

Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- 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)

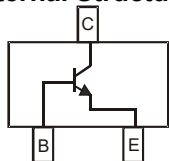
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 625°C/W Junction to Ambient (Note2)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage			
BC846AWHE3, BC846BWHE3	V_{CBO}	80	V
BC847AWHE3, BC847BWHE3, BC847CWHE3		50	
BC848AWHE3, BC848BWHE3, BC848CWHE3		30	
Collector-Emitter Voltage			
BC846AWHE3, BC846BWHE3	V_{CEO}	65	V
BC847AWHE3, BC847BWHE3, BC847CWHE3		45	
BC848AWHE3, BC848BWHE3, BC848CWHE3		30	
Emitter-Base Voltage			
BC846AWHE3, BC846BWHE3	V_{EBO}	6	V
BC847AWHE3, BC847BWHE3, BC847CWHE3		6	
BC848AWHE3, BC848BWHE3, BC848CWHE3		5	
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Peak Base Current	I_{BM}	200	mA
Power Dissipation	P_D	200	mW

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Device Mounted on an FR4 Printed Circuit Board.

Internal Structure

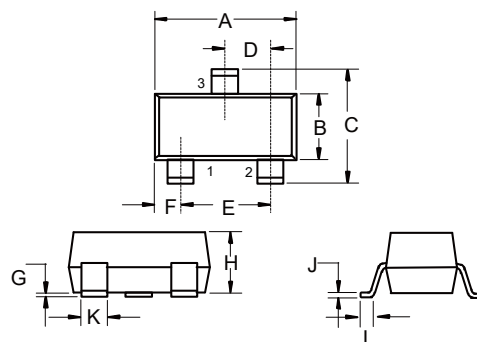


Marking:

BC846AWHE3:1A; BC846BWHE3:1B
BC847AWHE3:1E; BC847BWHE3:1F; BC847CWHE3:1G
BC848AWHE3:1J; BC848BWHE3:1K; BC848CWHE3:1L

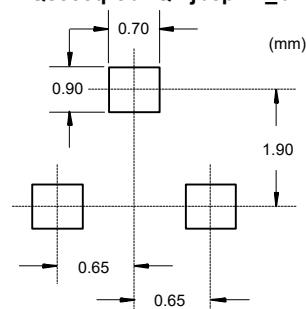
NPN General Purpose Transistors

SOT-323



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	
L	0.010	0.018	0.26	0.46	

QseecqrcbAQmjbcpAN_bAJ_wmsr



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage BC846AWHE3,BC846BWHE3 BC847AWHE3,BC847BWHE3,BC847CWHE3 BC848AWHE3,BC848BWHE3,BC848CWHE3	$V_{(BR)CBO}$	80 50 30			V	$I_C=10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage BC846AWHE3,BC846BWHE3 BC847AWHE3,BC847BWHE3,BC847CWHE3 BC848AWHE3,BC848BWHE3,BC848CWHE3	$V_{(BR)CEO}$	65 45 30			V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=1\mu A, I_C=0$
Collector-Base Cutoff Current BC846AWHE3,BC846BWHE3 BC847AWHE3,BC847BWHE3,BC847CWHE3 BC848AWHE3,BC848BWHE3,BC848CWHE3	I_{CBO}			100	nA	$V_{CB}=70V, I_E=0$ $V_{CB}=50V, I_E=0$ $V_{CB}=30V, I_E=0$
Emitter-Base Cutoff Current	I_{EBO}			100	nA	$V_{EB}=5V, I_C=0$
DC Current Gain BC846AWHE3,BC847AWHE3,BC848AWHE3 BC846BWHE3,BC847BWHE3,BC848BWHE3 BC847CWHE3,BC848CWHE3	$h_{FE(1)}$	110 200 420	180 290 520	220 450 800		$V_{CE}=5V, I_C=2mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			500	mV	$I_C=100mA, I_B=5mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.1	V	$I_C=100mA, I_B=5mA$
Transition Frequency	f_T	150			MHz	$V_{CE}=5V, I_C=10mA, f=30MHz$
Collector Capacitance	C_C			4.5	pF	$V_{CB}=10V, I_E=I_E=0, f=1MHz$

