

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-60	V
Collector-Emitter Voltage	V _{CEO}	-60	V
Emitter-Base Voltage	V _{EBO}	-5.0	V
Collector Current	I _C	-600	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P _D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 7)

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

- Notes:
- For the device mounted on minimum recommended pad layout FR-4 PCB with high coverage of single sided 1oz copper, in still air conditions; the device is measured when operating in a steady-state condition.
 - Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

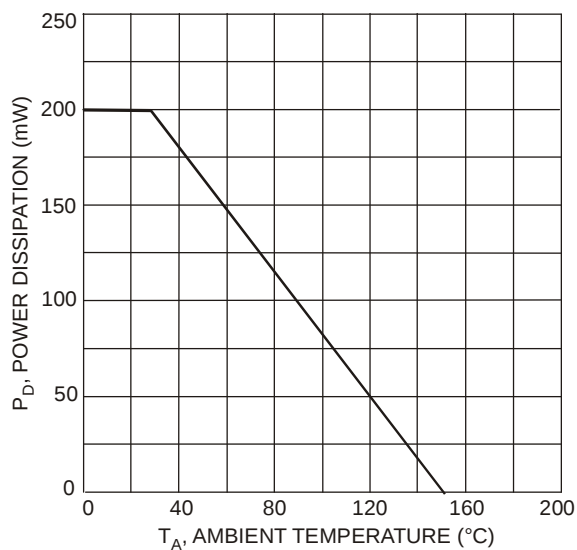


Figure 1 Power Derating Curve

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CB0}	-60	—	—	V	I _C = -10μA, I _B = 0
Collector-Emitter Breakdown Voltage (Note 8)	BV _{CEO}	-60	—	—	V	I _C = -10mA, I _B = 0
Emitter-Base Breakdown Voltage	BV _{EBO}	-5	—	—	V	I _E = -10μA, I _C = 0
Collector Cutoff Current	I _{CBO}	—	—	-10 -10	nA μA	V _{CB} = -50V, I _E = 0 V _{CB} = -50V, I _E = 0, T _A = +125°C
Collector Cutoff Current	I _{CEX}	—	—	-50	nA	V _{CE} = -30V, V _{EB(OFF)} = -0.5V
Base Cutoff Current	I _{BL}	—	—	-50	nA	V _{CE} = -30V, V _{EB(OFF)} = -0.5V
ON CHARACTERISTICS (Note 8)						
DC Current Gain	h _{FE}	75	—	—	—	I _C = -100μA, V _{CE} = -10V
		100	—	—		I _C = -1.0mA, V _{CE} = -10V
		100	—	—		I _C = -10mA, V _{CE} = -10V
		100	—	300		I _C = -150mA, V _{CE} = -10V
		50	—	—		I _C = -500mA, V _{CE} = -10V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	—	-0.4 -1.6	V	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA
Base-Emitter Saturation Voltage	V _{BE(sat)}	—	—	-1.3 -2.6	V	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C _{OBO}	—	—	8.0	pF	V _{CB} = -10V, f = 1.0MHz, I _E = 0
Input Capacitance	C _{IBO}	—	—	30	pF	V _{EB} = -2.0V, f = 1.0MHz, I _C = 0
Current Gain Bandwidth Product	f _T	200	—	—	MHz	V _{CE} = -20V, I _C = -50mA, f = 100MHz
SWITCHING CHARACTERISTICS						
Turn-On Time	t _{on}	—	—	45	ns	V _{CC} = -30V, I _C = -150mA, I _{B1} = -15mA
Delay Time	t _d	—	—	10	ns	
Rise Time	t _r	—	—	40	ns	
Turn-Off Time	t _{off}	—	—	100	ns	V _{CC} = -6V, I _C = -150mA, I _{B1} = -I _{B2} = -15mA
Storage Time	t _s	—	—	80	ns	
Fall Time	t _f	—	—	30	ns	

Note: 8. Short duration pulse test used to minimize self-heating effect.

