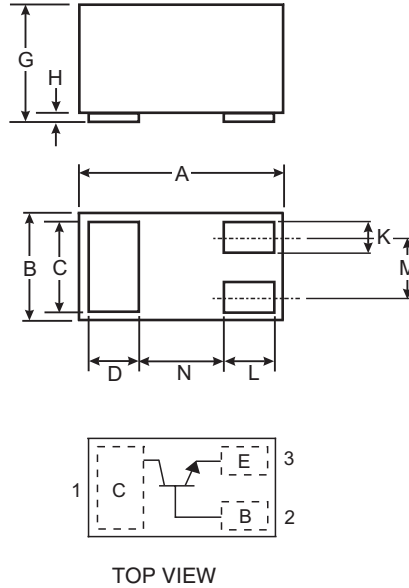


Features

- Complementary PNP Type Available (BC857BLP)
- Ultra-Small Leadless Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 1)**
- "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: DFN1006-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections Indicator: Collector Dot
- Terminals: Finish — NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Code 1F, Dot denotes Collector Side
- Ordering Information: See Page 3
- Weight: 0.001 grams



DFN1006-3			
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	0.47	0.53	0.50
H	0	0.05	0.03
K	0.10	0.20	0.15
L	0.20	0.30	0.25
M	—	—	0.35
N	—	—	0.40
All Dimensions in mm			

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
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Thermal Characteristics @ T_A = 25°C unless otherwise specified

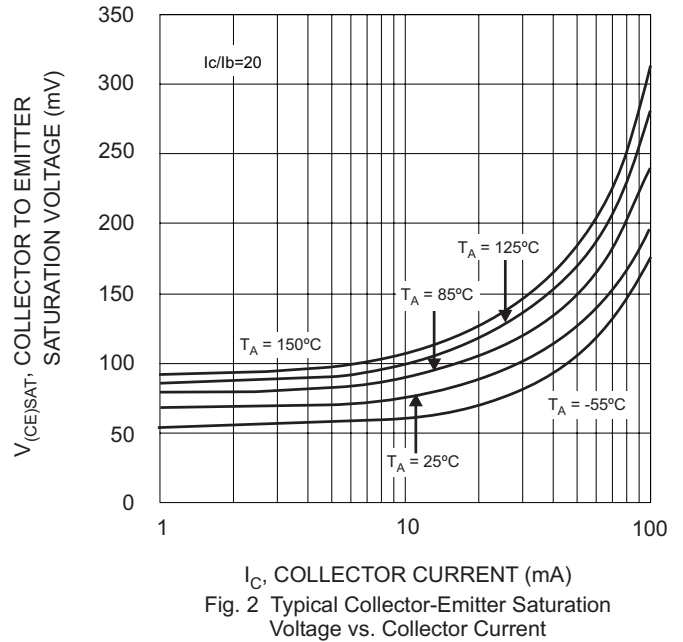
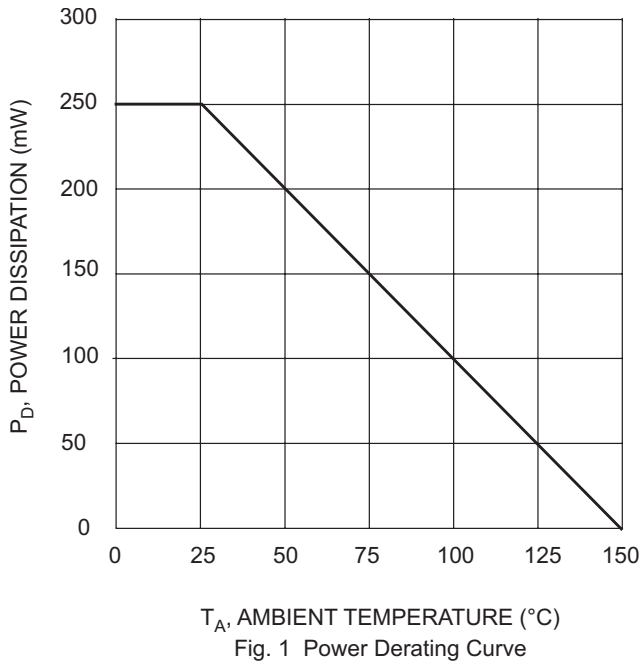
Characteristic	Symbol	Value	Unit
Power Dissipation	P _d	250	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	400	°C/W

- 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.

