO}	—	—	-100	nA	V _{EB} = -5V
DC Current Gain (Note 7)	h _{FE}	BC807-16W-7	100	250	—	I _C = -100mA, V _{CE} = -1.0V
		BC807-25W-7	160	400		
		BC807-40W-7	250	600		
		BC807-16W-7	60	—		I _C = -300mA, V _{CE} = -1.0V
		BC807-25W-7	100	—		
		BC807-40W-7	170	—		
Collector-Emitter Saturation Voltage (Note 7)	V _{CE(sat)}	—	—	-700	mV	I _C = -500mA, I _B = -50mA
Base-Emitter Voltage (Note 7)	V _{BE}	—	—	-1200	mV	I _C = -300mA, V _{CE} = -1.0V
Gain Bandwidth Product	f _T	100	—	—	MHz	V _{CE} = -5.0V, I _C = -10mA, f = 50MHz
Collector-Base Capacitance	C _{CBO}	—	—	12	pF	V _{CB} = -10V, f = 1.0MHz

- Notes:
5. For a device mounted on minimum recommended pad layout 1oz copper that is on a single-sided FR4 PCB; device is measured under still air conditions whilst operating in a steady-state.
 6. Refer to JEDEC specification JESD22-A114 and JESD22-A115.
 7. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

Typical Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

