

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}	-5.0	V
Collector Current	I _C	-100	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P _D	150	mW
Thermal Resistance, Junction to Ambient (Note 6)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 7)	V _{(BR)CBO}	-50	—	—	V	I _C = 10μA, I _B = 0
Collector-Emitter Breakdown Voltage (Note 7)	V _{(BR)CEO}	-45	—	—	V	I _C = 10mA, I _B = 0
Emitter-Base Breakdown Voltage (Note 7)	V _{(BR)EBO}	-5	—	—	V	I _E = 1μA, I _C = 0
DC Current Gain (Note 7)	h _{FE}	220	290	475	—	V _{CE} = -5.0V, I _C = -2.0mA
Collector-Emitter Saturation Voltage (Note 7)	V _{CE(SAT)}	—	—	-100 -400	mV	I _C = -10mA, I _B = -0.5mA I _C = -100mA, I _B = -5.0mA
Base-Emitter Saturation Voltage (Note 7)	V _{BE(SAT)}	—	-700 -900	—	mV	I _C = -10mA, I _B = -0.5mA I _C = -100mA, I _B = -5.0mA
Base-Emitter Voltage (Note 7)	V _{BE(ON)}	-600 —	— —	-750 -820	mV	V _{CE} = -5.0V, I _C = -2.0mA V _{CE} = -5.0V, I _C = -10mA
Collector Cut-Off Current (Note 7)	I _{CBO}	— —	— —	-15 -4.0	nA μA	V _{CB} = -30V V _{CB} = -30V, T _A = +150°C
Gain Bandwidth Product	f _T	100	—	—	MHz	V _{CE} = -5.0V, I _C = -10mA, f = 100MHz
Output Capacitance	C _{OB}	—	—	4.5	pF	V _{CB} = -10V, f = 1.0MHz
Noise Figure	NF	—	—	10	dB	I _C = -0.2mA, V _{CE} = -5.0Vdc, R _S = 2.0KΩ, f = 1.0KHz, BW = 200Hz

- Notes: 6. Device mounted on FR-4 PCB, 1-inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
7. Short duration pulse test used to minimize self-heating effect.

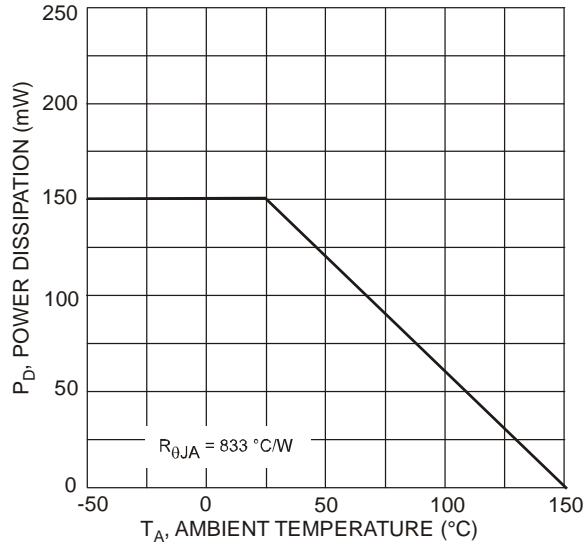


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 2)

