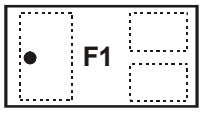
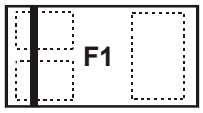
Marking Information

BC847BLP4-7



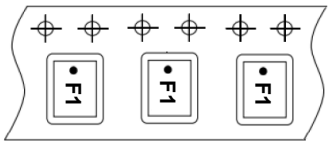
Top View

From date code 1527 (YYWW), this changes to:

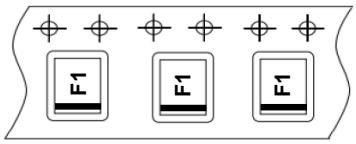


Top View

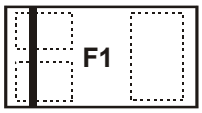
Dot Denotes Collector Side



Bar Denotes Base and Emitter Side

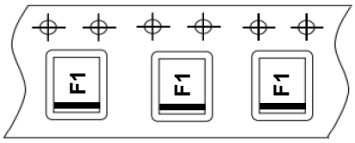


BC847BLP4-7B



Top View

Bar Denotes Base and Emitter Side



F1 = Product Type Marking Code

Absolute 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
Peak Pulse Collector Current	I_{CM}	200	mA

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

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 5)	P_D	400	mW
	(Note 6)		1000	
Thermal Resistance, Junction to Ambient	(Note 5)	$R_{\theta JA}$	310	°C/W
	(Note 6)		120	
Thermal Resistance, Junction to Lead	(Note 7)	$R_{\theta JL}$	120	°C/W
Operating and Storage and Temperature Range		T_J, T_{STG}	-55 to +150	°C

ESD Ratings (Note 8)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	200	V	B

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV_{CBO}	50	—	—	V	I_C = 10µA, I_B = 0
Collector-Emitter Breakdown Voltage (Note 9)	BV_{CEO}	45	—	—	V	I_C = 10mA, I_B = 0
Emitter-Base Breakdown Voltage	BV_{EBO}	6	—	—	V	I_E = 1µA, I_C = 0
DC Current Gain	h_{FE}	200	350	450	—	V_{CE} = 5V, I_C = 2mA
Collector-Emitter Saturation Voltage (Note 9)	$V_{CE(sat)}$	—	80 200	250 600	mV	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5mA
Base-Emitter Saturation Voltage (Note 9)	$V_{BE(sat)}$	— —	700 900	— —	mV	I_C = 10mA, I_B = 0.5mA I_C = 100mA, I_B = 5mA
Base-Emitter Voltage (Note 9)	$V_{BE(on)}$	580 —	640 725	700 770	mV	V_{CE} = 5V, I_C = 2mA V_{CE} = 5V, I_C = 10mA
Collector-Cutoff Current	I_{CBO}	— —	— —	15 5	nA µA	V_{CB} = 30V V_{CB} = 30V, T_A = +150°C
Gain Bandwidth Product	f_T	100	—	—	MHz	V_{CE} = 5V, I_C = 10mA, f = 100MHz
Collector-Base Capacitance	C_{CBO}	—	3	—	pF	V_{CB} = 10V, f = 1MHz

Notes:
5. For a device mounted on the minimum recommended pad layout of 1oz copper on a single-sided 1.6mm FR4 PCB; device is measured under still-air conditions whilst operating in steady-state condition. The entire exposed collector pad is attached to the heatsink.
6. Same as Note 5, except the exposed collector pad is mounted on 25mm x 25mm 2oz copper.
7. Thermal resistance from junction to solder-point (on the exposed collector pad).
8. Refer to JEDEC specification JESD22-A114 and JESD22-A115.
9. Measured under pulsed conditions. Pulse width ≤ 300µs. Duty cycle ≤ 2%.

