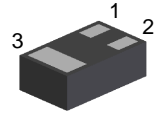
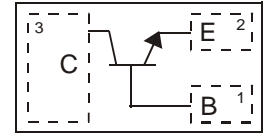


Features

- Epitaxial Die Construction
- Ultra-Small Leadless Surface Mount Package
- Ultra Low Profile (0.4mm max)
- Complementary PNP Type Available (BC857BLP4)
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**



BOTTOM VIEW



TOP VIEW
(Internal Schematic)

DFN1006H4-3

Mechanical Data

- Case: DFN1006H4-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections Indicator: Collector Dot
- Terminals: Finish — NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Ordering Information: See Page 3
- Marking Information: See Page 3
- Weight: 0.0008 grams

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

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @T _A = 25°C	P _D	250	mW
Thermal Resistance, Junction to Ambient (Note 3) @T _A = 25°C	R _{θJA}	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic (Note 4)	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	V _{(BR)CBO}	50	—	—	V	I _C = 10μA, I _B = 0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	45	—	—	V	I _C = 10mA, I _B = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6	—	—	V	I _E = 1μA, I _C = 0
DC Current Gain	h _{FE}	200	350	450	—	V _{CE} = 5.0V, I _C = 2.0mA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	80 200	250 600	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Saturation Voltage	V _{BE(SAT)}	—	700 900	—	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Voltage	V _{BE(ON)}	580 —	640 725	700 770	mV	V _{CE} = 5.0V, I _C = 2.0mA V _{CE} = 5.0V, I _C = 10mA
Collector-Cutoff Current	I _{CBO}	—	—	15 5.0	nA μA	V _{CB} = 30V V _{CB} = 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}	—	3.0	—	pF	V _{CB} = 10V, f = 1.0MHz

- 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 3, or Diodes Inc. suggested pad layout document AP02001 on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 4. Short duration pulse test used to minimize self-heating effect.

