NEW PRODUCT

BC847CDLP

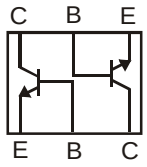
NPN DUAL SURFACE MOUNT TRANSISTOR

Features

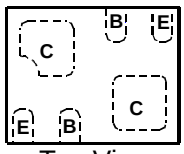
- Epitaxial Planar Die Construction
- Ideally Suited for Automated Assembly Processes
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Ultra Low Profile Package**

Mechanical Data

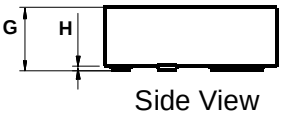
- Case: DFN1310H4-6
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — NiPdAu annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Code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



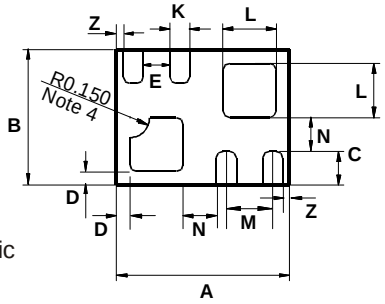
Internal Schematic
(TOP VIEW)



Top View



Side View



Bottom View

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_{CBO}	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)	$R_{\theta JA}$	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.

NEW PRODUCT

Electrical Characteristics @T_A = 25°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 = 10μA, I_B = 0
Collector-Emitter Breakdown Voltage (Note 5)	$V_{(BR)CEO}$	45	—	—	V	I_C = 10mA, I_B = 0
Emitter-Base Breakdown Voltage (Note 5)	$V_{(BR)EBO}$	6	—	—	V	I_E = 1μA, I_C = 0
DC Current Gain (Note 5)	h_{FE}	420	650	800	—	V_{CE} = 5.0V, I_C = 2.0mA
Collector-Emitter Saturation Voltage (Note 5)	$V_{CE(SAT)}$	— —	55 130	250 600	mV	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5.0mA
Base-Emitter Saturation Voltage (Note 5)	$V_{BE(SAT)}$	—	700 900	—	mV	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5.0mA
Base-Emitter Voltage (Note 5)	$V_{BE(ON)}$	580 —	660 —	700 770	mV	V_{CE} = 5.0V, I_C = 2.0mA V_{CE} = 5.0V, I_C = 10mA
Collector-Cutoff Current (Note 5)	I_{CES} I_{CBO} I_{CBO}	— — —	— — —	15 15 5.0	nA nA μA	V_{CE} = 50V V_{CB} = 30V V_{CE} = 30V, T_A = 150°C
Gain Bandwidth Product	f_T	100	—	—	MHz	V_{CE} = 5.0V, I_C = 10mA, f = 100MHz
Collector-Base Capacitance	C_{CBO}	—	2.0	—	pF	V_{CB} = 10V, f = 1MHz

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.

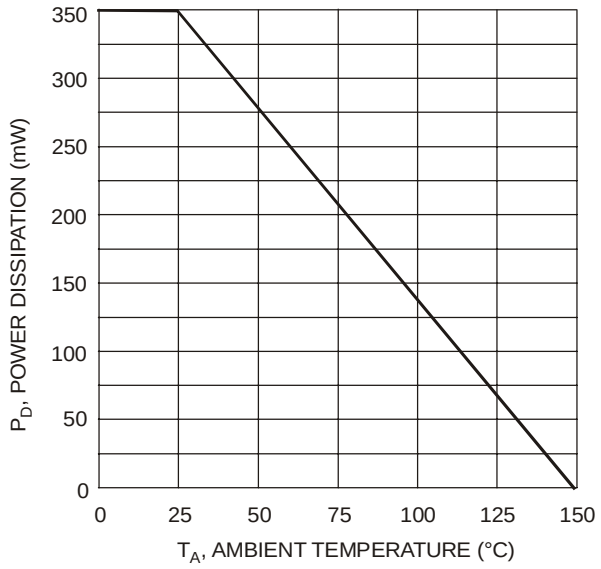


Fig. 1, Power Dissipation vs. Ambient Temperature (Note 3)