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

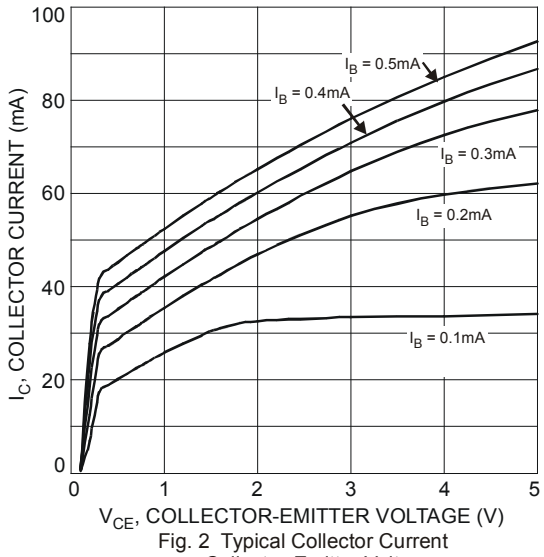


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

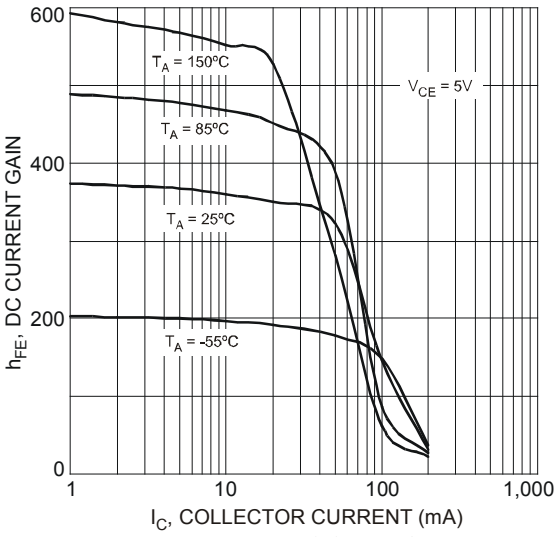


Fig. 3 Typical DC Current Gain vs. Collector Current

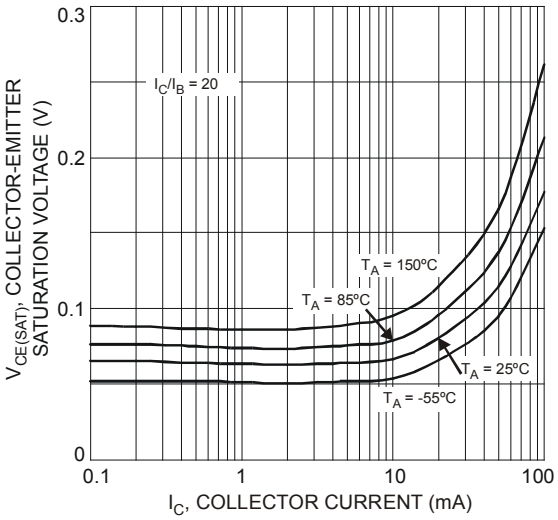


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

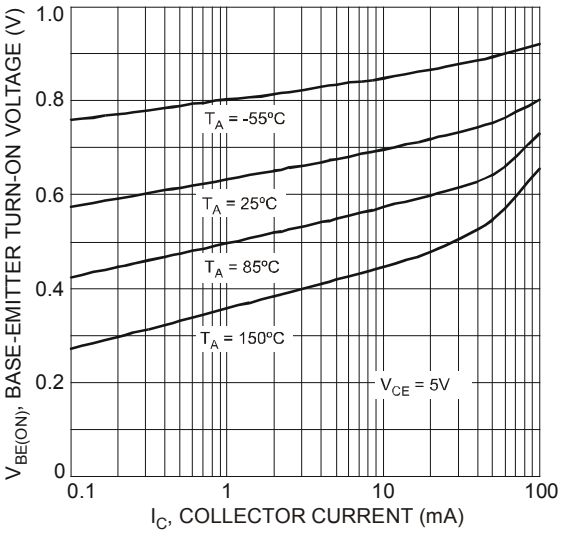


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

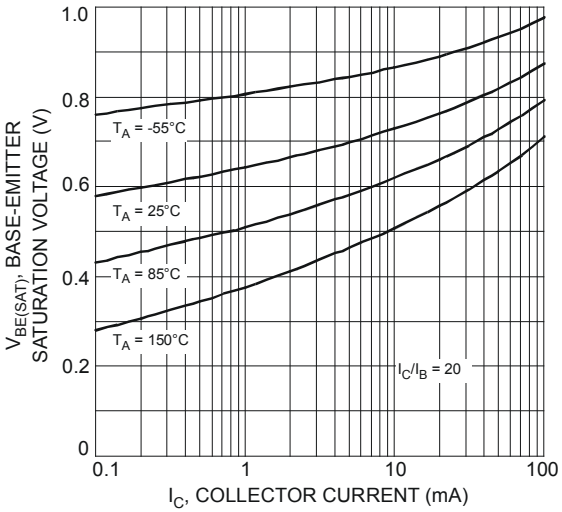
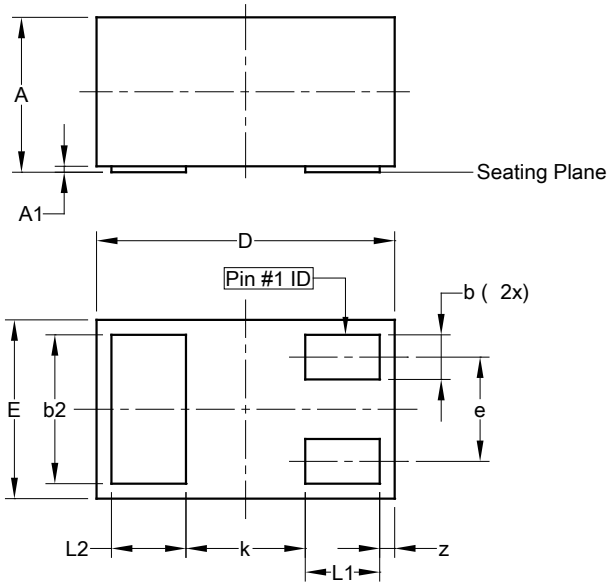


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

Package Outline Dimensions

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

X2-DFN1006-3

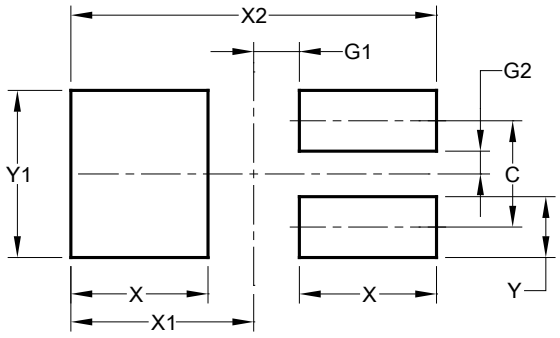


X2-DFN1006-3			
Dim	**Min**	**Max**	**Typ**
A	—	0.40	—
A1	0.00	0.05	0.03
b	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.05	1.00
E	0.55	0.65	0.60
e	-	-	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
k	-	-	0.40
z	0.02	0.08	0.05
All Dimensions in mm			

Suggested Pad Layout

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

X2-DFN1006-3



Dimensions	Value (in mm)
C	0.350
G1	0.150
G2	0.075
X	0.450
X1	0.600
X2	1.200
Y	0.200
Y1	0.550

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