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 3)	$V_{(BR)CBO}$	50	—	—	V	$I_C = 10\mu\text{A}, I_B = 0$
Collector-Emitter Breakdown Voltage (Note 3)	$V_{(BR)CEO}$	45	—	—	V	$I_C = 10\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage (Note 3)	$V_{(BR)EBO}$	6	—	—	V	$I_E = 1\mu\text{A}, I_C = 0$
DC Current Gain (Note 3)	h_{FE}	200	350	450	—	$V_{CE} = 5.0\text{V}, I_C = 2.0\text{mA}$
Collector-Emitter Saturation Voltage (Note 3)	$V_{CE(SAT)}$	—	80 200	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 3)	$V_{BE(SAT)}$	—	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 3)	$V_{BE(ON)}$	580 —	640 725	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-Emitter Cutoff Current (Note 3)	I_{CBO} I_{CBO}	—	—	15 5.0	nA μA	$V_{CB} = 30\text{V}$ $V_{CB} = 30\text{V}, T_A = 150^\circ\text{C}$
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}	—	3.0	—	pF	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}$

Note: 3. Short duration pulse test used to minimize self-heating effect.



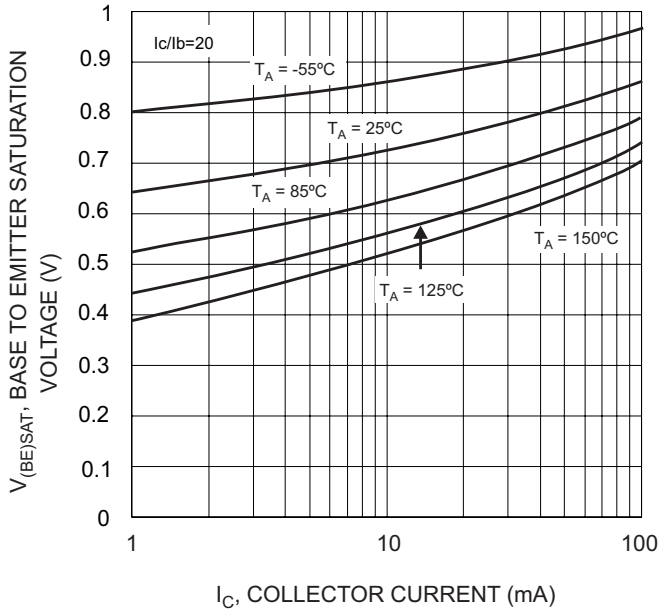


Fig. 3, Typical Base-Emitter Saturation Voltage vs. Collector Current

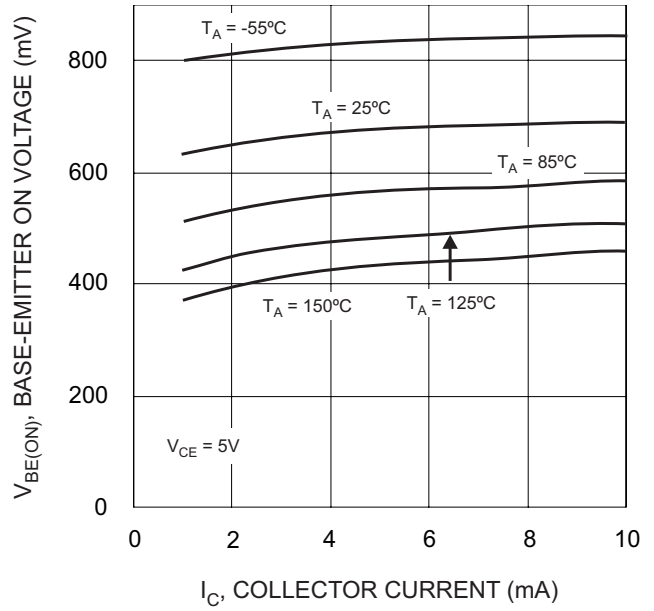


Fig. 4, Typical Base-Emitter Turn-On Voltage vs. Collector Current

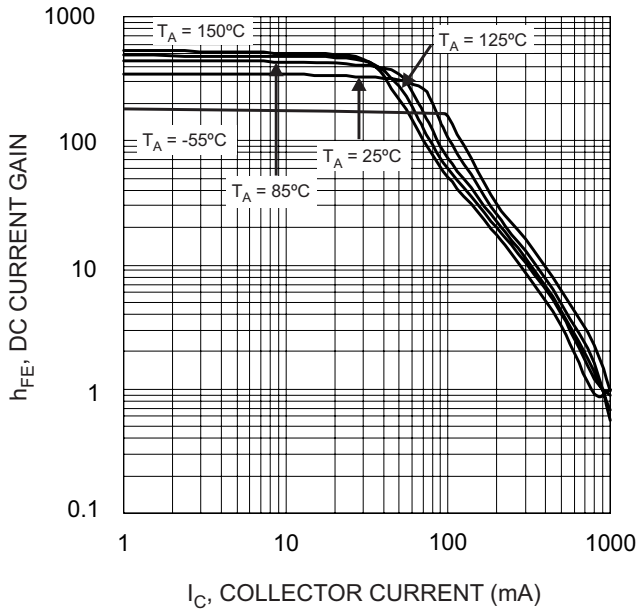


Fig. 5, Typical DC Current Gain vs. Collector Current

Ordering Information (Note 4)