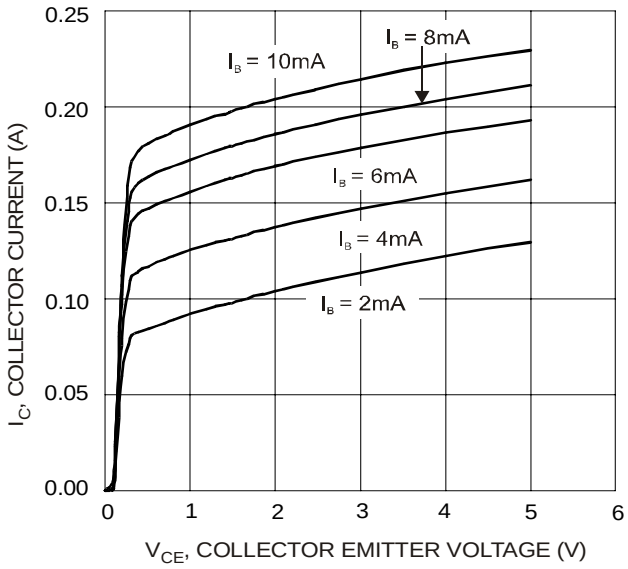


Fig. 2 Typical Collector Current vs. Collector Emitter Voltage

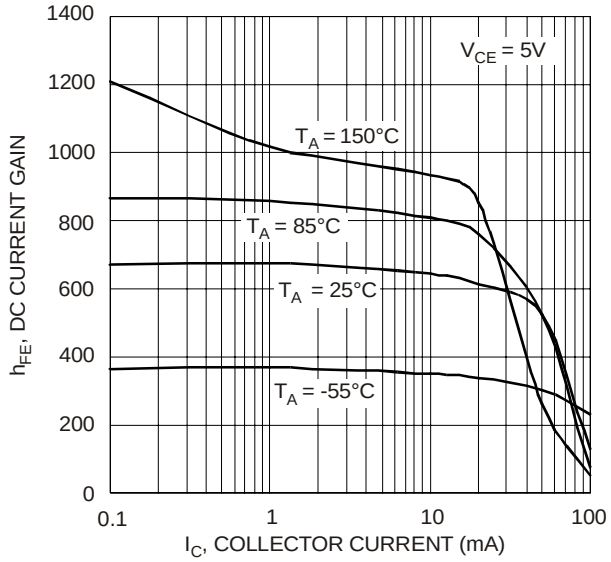


Fig. 3, Typical DC Current Gain vs. Collector Current

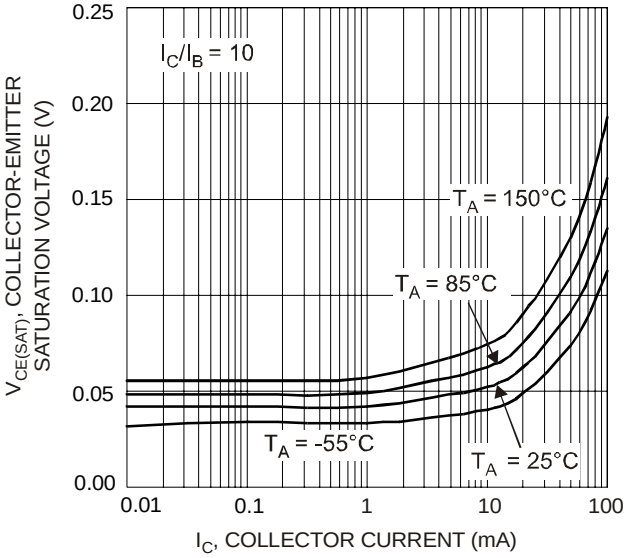


Fig. 4, Typical Collector Emitter Saturation Voltage vs. Collector Current

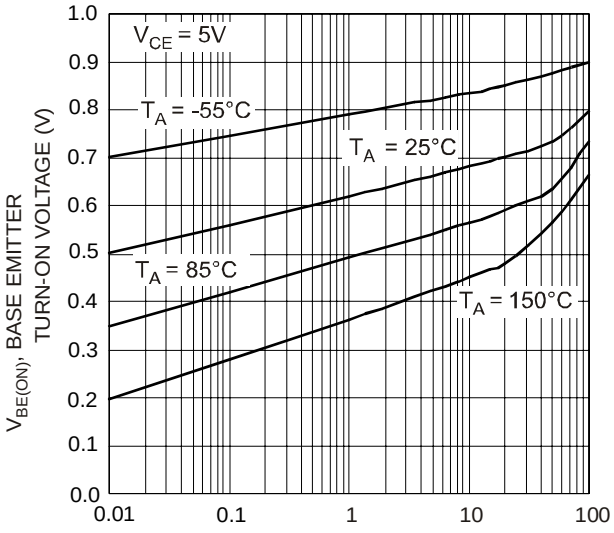


Fig. 5, Typical Base Emitter Turn-On Voltage vs. Collector Current

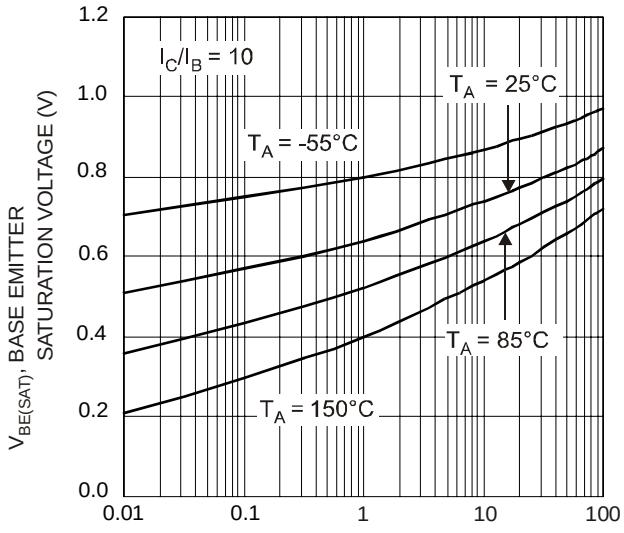


Fig. 6, Typical Base Emitter Saturation Voltage vs. Collector Current

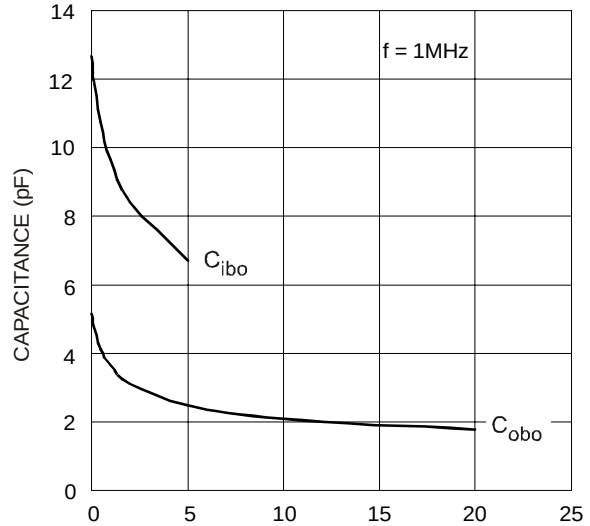


