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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-25	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-4.0	V
Collector Current	I_C	-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 Air (Note 5)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 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

Notes: 5. 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.
6. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

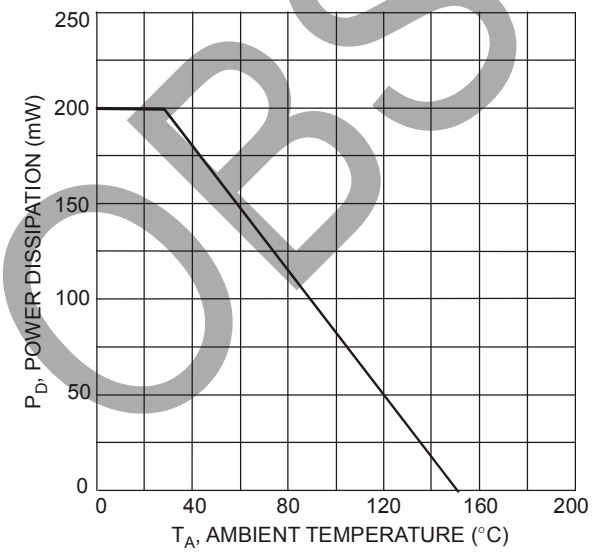


Figure 1 Power Derating Curve

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV_{CBO}	-25	—	—	V	I_C = -10μA, I_B = 0
Collector-Emitter Breakdown Voltage (Note 7)	BV_{CEO}	-25	—	—	V	I_C = -10mA, I_B = 0
Emitter-Base Breakdown Voltage	BV_{EBO}	-4.0	—	—	V	I_E = -10μA, I_C = 0
Collector Cut-Off Current	I_{CBO}	—	—	-50	nA	V_{CB} = -20V, I_E = 0
Collector Cut-Off Current	I_{EBO}	—	—	-50	nA	V_{EB} = -3.0V, I_C = 0
ON CHARACTERISTICS (Note 7)						
DC Current Gain	h_{FE}	120 60	— —	360 —	—	I_C = -2.0mA, V_{CE} = -1.0V I_C = -50mA, V_{CE} = -1.0V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	-0.4	V	I_C = -50mA, I_B = -5.0mA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	-0.95	V	I_C = -50mA, I_B = 5.0mA
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C_{OBO}	—	—	4.5	pF	V_{CB} = -5.0V, f = 1.0MHz, I_E = 0
Input Capacitance	C_{IBO}	—	—	10	pF	V_{EB} = -0.5V, f = 1.0MHz, I_C = 0
Small Signal Current Gain	h_{FE}	120	—	480	—	V_{CE} = -1.0V, I_C = -2.0mA, f = 1.0kHz
Current Gain Bandwidth Product	f_T	250	—	—	MHz	V_{CE} = -20V, I_C = -10mA, f = 100MHz
Noise Figure	NF	—	—	4.0	dB	V_{CE} = -5.0V, I_C = -100μA, R_S = 1.0kΩ, f = 1.0kHz

Note: 7. Short duration pulse test used to minimize self-heating effect.

