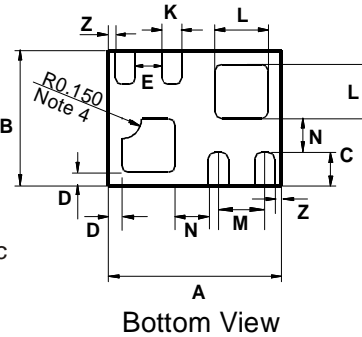
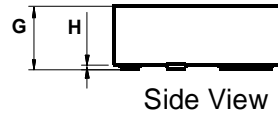
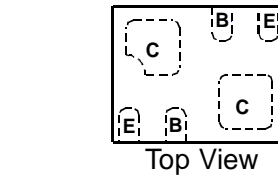
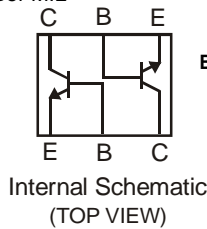


Features

- Epitaxial Planar Die Construction
- Ideally Suited for Automated Assembly Processes
- **Lead Free By Design/RoHS Compliant (Note 1)**
- "Green" Device (Note 2)
- **Ultra Low Profile Package**

Mechanical Data

- Case: DFN1310H4-6
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — NiPdAu annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Code Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.0015g (approximate)



DFN1310H4-6			
Dim	Min	Max	Typ
A	1.25	1.38	1.30
B	0.95	1.08	1.00
C	0.20	0.30	0.25
D*	-	-	0.10
E**	-	-	0.20
G	-	0.40	-
H	0	0.05	0.02
K*	0.10	0.20	0.15
L*	0.30	0.50	0.40
M**	-	-	0.35
N*	-	-	0.25
Z**	-	-	0.05

All Dimensions in mm

* Dimensions D, K, L, N Repeat 4X
** Dimensions E, M, Z Repeat 2X

Maximum Ratings @_{T_A} = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CEO}	45	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current	I _C	100	mA
Power Dissipation (Note 3)	P _d	350	mW
Thermal Resistance, Junction to Ambient (Note 3)	R _{θJA}	357	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

- Notes:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 3. Device mounted on FR-4 PCB pad layout as shown on page 4.
 4. Radiused pad feature is intended for device manufacturing control and should not be considered as a polarity indicator, or to suggest orientation of the devices in the carrier tape.

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 5)	$V_{(BR)CBO}$	50	—	—	V	$I_C = 10\mu\text{A}, I_B = 0$
Collector-Emitter Breakdown Voltage (Note 5)	$V_{(BR)CEO}$	45	—	—	V	$I_C = 10\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage (Note 5)	$V_{(BR)EBO}$	6	—	—	V	$I_E = 1\mu\text{A}, I_C = 0$
DC Current Gain (Note 5)	h_{FE}	420	650	800	—	$V_{CE} = 5.0\text{V}, I_C = 2.0\text{mA}$
Collector-Emitter Saturation Voltage (Note 5)	$V_{CE(SAT)}$	—	55 130	250 600	mV	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5.0\text{mA}$
Base-Emitter Saturation Voltage (Note 5)	$V_{BE(SAT)}$	—	700 900	—	mV	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5.0\text{mA}$
Base-Emitter Voltage (Note 5)	$V_{BE(ON)}$	580 —	660	700 770	mV	$V_{CE} = 5.0\text{V}, I_C = 2.0\text{mA}$ $V_{CE} = 5.0\text{V}, I_C = 10\text{mA}$
Collector-Cutoff Current (Note 5)	I_{CES} I_{CBO} I_{CBO}	— — —	— — —	15 15 5.0	nA nA μA	$V_{CE} = 50\text{V}$ $V_{CB} = 30\text{V}$ $V_{CE} = 30\text{V}, T_A = 150^\circ\text{C}$
Gain Bandwidth Product	f_T	100	—	—	MHz	$V_{CE} = 5.0\text{V}, I_C = 10\text{mA}$, $f = 100\text{MHz}$
Collector-Base Capacitance	C_{CBO}	—	2.0	—	pF	$V_{CB} = 10\text{V}, f = 1\text{MHz}$

Notes: 3. Device mounted on FR-5 PCB pad layout as shown on page 4.
5. Short duration test pulse used to minimize self-heating effect.