Device	Packaging	Shipping
BC847BLP-7	DFN1006-3	3000/Tape & Reel

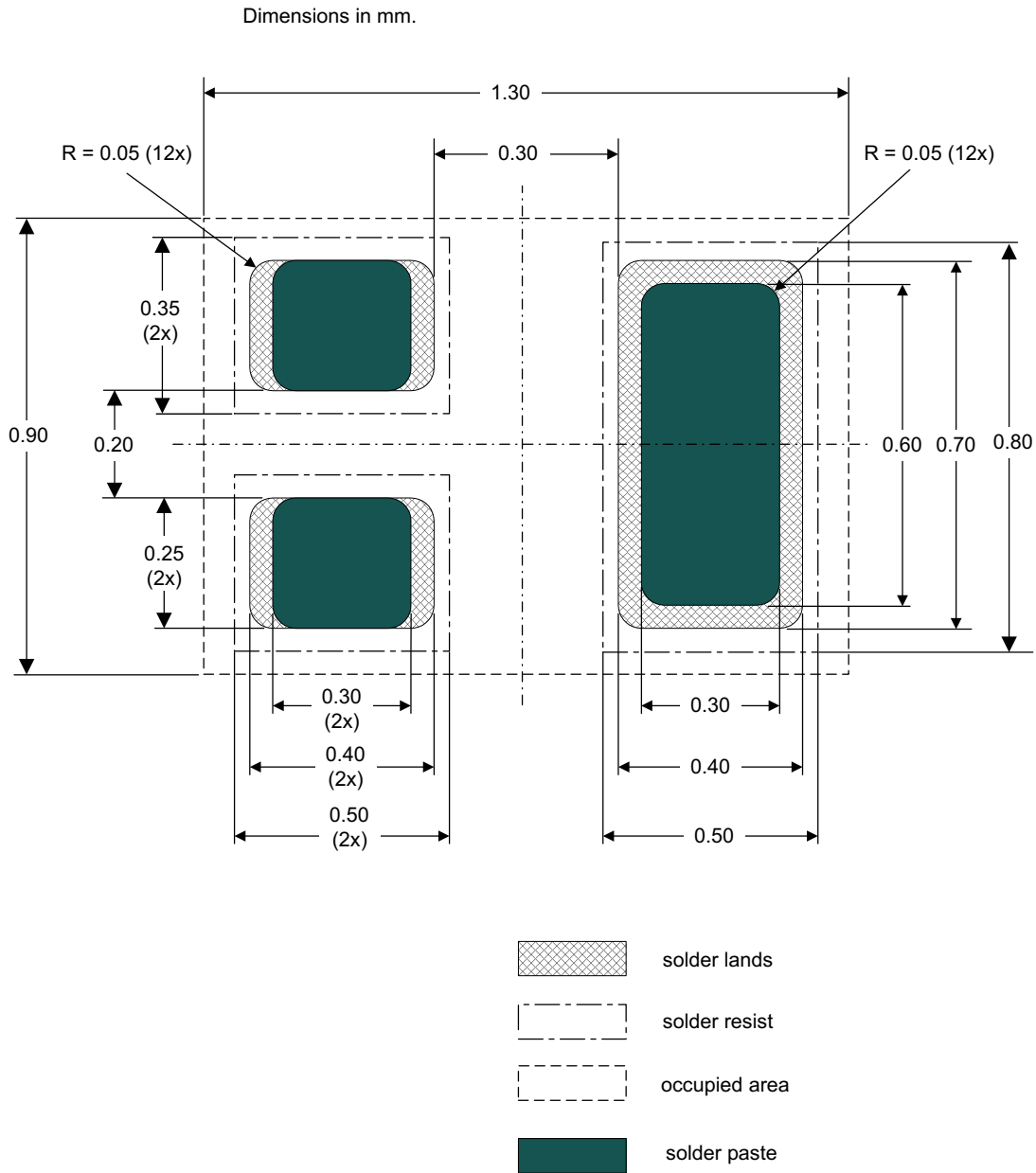
Note: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



1F = Product Type Marking Code,
Dot Denotes Collector Side

Suggested Pad Layout



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