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

Characteristic	Symbol	Value	Unit
Supply Voltage <Pin: (6) to (1)>	V_{CC}	50	V
Input Voltage <Pin: (2) to (1)>	V_{IN}	-6 to +40	V
Output Current	I_O	70	mA
Output Current	I_C (Max)	100	mA

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

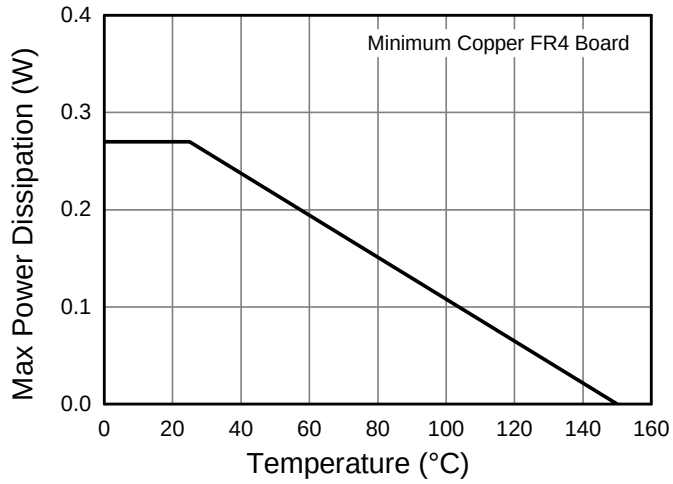
Characteristic	Symbol	Value	Unit
Supply Voltage <Pin: (4) to (3)>	V_{CC}	-50	V
Input Voltage <Pin: (5) to (4)>	V_{IN}	+6 to -40	V
Output Current	I_O	-70	mA
Output Current	I_C (Max)	-100	mA

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

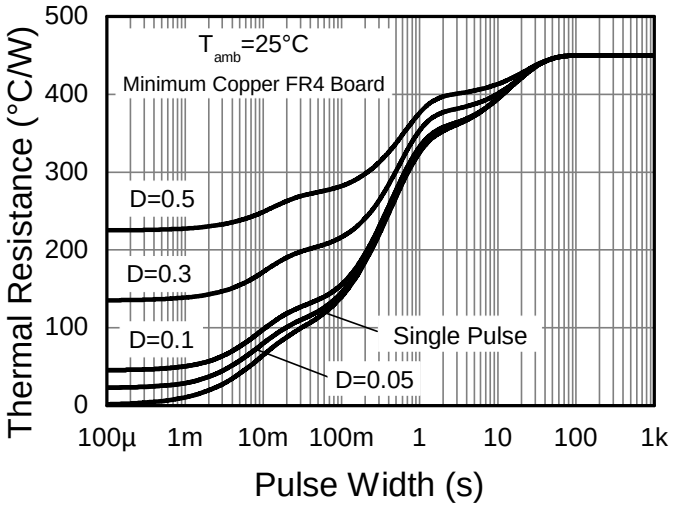
Characteristic	Symbol	Value	Unit
Power Dissipation (Notes 6 & 7)	P_D	270	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	$R_{\theta JA}$	450	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes: 6. Mounted on FR4 PC Board with minimum recommended pad layout.
7. 150mW per element must not be exceeded.

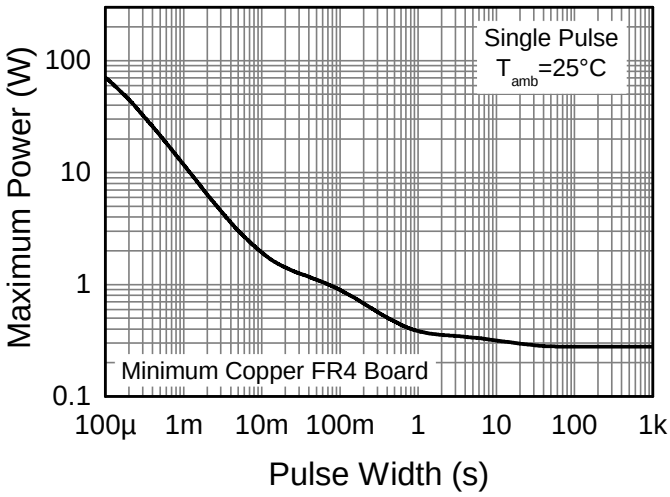
Thermal Characteristics and Derating Information