Fig. 7, Typical Capacitance Characteristics

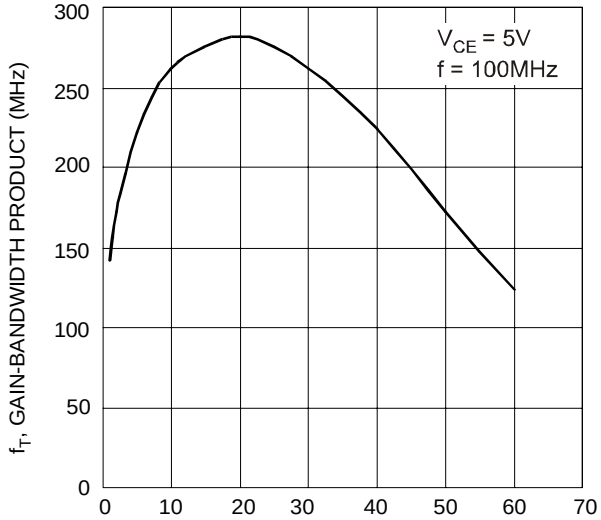


Fig. 8, Typical Gain-Bandwidth Product vs. Collector Current

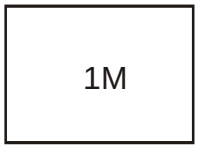
NEW PRODUCT

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)

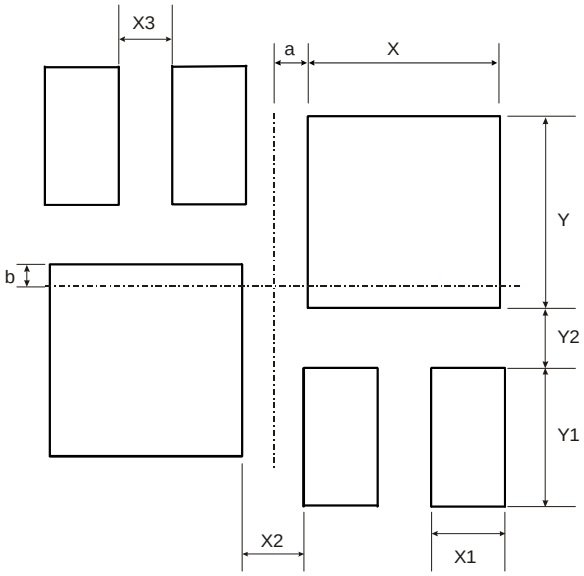


1M = Product Type Marking Code

(TOP VIEW)

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	

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
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http://moschip.ru/get-element

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