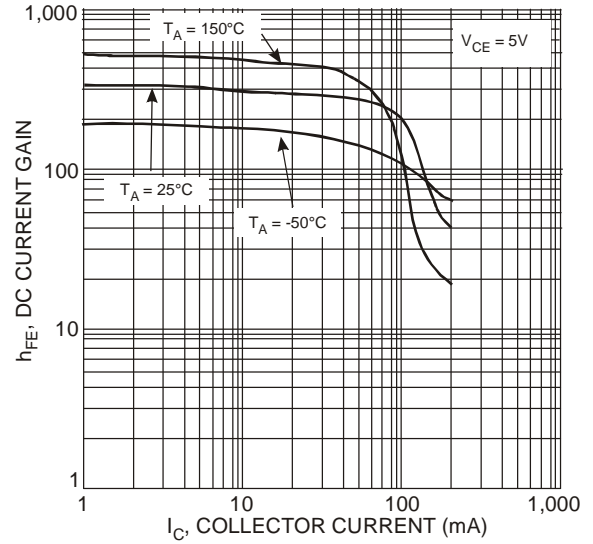


Fig. 2 Typical DC Current Gain vs. Collector Current

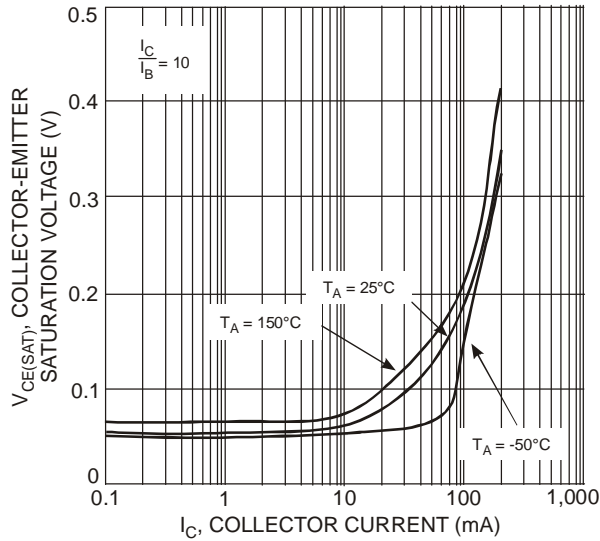


Fig. 3 Collector-Emitter Saturation Voltage vs. Collector Current

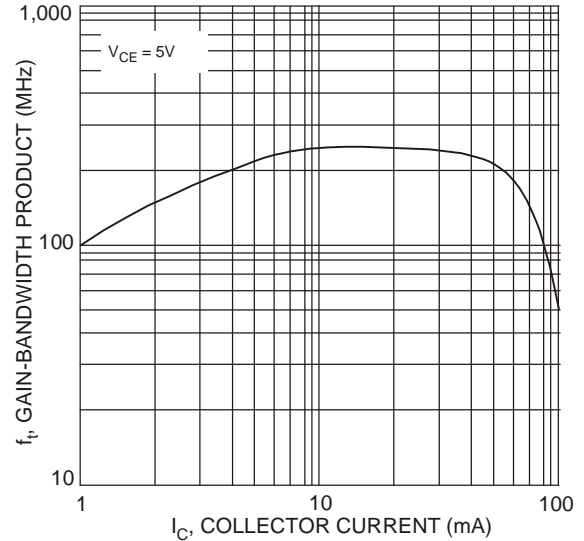
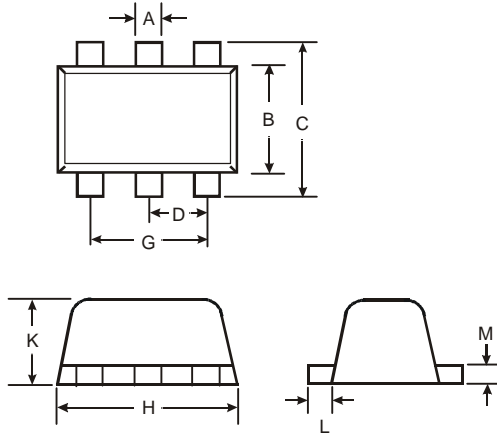


Fig. 4 Typical Gain-Bandwidth Product vs. Collector Current

Package Outline Dimensions

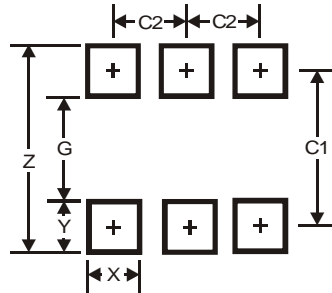
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
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	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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