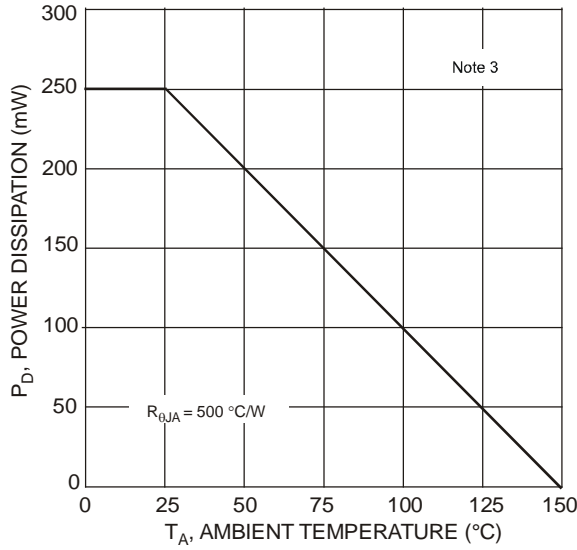


Fig. 1 Power Derating Curve

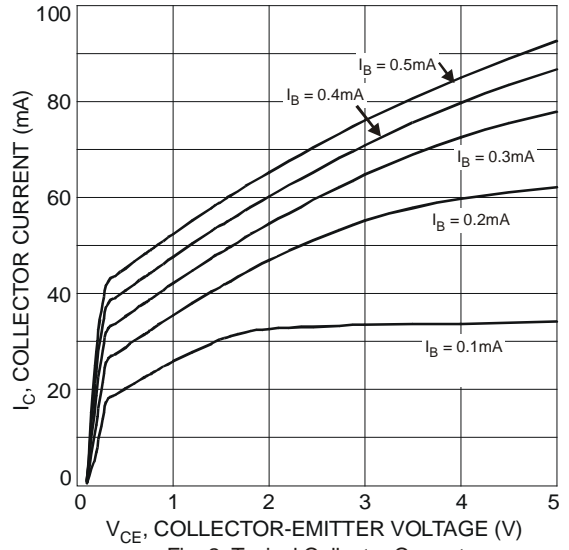


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

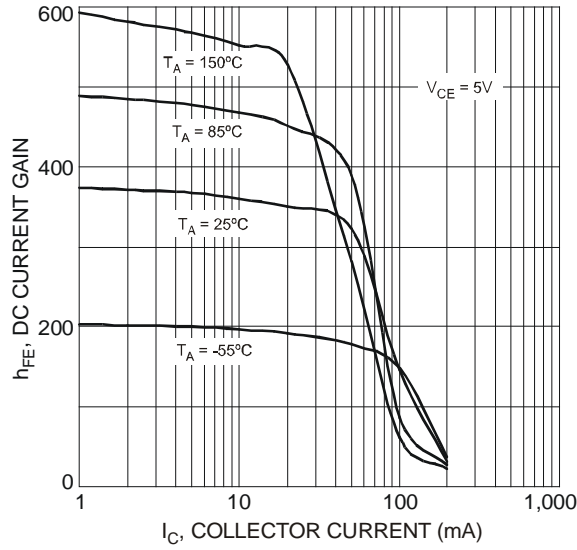


Fig. 3 Typical DC Current Gain vs. Collector Current

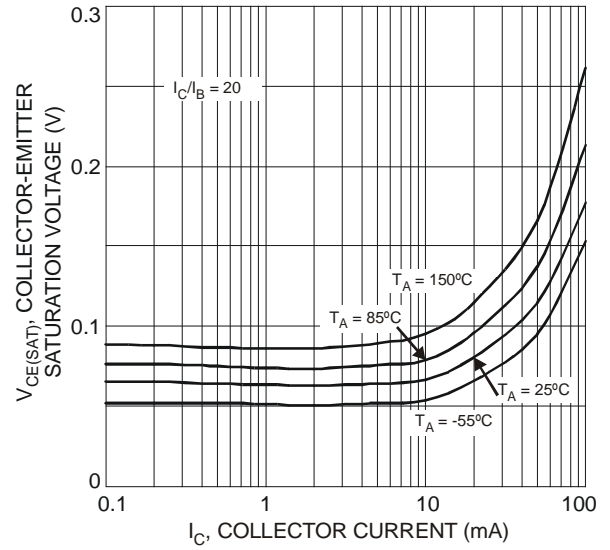


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

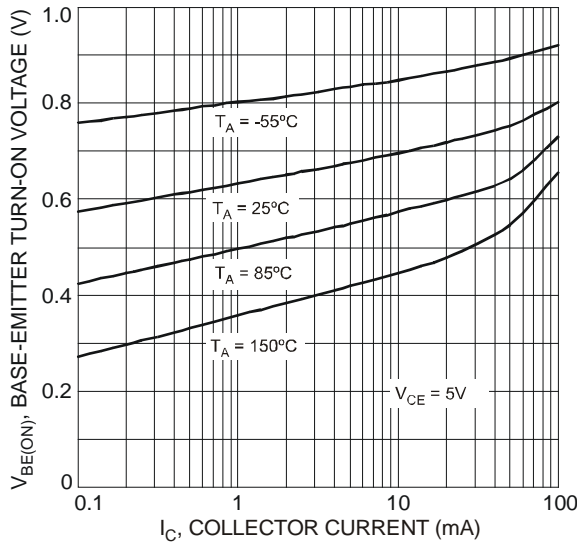


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

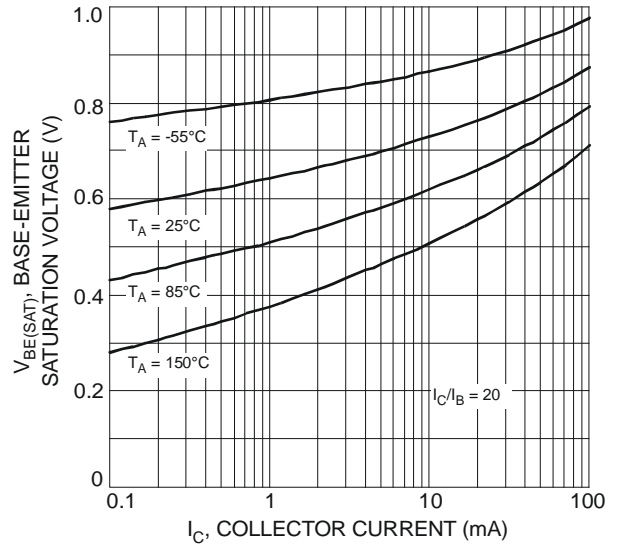


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

Ordering Information (Note 5)

Device	Packaging	Shipping
BC847BLP4-7	DFN1006H4-3	3000/Tape & Reel

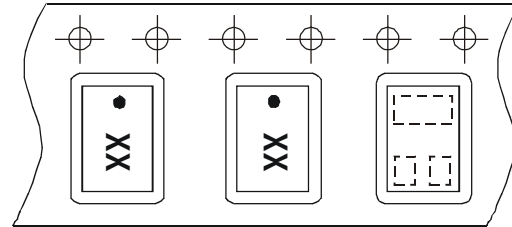
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



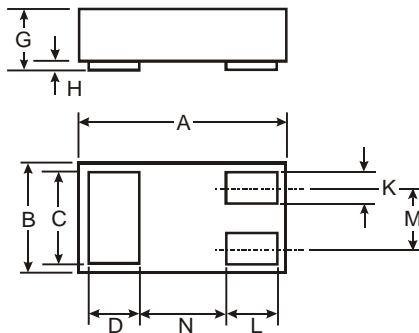
F1 = Product Type Marking Code
Dot Denotes Collector Side

DFN1006H4-3 Taping orientation



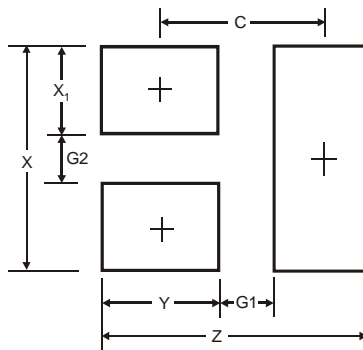
Direction of feed
→

Mechanical Details



DFN1006H4-3			
Dim	Min	Max	Typ
A	0.95	1.075	1.00
B	0.55	0.675	0.60
C	0.45	0.55	0.50
D	0.20	0.30	0.25
G	—	0.4	—
H	0	0.05	0.02
K	0.10	0.20	0.15
L	0.20	0.30	0.25
M	—	—	0.35
N	—	—	0.40
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.1
G1	0.3
G2	0.2
X	0.7
X1	0.25
Y	0.4
C	0.7

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