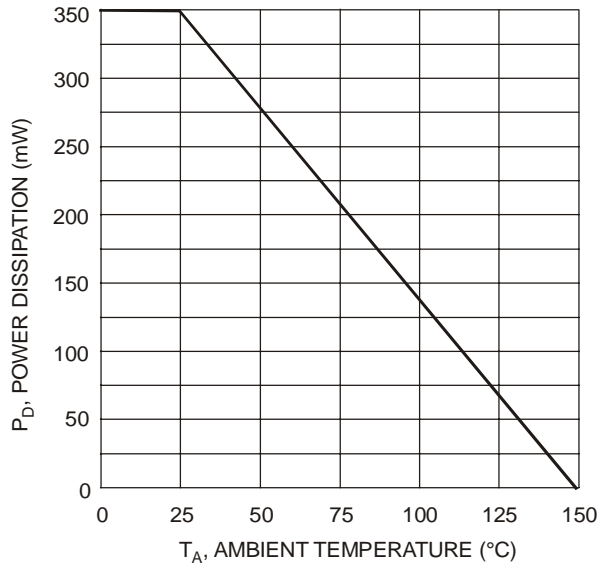


Fig. 1, Power Dissipation vs. Ambient Temperature (Note 3)

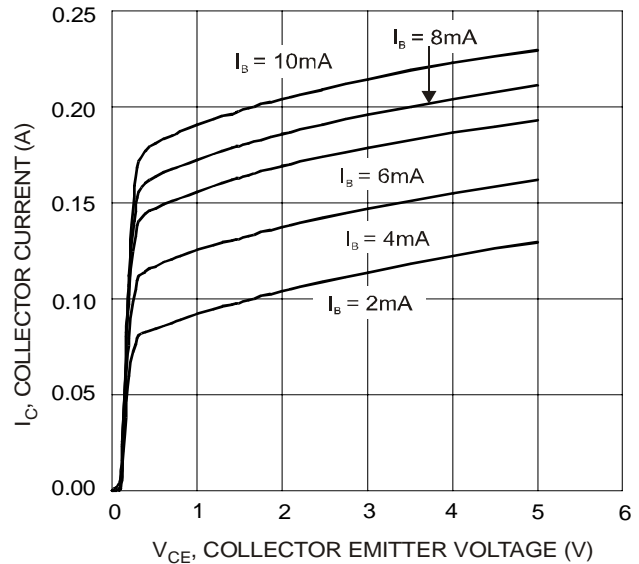


Fig. 2, Typical Collector Current vs. Collector Emitter Voltage

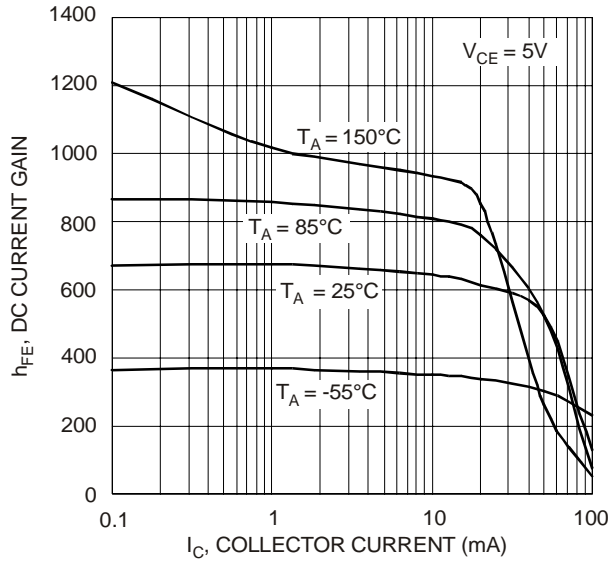


Fig. 3, Typical DC Current Gain vs. Collector Current

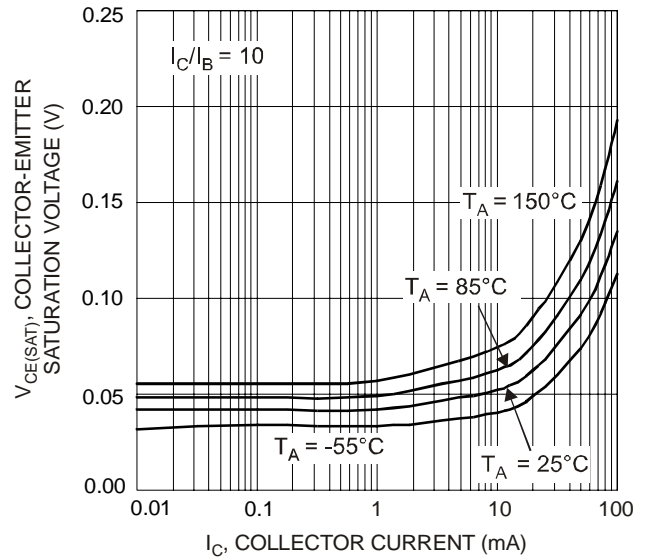


Fig. 4, Typical Collector Emitter Saturation Voltage vs. Collector Current

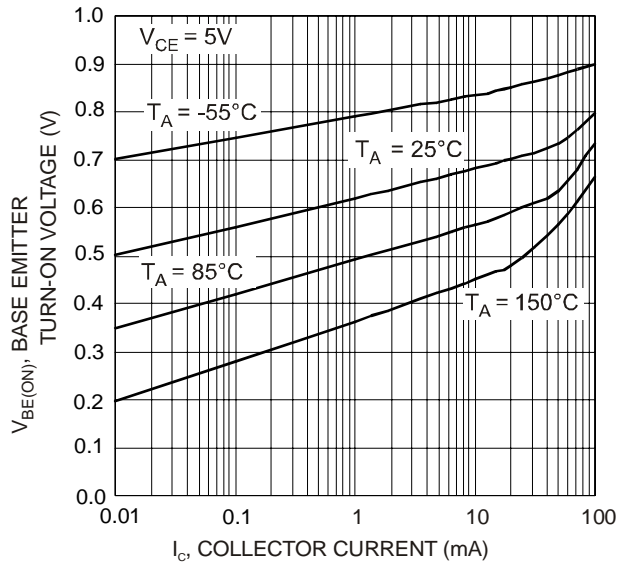


