Features

- Halogen free available upon request by adding suffix "-HF"
- 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)

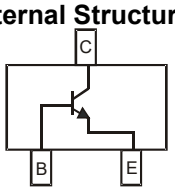
NPN Plastic-Encapsulate Transistors

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Maximum Thermal Resistance:625℃/W Junction to Ambient

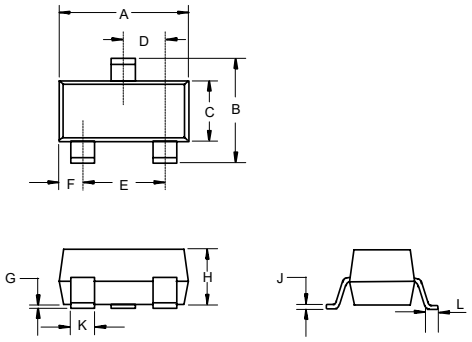
Parameter	Symbol	Rating	Unit
Collector-Base Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	V_{CBO}	 80 50 30	V
Collector-Emitter Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	V_{CEO}	 65 45 30	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Collector Power Dissipation@T_A=25℃(Note1)	P_C	225	mW

Internal Structure



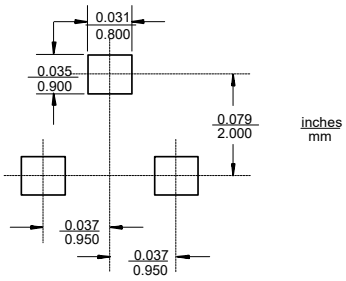
Marking:
BC846A:1A,46A; BC846B:1B,46B;
BC847A:1E,47A; BC847B:1F,47B; BC847C:1G,47C;
BC848A:1J,48A; BC848B:1K,48B; BC848C:1L,48C;
BC849B:49B; BC849C:49C;

SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	$V_{(BR)CBO}$	 80 50 30			V	I_C=10μA, I_E=0
Collector-Emitter Breakdown Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	$V_{(BR)CEO}$	 65 45 30			V	I_C=10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	I_E=10μA, I_C=0
Collector Cut-off Current BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	I_{CBO}			0.1	μA	V_{CB}=70V, I_E=0 V_{CB}=50V, I_E=0 V_{CB}=30V, I_E=0
Collector Cut-off Current BC846A-BC846B BC847A-BC847C BC848A-BC848C,BC849B-BC849C	I_{CEO}			0.1	μA	V_{CE}=60V,I_B=0 V_{CE}=45V,I_B=0 V_{CE}=30V,I_B=0
Emitter Cut-off Current	I_{EBO}			0.1	μA	V_{EB}=5V, I_C=0
DC Current Gain BC846A,BC847A, BC848A BC846B,BC847B,BC848B, BC849B BC847C,BC848C,BC849C	h_{FE}	 110 200 420		 220 450 800		V_{CE}=5V, I_C=2mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	I_C=100mA, I_B=5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.10	V	I_C=100mA, I_B=5mA
Transition Frequency	f_T	100			MHz	V_{CE}=5V, I_C=10mA, f=100MHz
Collector Output Capacitance	C_{ob}			4.5	pF	V_{CB}=10V, f=1MHz

Note:

1. Transistor mounted on an FR4 printed-circuit board

Curve Characteristics

Fig. 1 - Static Characteristics

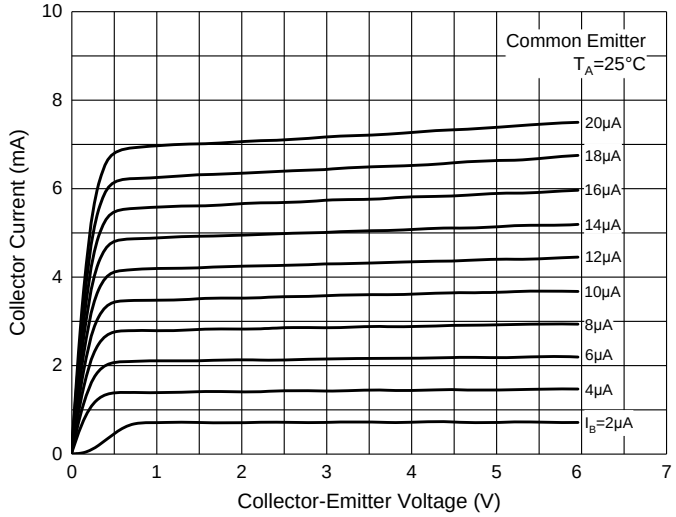


Fig. 2 - DC Current Gain Characteristics

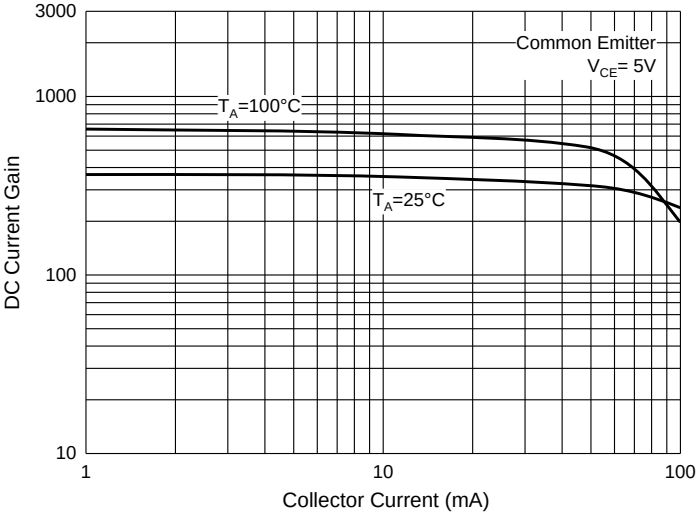


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

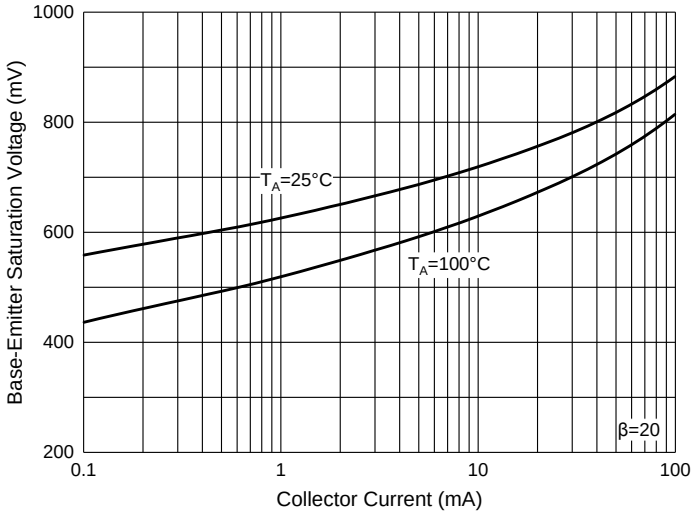


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

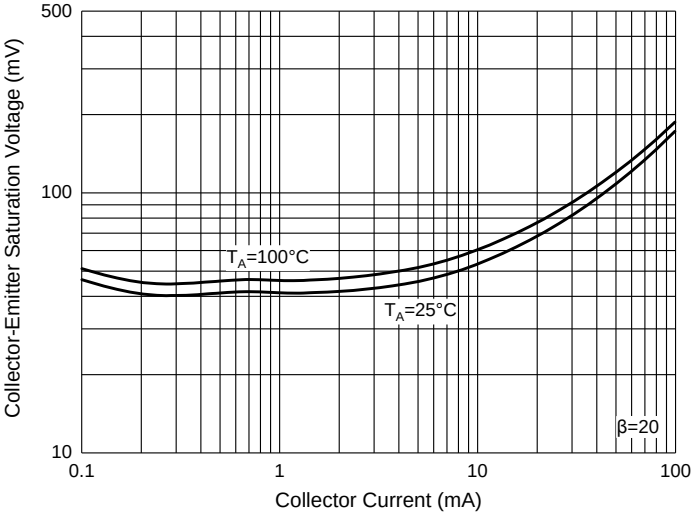


Fig. 5 - Base-Emitter Voltage Characteristics

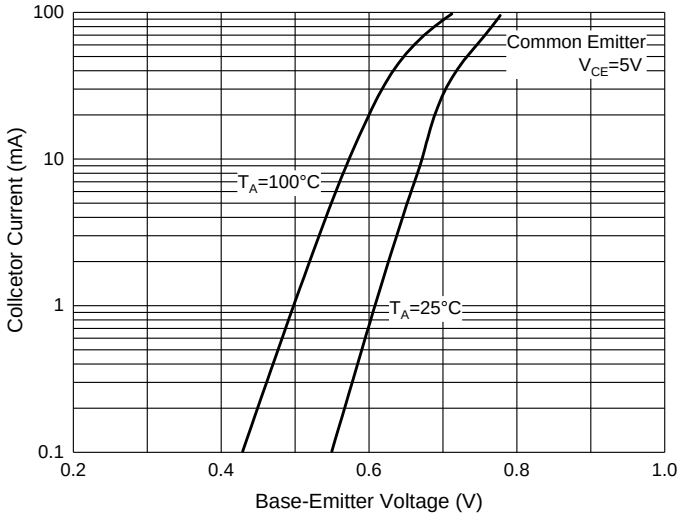
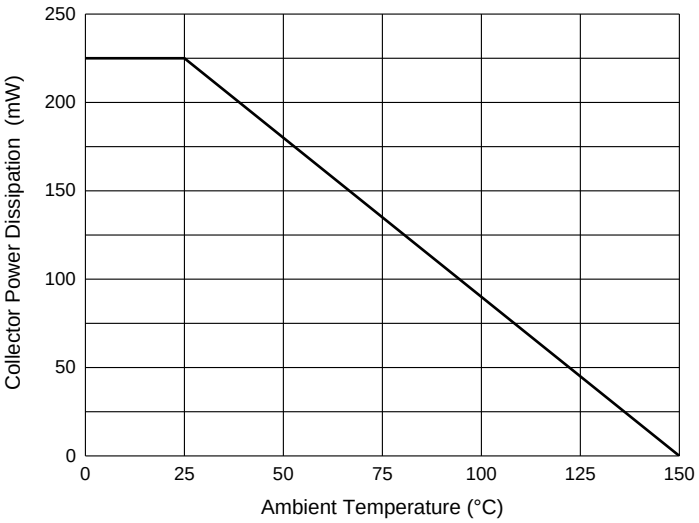


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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