Derating Curve



Transient Thermal Impedance



Pulse Power Dissipation

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

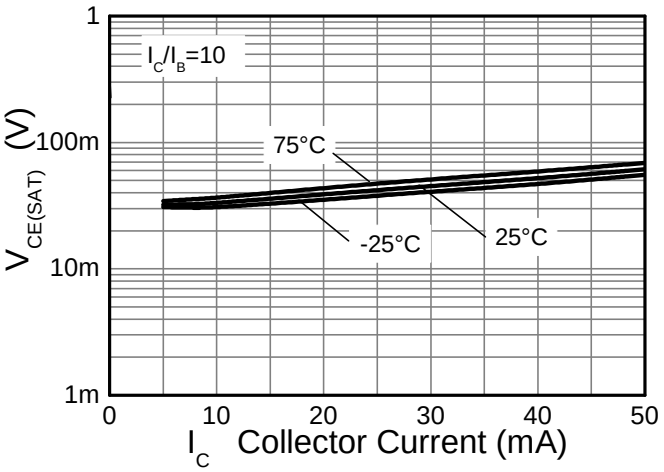
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	$V_{I(OFF)}$	0.3	—	—	V	V_{CC} = 5V, I_O = 100μA
	$V_{I(ON)}$	—	—	1.4		V_O = 0.3V, I_O = 1mA
Output Voltage	$V_{O(ON)}$	—	0.1	0.3	V	I_O/I_I = 5mA / 0.25mA
Input Current	I_I	—	—	0.88	mA	V_I = 5V
Output Current	$I_{O(OFF)}$	—	—	0.5	μA	V_{CC} = 50V, V_I = 0V
DC Current Gain (Note 8)	G_I	80	—	—	—	V_O = 5V, I_O = 10mA
Input Resistor (R_1) Tolerance	ΔR_1	-30	—	+30	%	—
Resistance Ratio Tolerance	$\Delta R_2/R_1$	-20	—	+20	%	—
Gain-Bandwidth Product	f_T	—	250	—	MHz	V_{CE} = 10V, I_E = 5mA, f = 100MHz

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

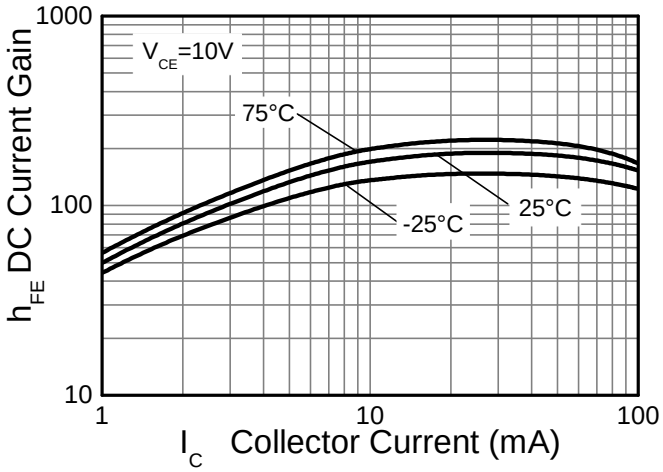
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	$V_{I(OFF)}$	-0.3	—	—	V	V_{CC} = -5V, I_O = -100μA
	$V_{I(ON)}$	—	—	-1.4		V_O = -0.3V, I_O = -1mA
Output Voltage	$V_{O(ON)}$	—	-0.1	-0.3	V	I_O/I_I = -5mA / -0.25mA
Input Current	I_I	—	—	-0.88	mA	V_I = -5V
Output Current	$I_{O(OFF)}$	—	—	-0.5	μA	V_{CC} = -50V, V_I = 0V
DC Current Gain (Note 8)	G_I	80	—	—	—	V_O = -5V, I_O = -10mA
Input Resistor (R_1) Tolerance	ΔR_1	-30	—	+30	%	—
Resistance Ratio Tolerance	$\Delta R_2/R_1$	-20	—	+20	%	—
Gain-Bandwidth Product	f_T	—	250	—	MHz	V_{CE} = -10V, I_E = -5mA, f = 100MHz