Fig. 5, Typical Base Emitter Turn-On Voltage vs. Collector Current

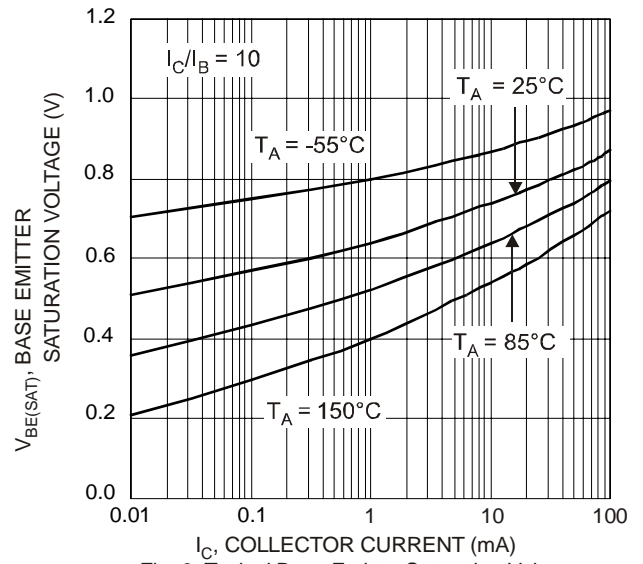


Fig. 6, Typical Base Emitter Saturation Voltage vs. Collector Current

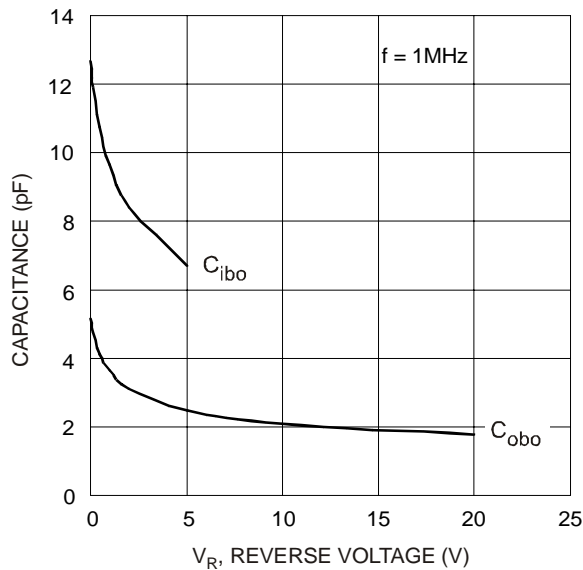


Fig. 7, Typical Capacitance Characteristics

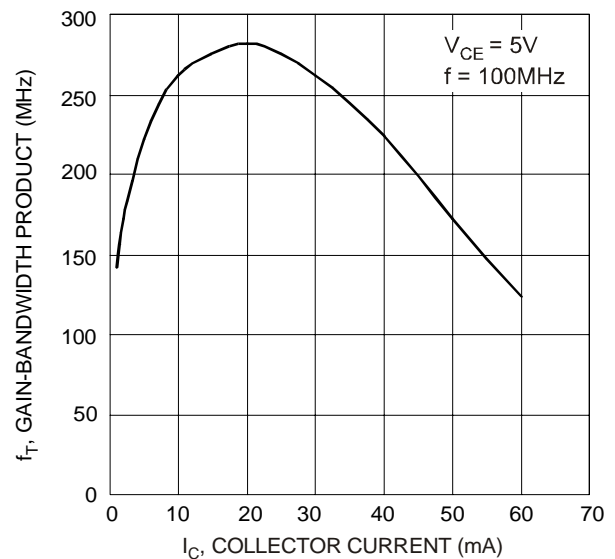


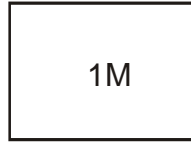
Fig. 8, Typical Gain-Bandwidth Product vs. Collector Current

Ordering Information (Note 6)

Device	Package	Shipping
BC847CDLP-7	DFN1310H4-6	3000/Tape & Reel

