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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	200	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	625	°C/W
Operating and Storage and 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 Characteristic and Derating Information

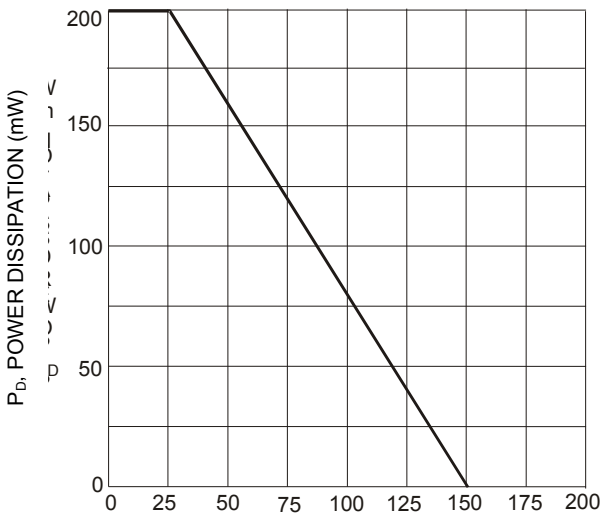


Figure 1. Power Dissipation vs. Ambient Temperature (Total Device)

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS					
Collector-Base Breakdown Voltage	BV_{CBO}	30	—	V	I_C = 10μA, I_E = 0
Collector-Emitter Breakdown Voltage (Note 7)	BV_{CEO}	25	—	V	I_C = 1.0mA, I_B = 0
Emitter-Base Breakdown Voltage	BV_{EBO}	5.0	—	V	I_E = 10μA, I_C = 0
Collector-Base Cut-Off Current	I_{CBO}	—	50	nA	V_{CB} = 20V
Emitter-Base Cut-Off Current	I_{EBO}	—	50	nA	V_{EB} = 3V
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	$V_{CE(sat)}$	—	0.30	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}	—	4.0	pF	V_{CB} = 5.0V, f = 1.0MHz, I_E = 0
Input Capacitance	C_{ibo}	—	8.0	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	300	—	MHz	V_{CE} = 20V, I_C = 10mA, f = 100MHz
Noise Figure	NF	—	5.0	dB	V_{CE} = 5.0V, I_C = 100μA, R_S = 1.0kΩ, f = 1.0kHz

