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	100	mA
Peak Collector Current	I_{CM}	200	mA
Peak Base Current	I_{BM}	200	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	(Note 6)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-65 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: 6. For a device mounted on minimum recommended pad layout 1oz weight copper that is on a single-sided FR-4 PCB; device is measured under still air conditions whilst operating in a steady-state.
7. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

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

Characteristic			Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage			BV_{CBO}	50	—	—	V	I_C = 100µA
Collector-Emitter Breakdown Voltage (Note 8)			BV_{CEO}	45	—	—	V	I_C = 10mA
Emitter-Base Breakdown Voltage			BV_{EBO}	6	—	—	V	I_E = 100µA
DC Current Gain (Note 8)	Current Gain Group	B	h_{FE}	200	290	450	—	V_{CE} = 5.0V, I_C = 2.0mA
		C		420	520	800		
Collector Cutoff Current			I_{CBO}	—	—	20	nA	V_{CB} = 30V
						5	µA	V_{CB} = 30V, T_A = +150°C
Collector-Emitter Saturation Voltage (Note 8)			$V_{CE(SAT)}$	—	90	250	mV	I_C = 10mA, I_B = 0.5mA
					200	600		I_C = 100mA, I_B = 5.0mA
Base-Emitter Turn-On Voltage (Note 8)			$V_{BE(ON)}$	580	660	700	mV	I_C = 2mA, V_{CE} = 5V
				—	—	770		I_C = 10mA, V_{CE} = 5V
Base-Emitter Saturation Voltage (Note 8)			$V_{BE(SAT)}$	—	700	—	mV	I_C = 10mA, I_B = 0.5mA
					900			I_C = 100mA, I_B = 5mA
Output Capacitance			C_{OBO}	—	3	4.5	pF	V_{CB} = 10V, f = 1.0MHz
Transition Frequency			f_T	100	300	—	MHz	V_{CE} = 5V, I_C = 10mA, f = 100MHz
Noise Figure			NF	—	—	10	dB	V_{CE} = 5V, I_C = 200µA R_S = 2kΩ, f = 1kHz Δf = 200Hz

Note: 8. Measured under pulsed conditions. Pulse width ≤ 300µs. Duty cycle ≤ 2%.

