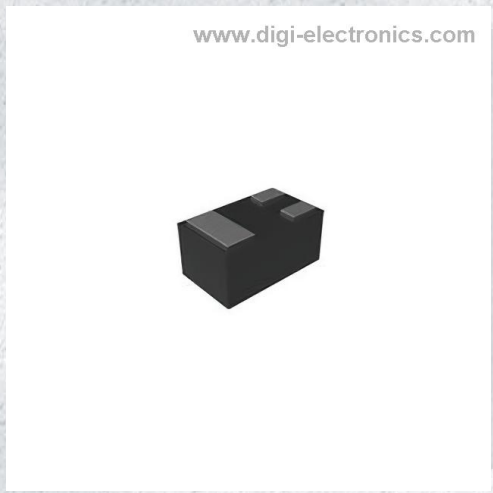
BC848BL3-TP Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	BC848BL3-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BC848BL3-TP
Description	Interface
Detailed Description	Bipolar (BJT) Transistor NPN 30 V 100 mA 100MHz 1 50 mW Surface Mount DFN1006-3

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BC848BL3-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
NPN	100 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
30 V	600mV @ 5mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
1mA	200 @ 2mA, 5V
Power - Max:	Frequency - Transition:
150 mW	100MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
SC-101, SOT-883	DFN1006-3
Base Product Number:	
BC848	

Environmental & Export classification

REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

Micro Commercial Components

BC846AL3 THRU BC848CL3

Features

- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

NPN Plastic-Encapsulate Transistors

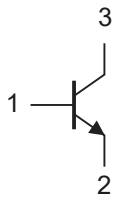
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Maximum Thermal Resistance:833℃/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage BC846AL3-BC846BL3 BC847AL3-BC847CL3 BC848AL3-BC848CL3	V_{CBO}	80 50 30	V
Collector-Emitter Voltage BC846AL3-BC846BL3 BC847AL3-BC847CL3 BC848AL3-BC848CL3	V_{CEO}	65 45 30	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Collector Power Dissipation	P_C	150	mW

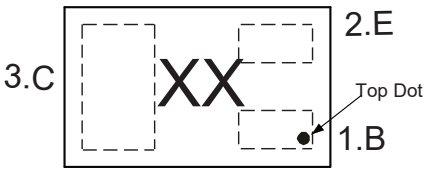
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm romine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



1.BASE
2.EMITTER
3.COLLECTOR

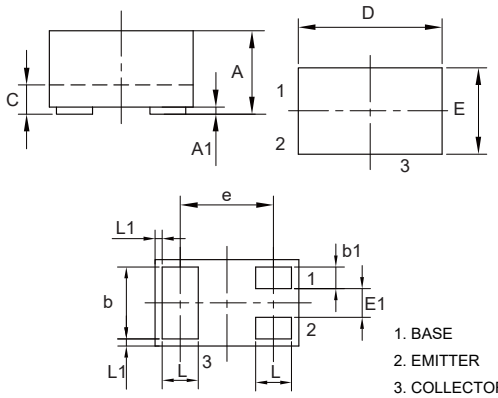
Marking Code



Transparent top view

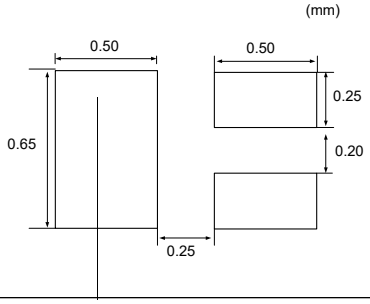
Part NO.	BC846AL3	BC846BL3	BC847AL3	BC847BL3	BC847CL3	BC848AL3	BC848BL3	BC848CL3
Marking code	1A	1B	1E	1F	1G	1J	1K	1L

DFN1006-3



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
A1	0.000	0.002	0.00	0.05	
b	0.018	0.022	0.45	0.55	
b1	0.004	0.008	0.10	0.20	
c	0.005	0.007	0.12	0.18	
D	0.037	0.042	0.95	1.075	
E	0.022	0.026	0.55	0.675	
E1	0.006	0.010	0.15	0.25	
e	0.026		0.65		TYP.
L	0.008	0.012	0.20	0.30	
L1	0.0002		0.05		TYP.