Notes: 6. For packaging details, please go to our website at <http://www.diodes.com/ap02007.pdf>.

Marking Information (Note 7)

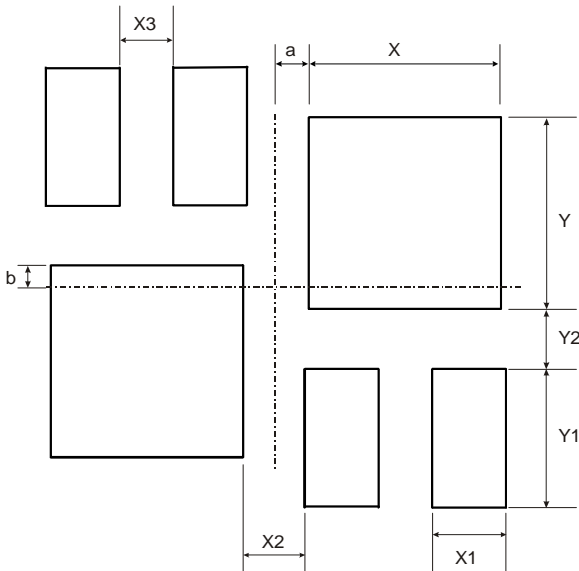


(TOP VIEW)

1M = Product Type Marking Code

Note: 7. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated or mixed (both ways).

Suggested Pad Layout



DFN1310H4-6	
Dim	Value
X	0.52
Y	0.52
X1	0.20
Y1	0.375
X2	0.17
Y2	0.16
X3	0.15
a	0.09
b	0.06
All Dimensions in mm	

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