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

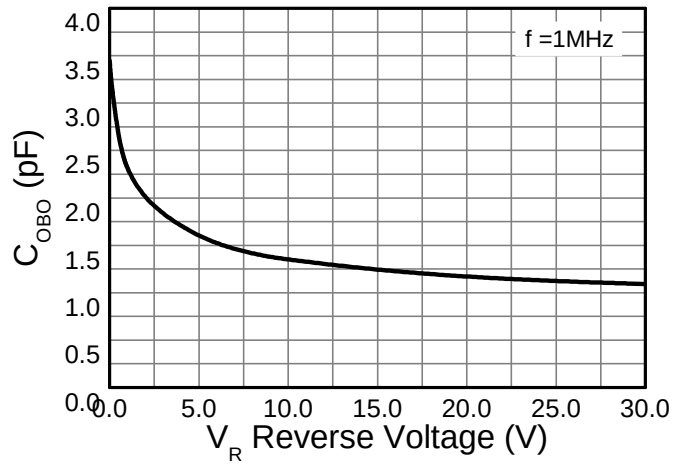
Typical Electrical Characteristics – NPN Section (@T_A = +25°C, unless otherwise specified.)



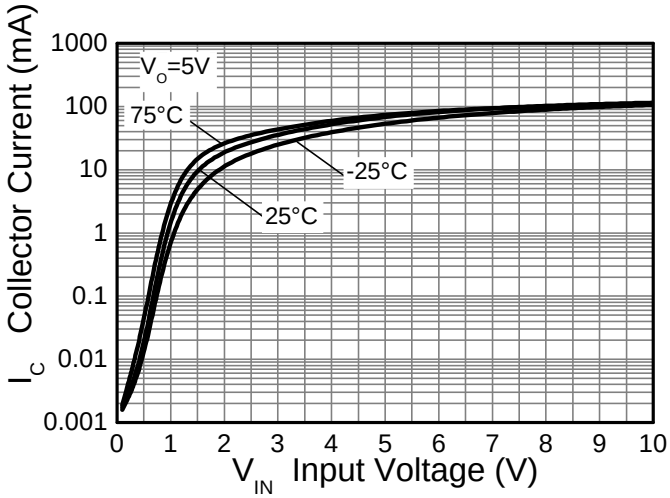
$V_{CE(SAT)}$ v Collector Current



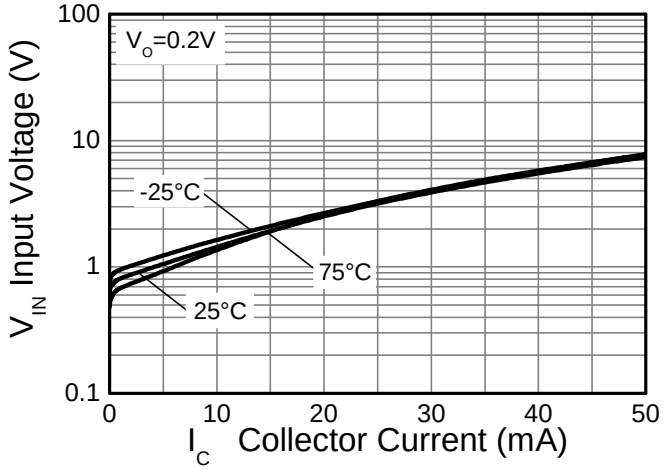
h_{FE} v Collector Current