Curve Characteristics

Fig. 1 - Static Characteristics

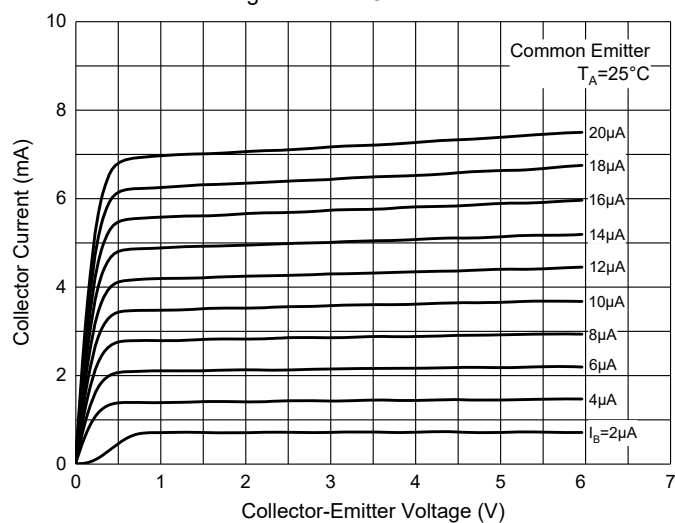


Fig. 2 - DC Current Gain Characteristics

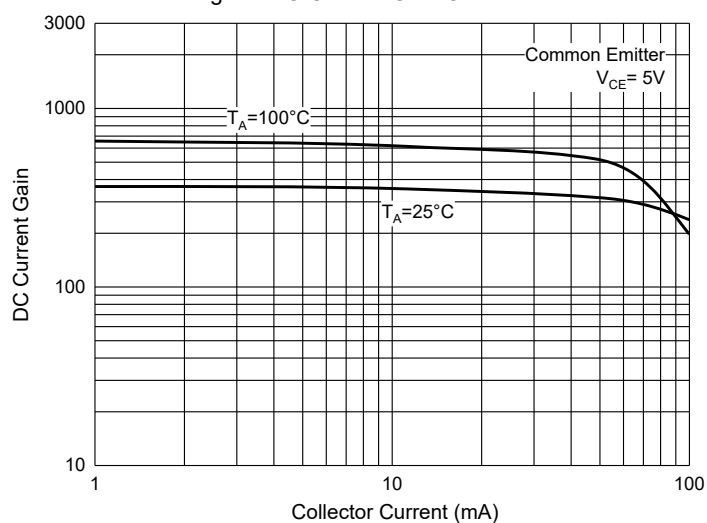


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

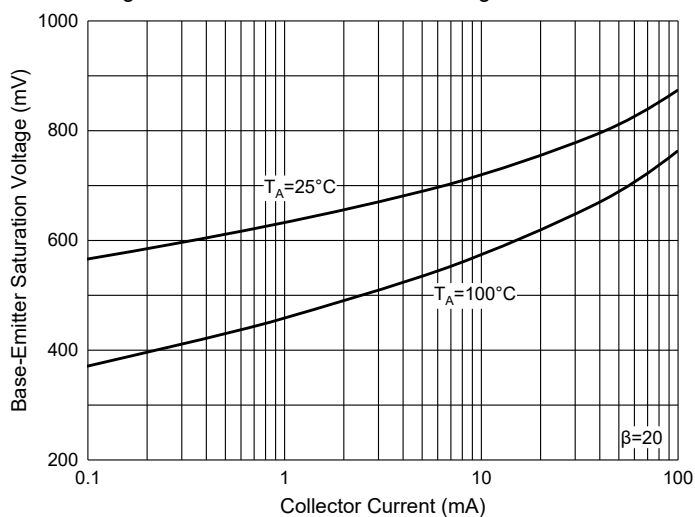


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