Suggested Solder Pad Layout



Electrical Characteristics @ T_A=25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage						
BC846AL3-BC846BL3	$V_{(BR)CBO}$	80			V	I_C=10μA, I_E=0
BC847AL3-BC847CL3		50				
BC848AL3-BC848CL3		30				
Collector-Emitter Breakdown Voltage						
BC846AL3-BC846BL3	$V_{(BR)CEO}$	65			V	I_C=10mA, I_B=0
BC847AL3-BC847CL3		45				
BC848AL3-BC848CL3		30				
Emitter-Base Breakdown Voltage						
BC846AL3-BC846BL3	$V_{(BR)EBO}$	6			V	I_E=10μA, I_C=0
BC847AL3-BC847CL3		6				
BC848AL3-BC848CL3		5				
Collector Cut-off Current	I_{CBO}			15	nA	V_{CB}=30V, I_E=0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB}=5V, I_C=0
Emitter Cutoff Current	I_{CEO}			1	mA	V_{CE}=30V, I_B=0
DC Current Gain						
BC846AL3/BC847AL3/BC848AL3	$h_{FE(1)}$		110			V_{CE}=5V, I_C=10μA
BC846BL3/BC847BL3/BC848BL3			250			
BC847CL3/BC848CL3			480			
DC Current Gain						
BC846AL3/BC847AL3/BC848AL3	$h_{FE(2)}$	110		220		V_{CE}=5V, I_C=2mA
BC846BL3/BC847BL3/BC848BL3		200		450		
BC847CL3/BC848CL3		420		800		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.09	0.3	V	I_C=10mA, I_B=0.5mA
			0.2	0.6		I_C=100mA, I_B=5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.7	0.9	V	I_C=10mA, I_B=0.5mA
			0.9	1.1		I_C=100mA, I_B=5mA
Base-Emitter On Voltage	$V_{BE(on)}$	0.58	0.66	0.7	V	V_{CE}=5V, I_C=2mA
				0.77		V_{CE}=5V, I_C=10mA
Transition Frequency	f_T	100			MHz	V_{CE}=5V, I_C=10mA, f=100MHz