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

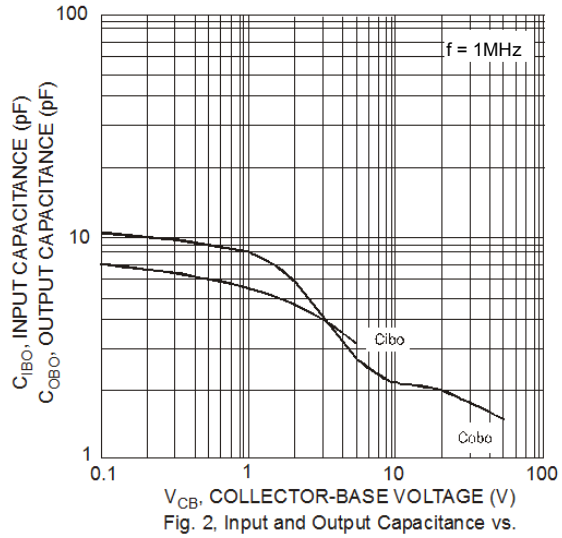


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

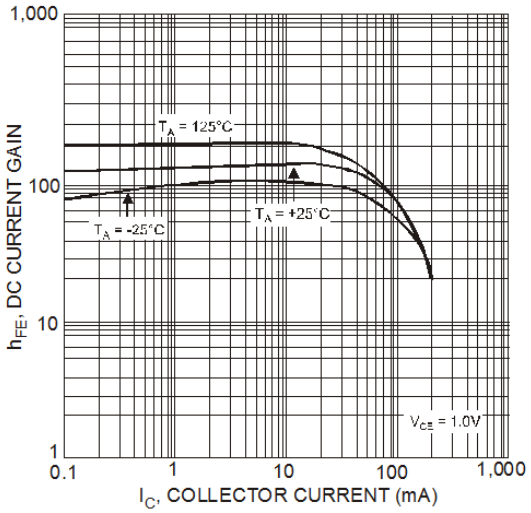


Fig. 3, Typical DC Current Gain vs. Collector Current

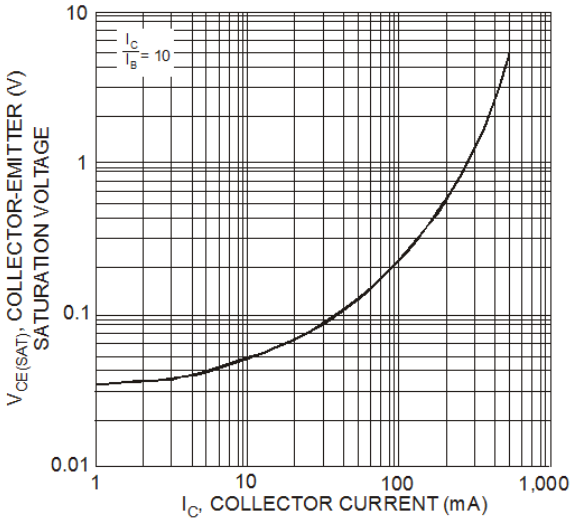


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

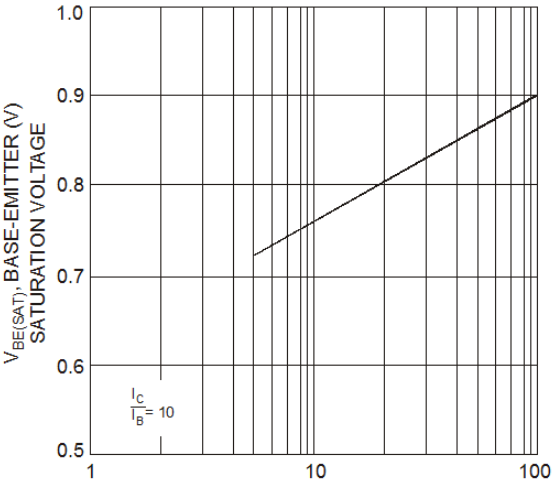
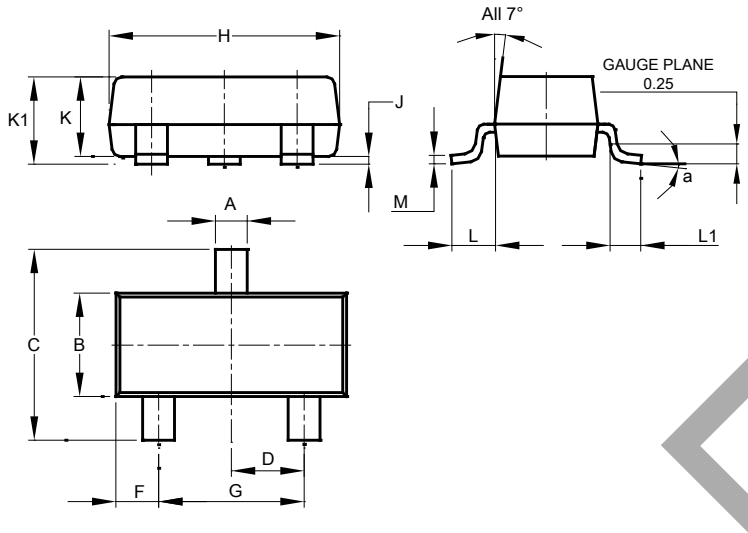


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current

Package Outline Dimensions

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

SOT23

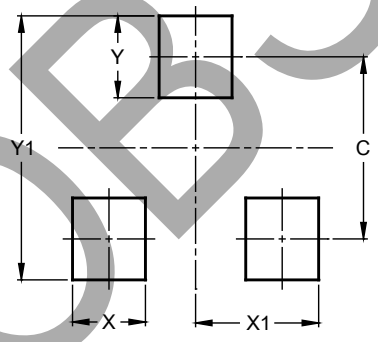


SOT23			
Dim	**Min**	**Max**	**Typ**
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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