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

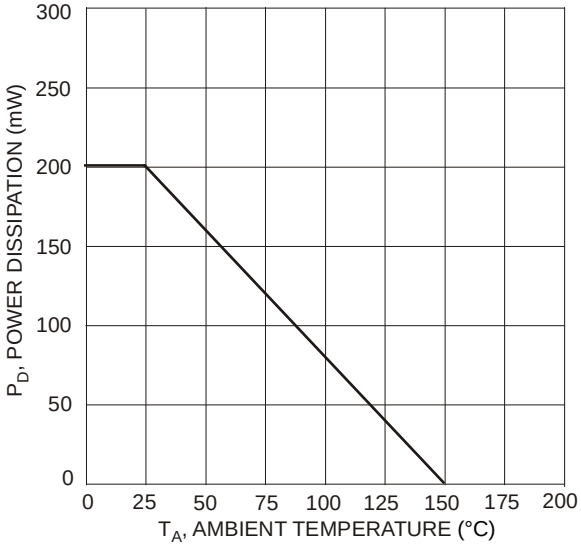


Figure 1 Power Dissipation vs. Ambient Temperature

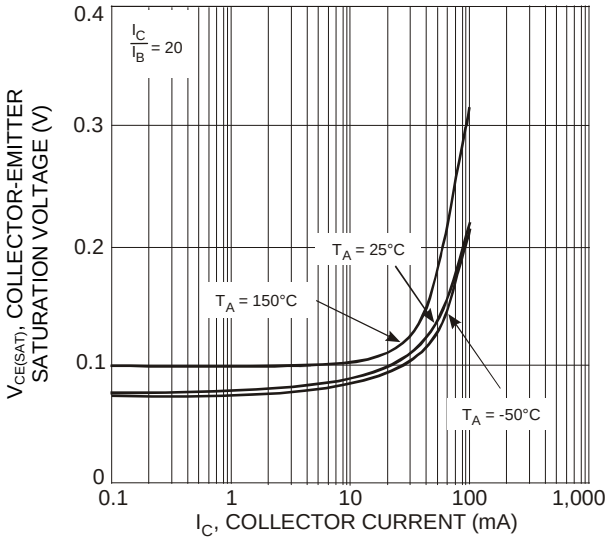


Figure 2 Typical Collector-Emitter Saturation Voltage vs. Collector Current

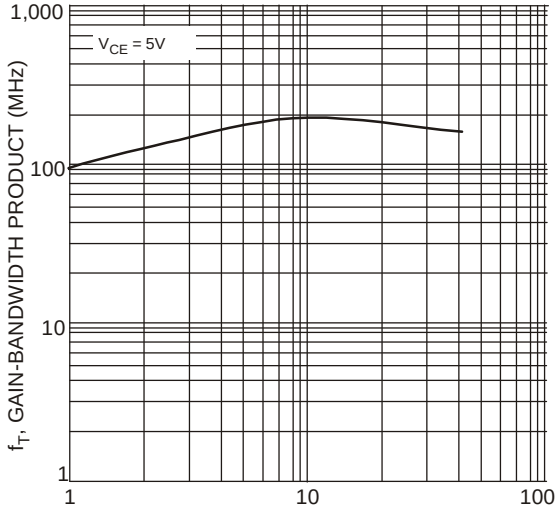


Figure 3 Typical Gain-Bandwidth Product vs. Collector Current

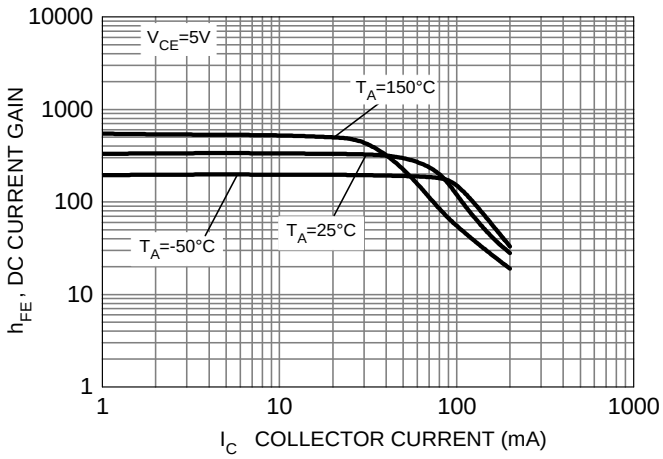


Figure 4 Typical DC Current Gain vs. Collector Current (Band B Group Gain)

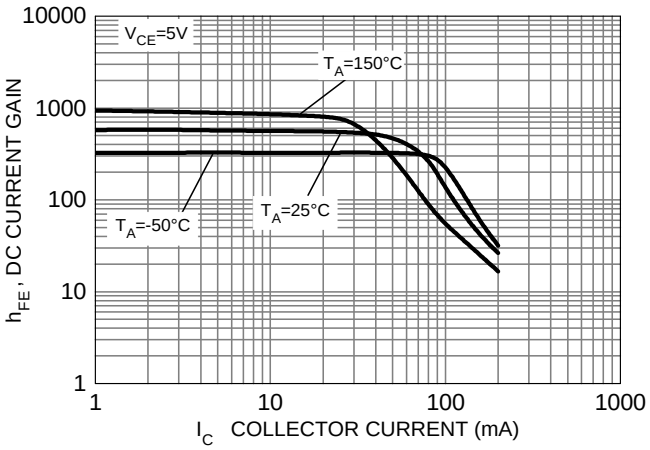
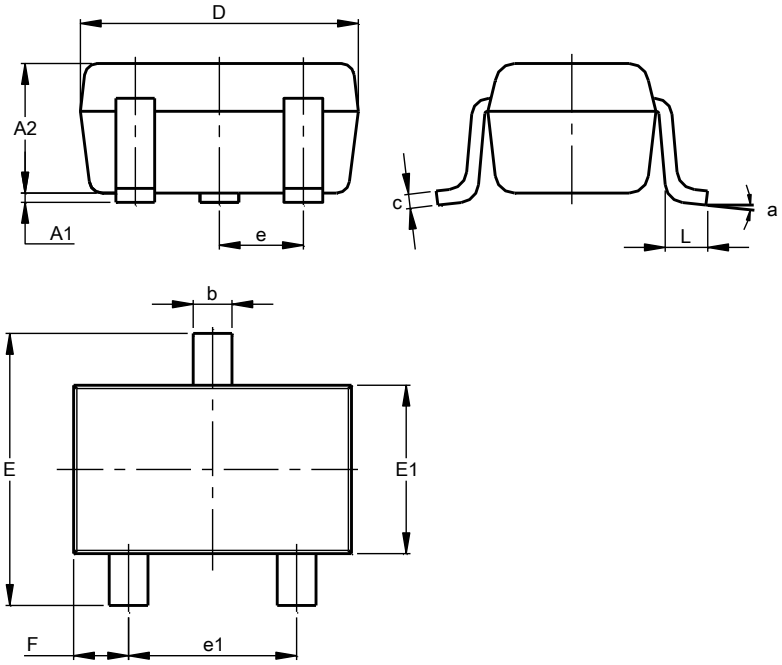


Figure 5 Typical DC Current Gain vs. Collector Current (Band C Group Gain)

Package Outline Dimensions

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

SOT323

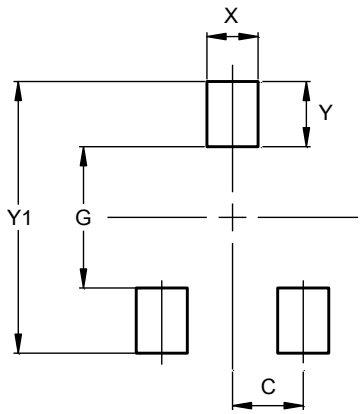


SOT323			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT323



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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