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

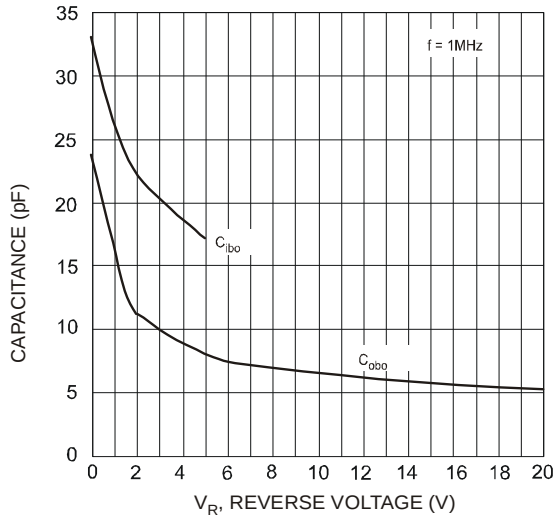


Fig. 2, Typical Capacitance Characteristics

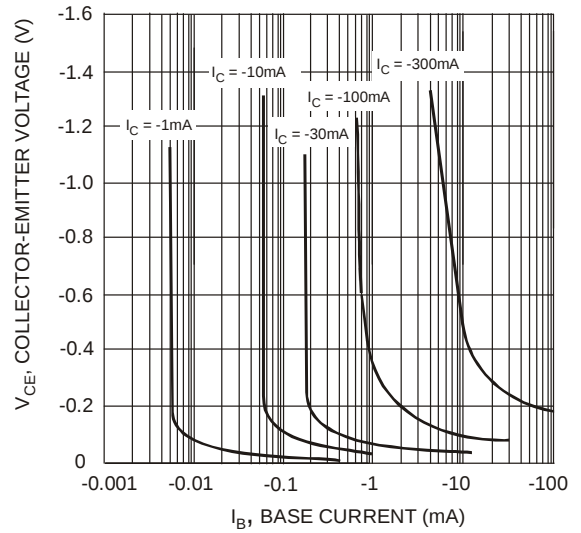


Fig. 3, Typical Collector Saturation Region

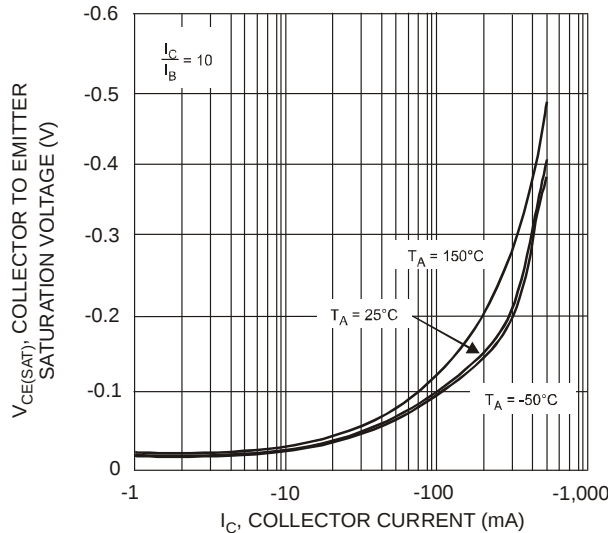


Fig. 4, Collector Emitter Saturation Voltage vs. Collector Current

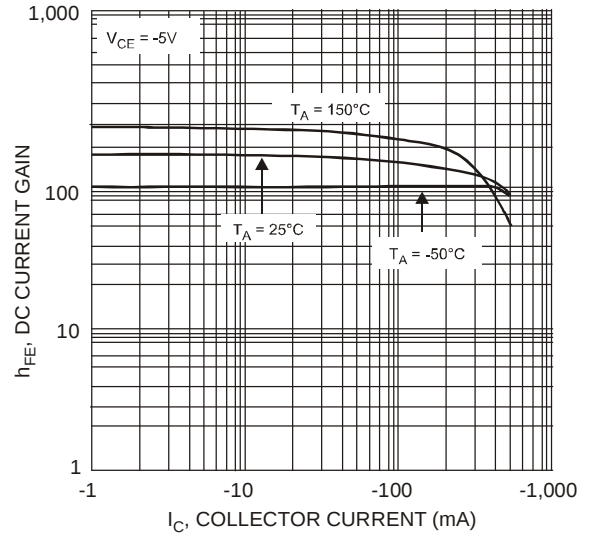


Fig. 5, DC Current Gain vs. Collector Current

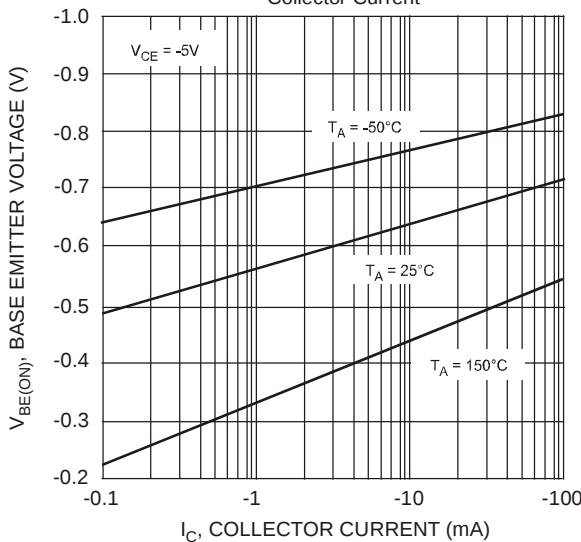