Curve Characteristics

Fig. 1 - Static Characteristics

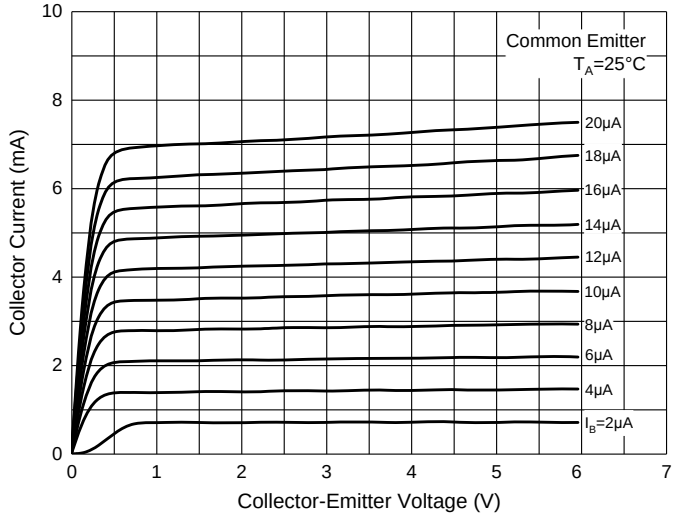


Fig. 2 - DC Current Gain Characteristics

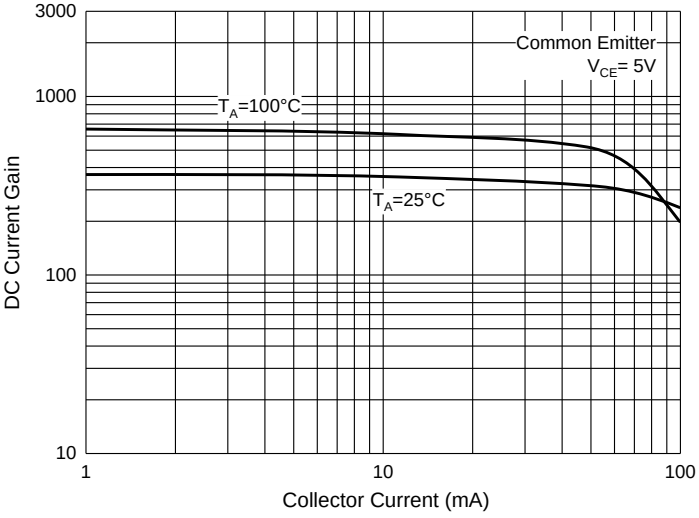


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

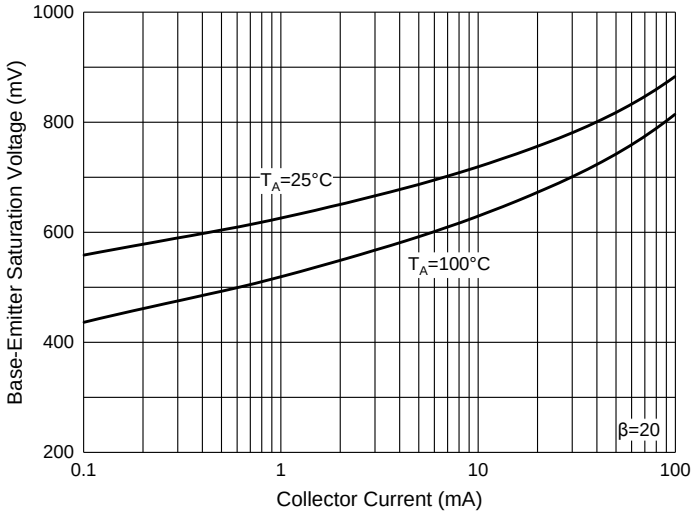


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

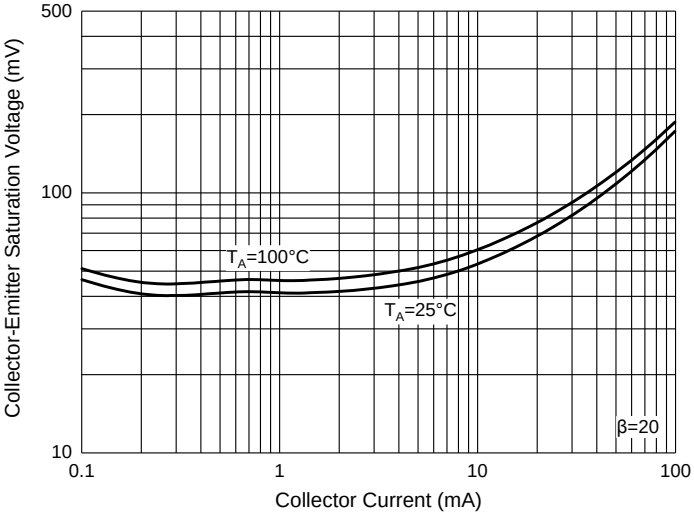


Fig. 5 - Base-Emitter Voltage Characteristics

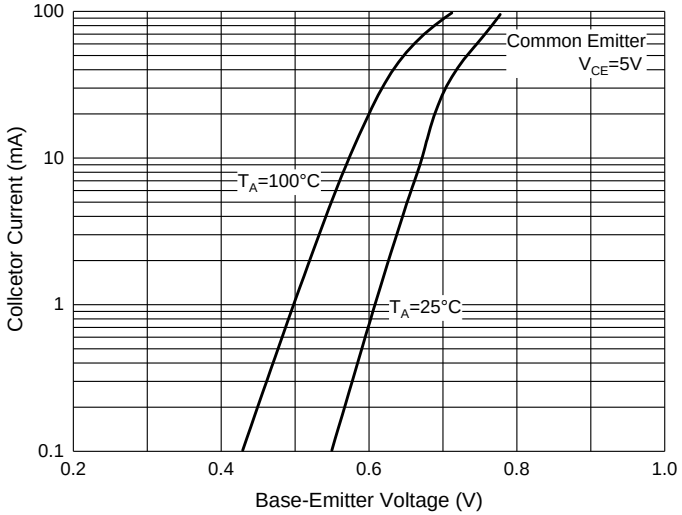
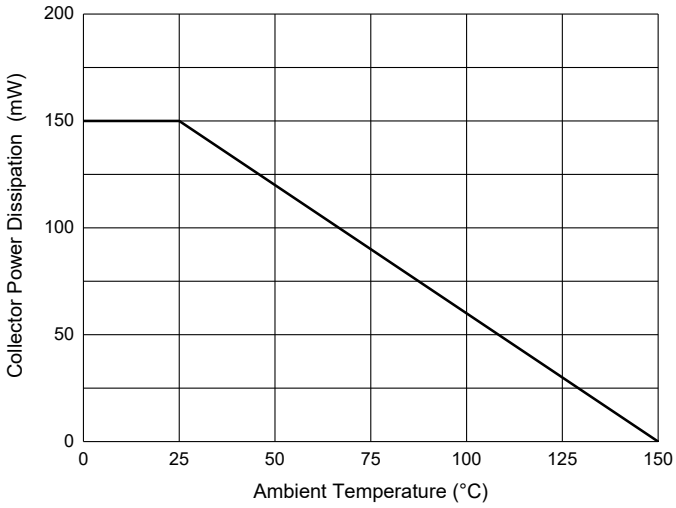


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

OUR CERTIFICATE

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