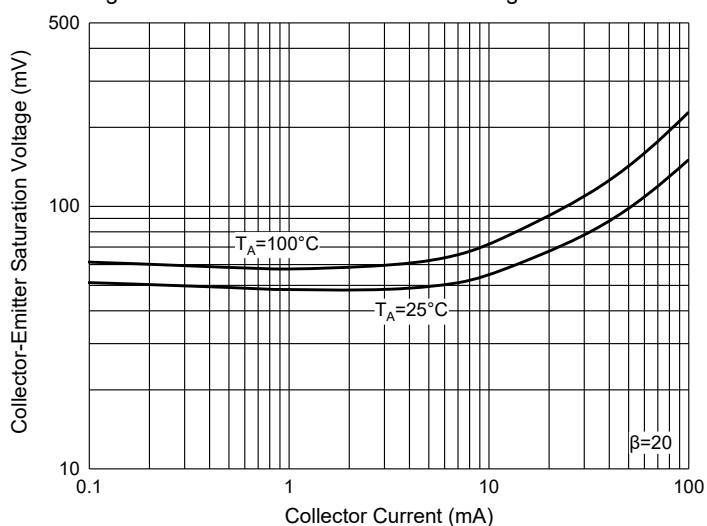


Fig. 5 - Base-Emitter Voltage Characteristics

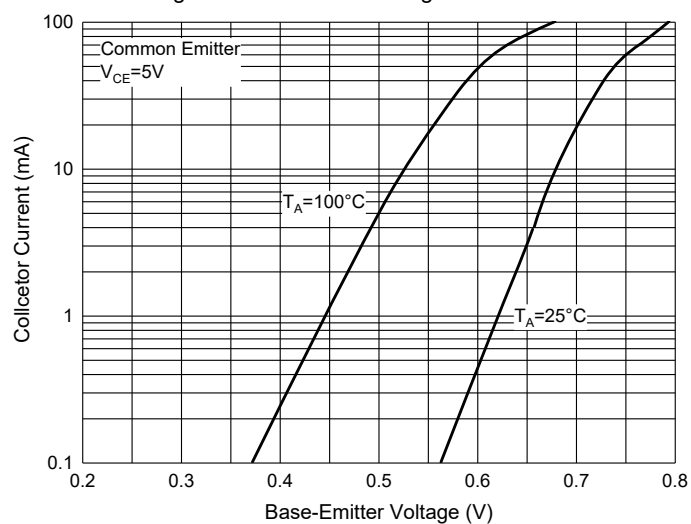
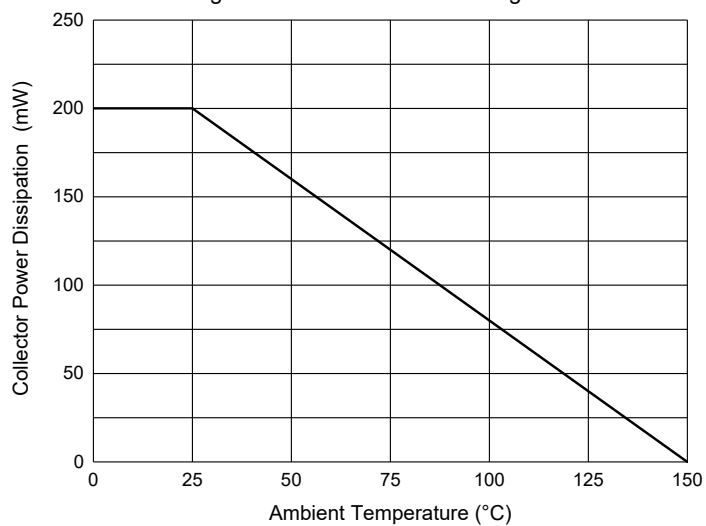


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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[BC848BWHE3-TP](#) [BC848CWHE3-TP](#)