Fig. 6, Base Emitter Voltage vs. Collector Current

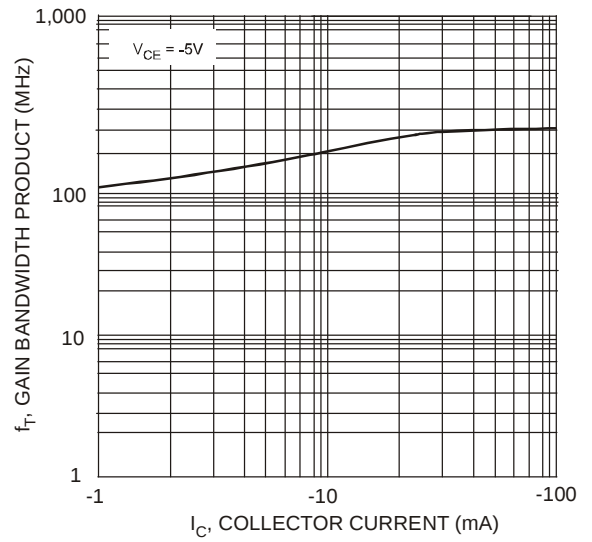
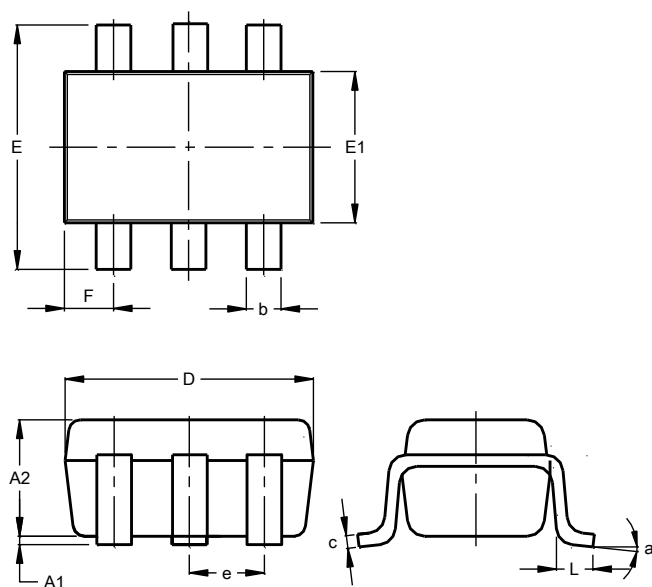


Fig. 7, Gain Bandwidth Product vs. Collector Current

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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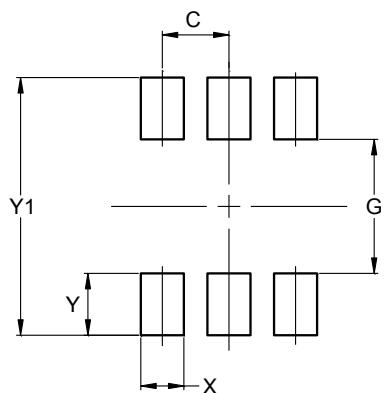


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Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500

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