Note: 7. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

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

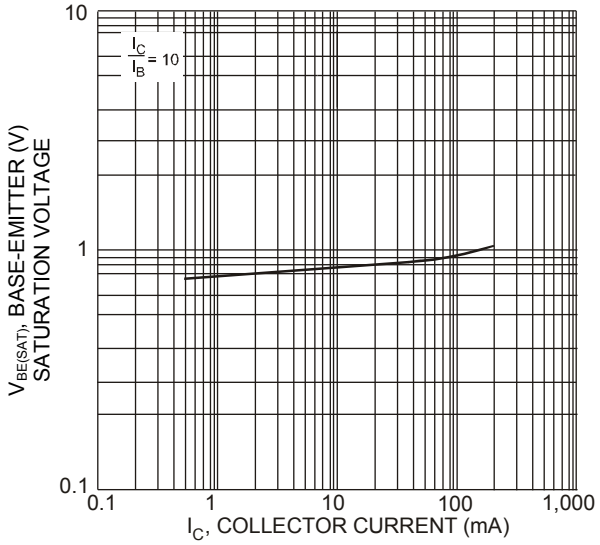


Figure 2. Typical Base-Emitter Saturation Voltage vs. Collector Current

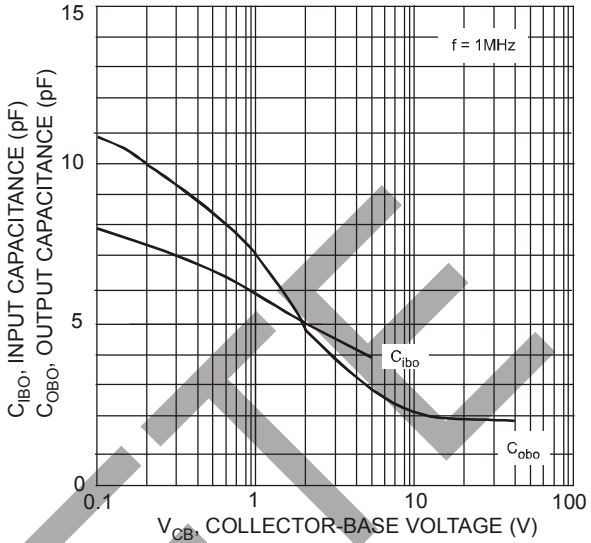


Figure 3. Input and Output Capacitance vs. Collector-Base Voltage

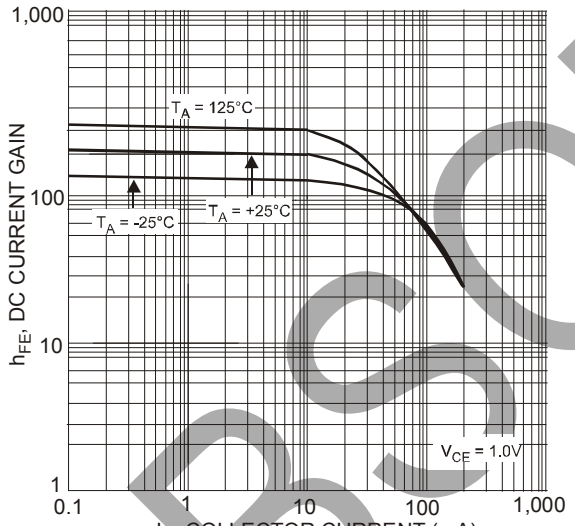


Figure 4. Typical DC Current Gain vs. Collector Current

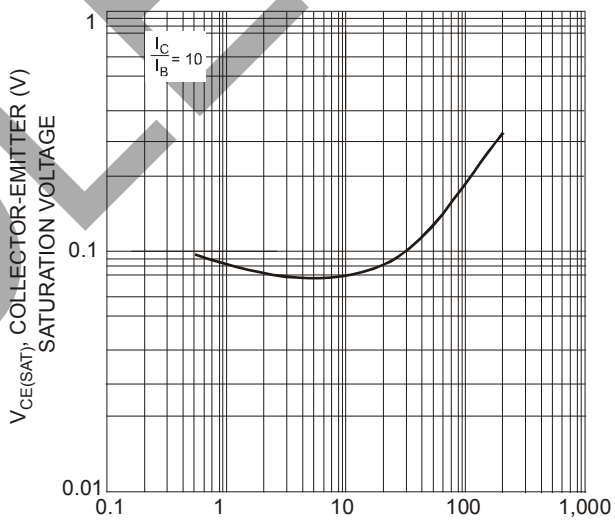
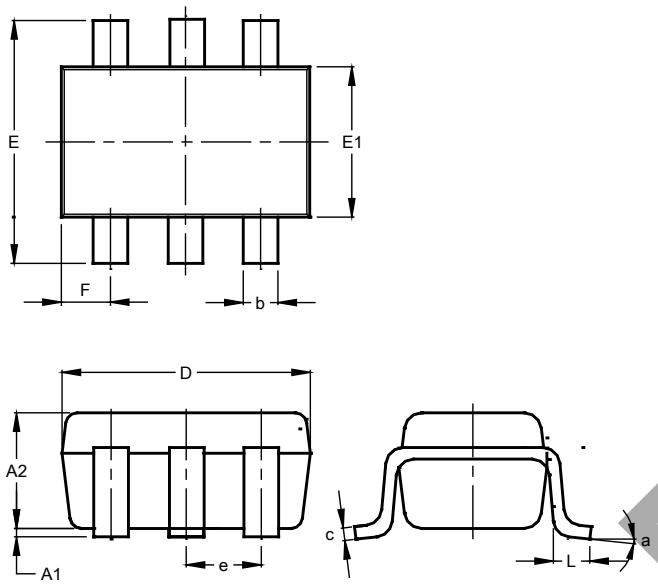


Figure 5. Typical Collector-Emitter Saturation Voltage vs. Collector Current

Package Outline Dimensions

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

SOT363

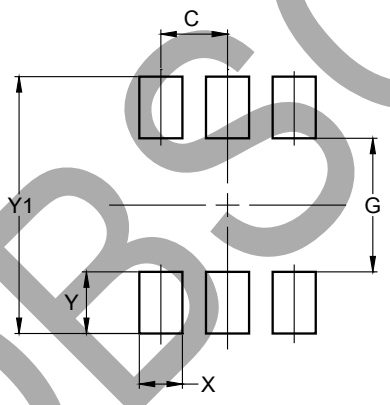


SOT363			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT363



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

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