Output Capacitance

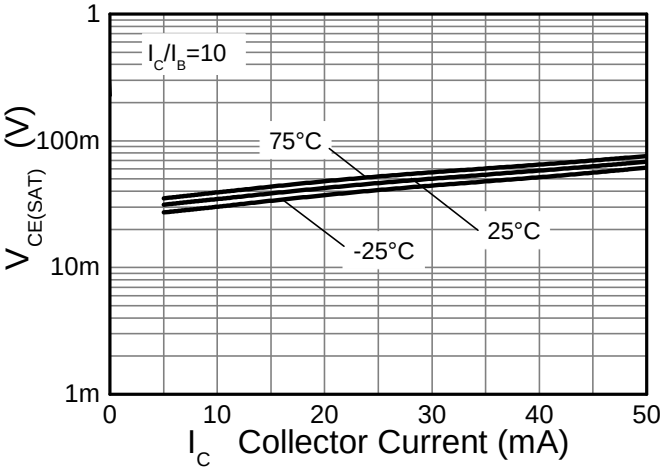


Collector Current v Input Voltage

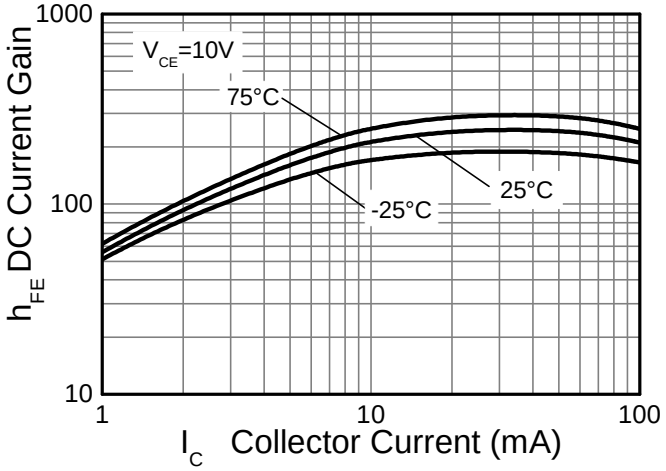


Input Voltage v Collector Current

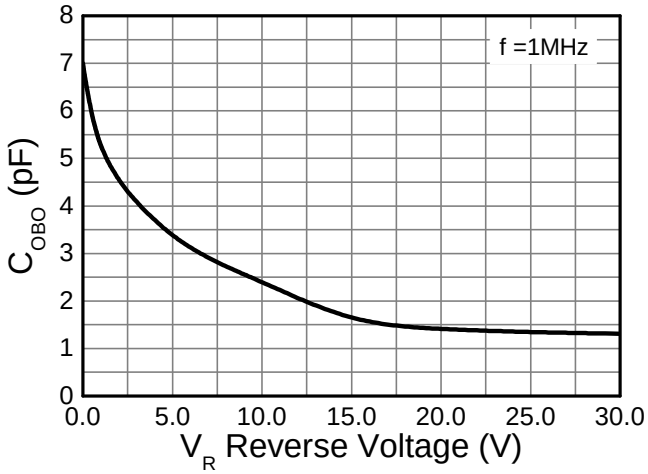
Typical Electrical Characteristics – PNP Section (@T_A = +25°C, unless otherwise specified.)