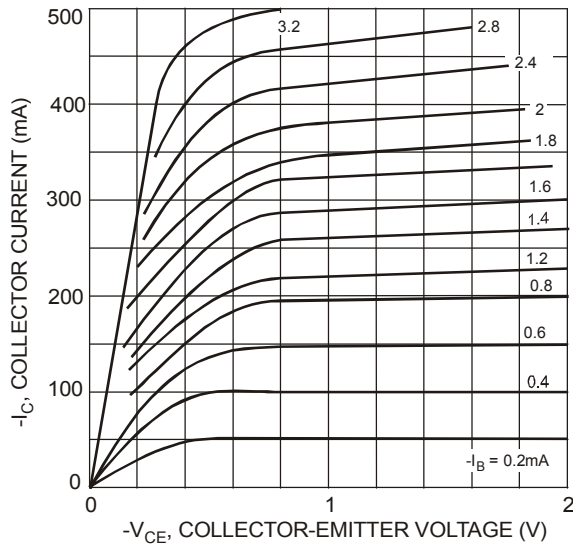


Figure 1 Typical Collector Current vs. Collector-Emitter Voltage

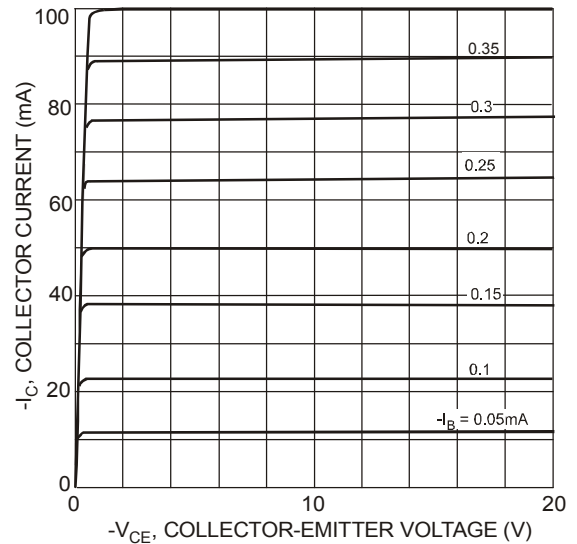


Figure 2 Typical Collector Current vs. Collector-Emitter Voltage

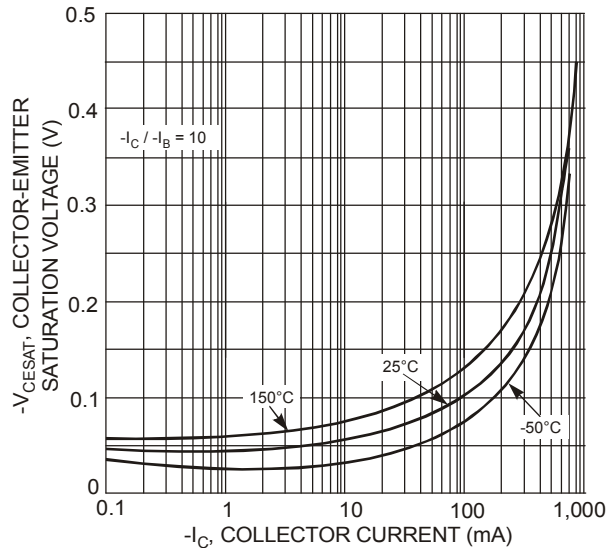


Figure 3 Typical Collector-Emitter Saturation Voltage vs. Collector Current

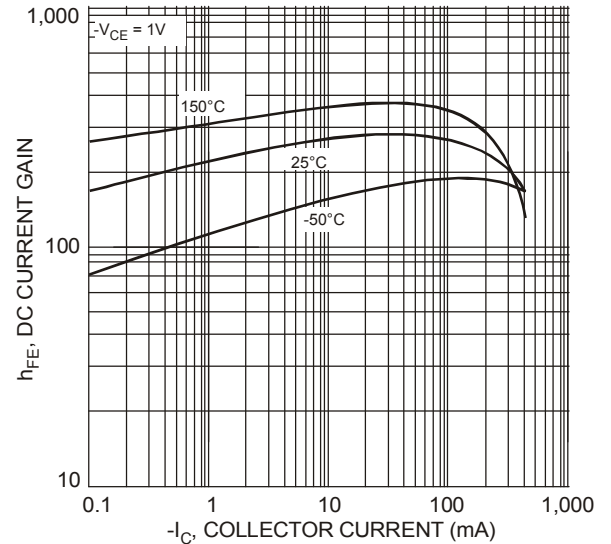


Figure 4 Typical DC Current Gain vs. Collector Current

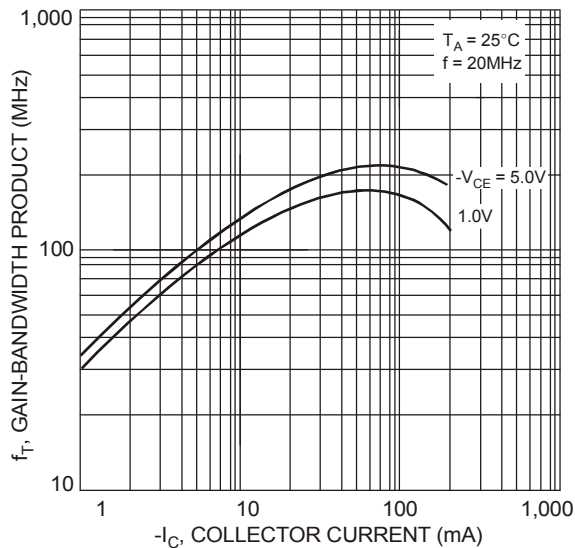
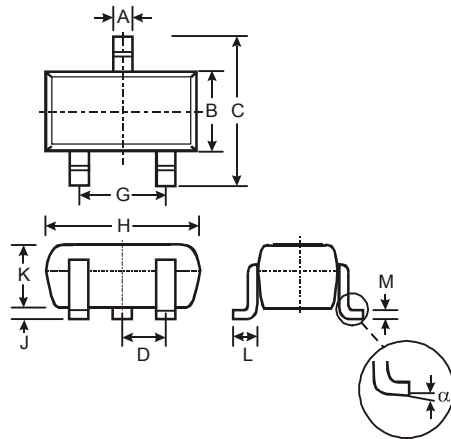


Figure 5 Typical Gain-Bandwidth Product vs. Collector Current

Package Outline Dimensions

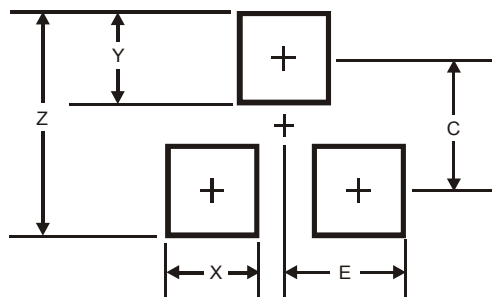
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



SOT323			
Dim	Min	Max	Typ
A	0.25	0.40	0.30
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	-	-	0.65
G	1.20	1.40	1.30
H	1.80	2.20	2.15
J	0.0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
Z	2.8
X	0.7
Y	0.9
C	1.9
E	1.0

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