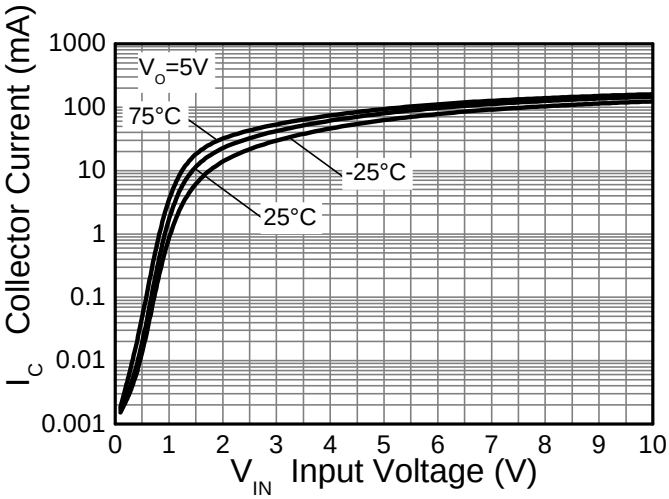
$V_{CE(SAT)}$ v Collector Current



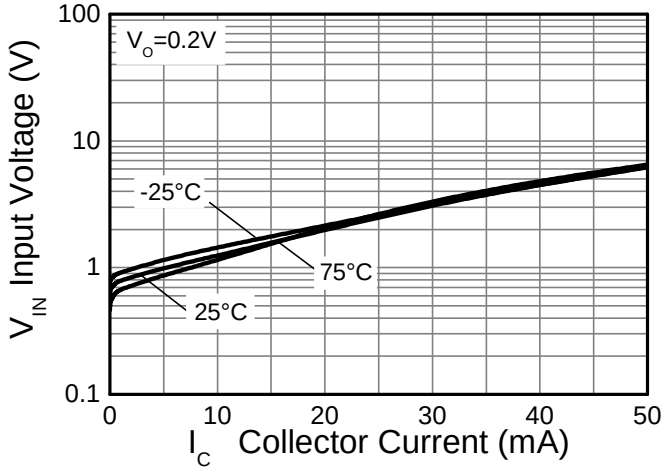
h_{FE} v Collector Current



Output Capacitance



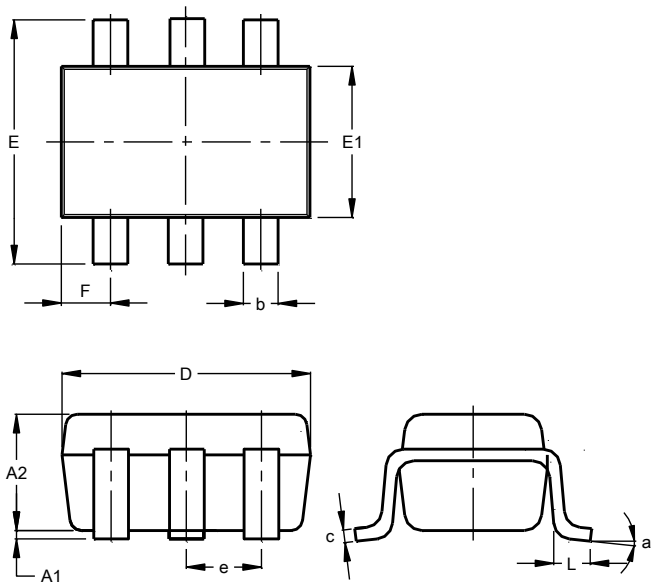
Collector Current v Input Voltage



Input Voltage v Collector Current

Package Outline Dimensions

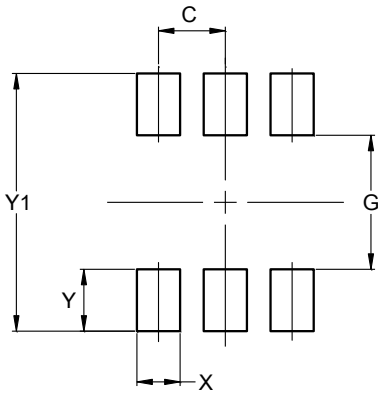
Please see http://www.diodes.com/package-outlines.html for the latest version.



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.



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

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