

### 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)

### Maximum Ratings @ 25°C Unless Otherwise Specified

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

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-80	V
BC856A-BC856B		-50	
BC857A-BC857C		-30	
Collector-Emitter Voltage	$V_{CEO}$	-65	V
BC856A-BC856B		-45	
BC857A-BC857C		-30	
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-100	mA
Collector Power Dissipation	$P_C$	150	mW

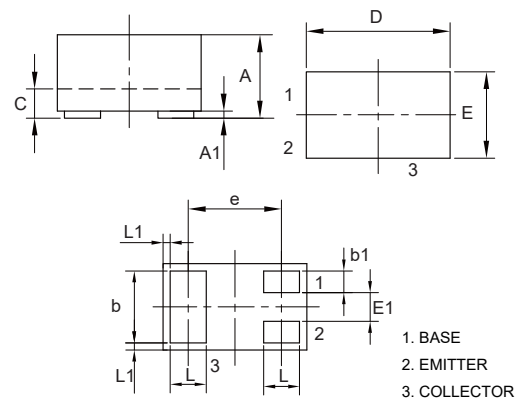
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

### Marking:

BC856A:3A; BC856B:3B;  
 BC857A:3E; BC857B:3F; BC857C:3G;  
 BC858A:3J; BC858B:3K; BC858C:3L;

## PNP Plastic-Encapsulate Transistors

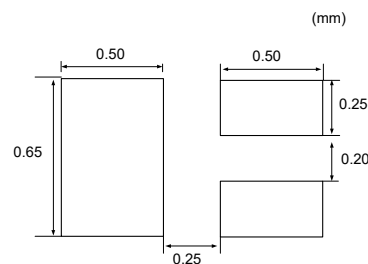
### DFN1006-3



#### 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 @  $T_A=25^\circ\text{C}$  Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage BC856A-BC856B BC857A-BC857C BC858A-BC858C	$V_{(BR)CBO}$	-80 -50 -30			V	$I_C=-10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage BC856A-BC856B BC857A-BC857C BC848A-BC848C	$V_{(BR)CEO}$	-65 -45 -30			V	$I_C=-10\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage BC856A-BC856B BC857A-BC857C BC858A-BC858C	$V_{(BR)EBO}$	-5 -5 -5			V	$I_E=-1\mu\text{A}, I_C=0$
Collector Cut-off Current	$I_{CBO}$			-15	nA	$V_{CB}=-30\text{V}, I_E=0$
Emitter Cutoff Current	$I_{EBO}$			-100	nA	$V_{EB}=-5\text{V}, I_C=0$
Emitter Cutoff Current	$I_{CEO}$			-1	mA	$V_{CE}=-30\text{V}, I_B=0$
DC Current Gain BC856A/BC857A/BC858A BC856B/BC857B/BC858B BC857C/BC858C	$h_{FE}$	110 200 420		220 450 800		$V_{CE}=-5\text{V}, I_C=-2\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3 -0.65	V	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$ $I_C=-100\text{mA}, I_B=-5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.7 -0.85		V	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$ $I_C=-100\text{mA}, I_B=-5\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)}$	-0.6	-0.65	-0.75 -0.82	V	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$ $V_{CE}=-5\text{V}, I_C=-10\text{mA}$
Transition Frequency	$f_T$	100			MHz	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$

**Curve Characteristics**

Fig. 1 - Static Characteristics

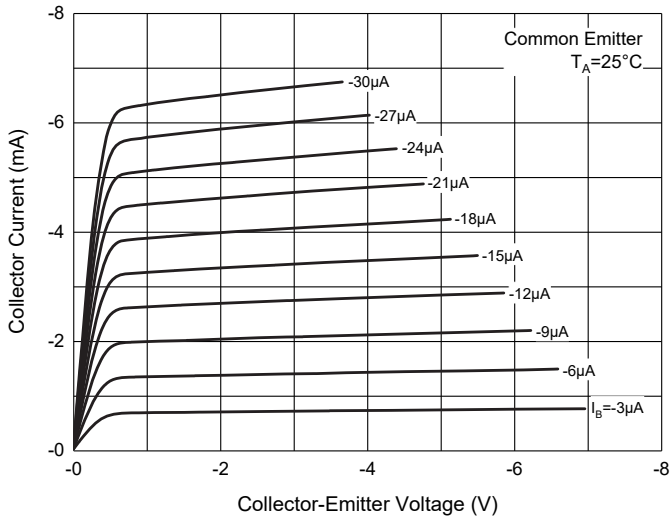


Fig. 2 - DC Current Gain Characteristics

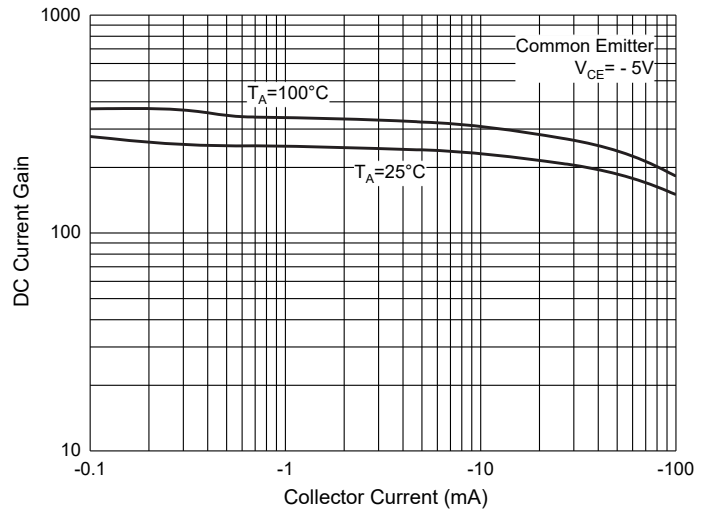


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

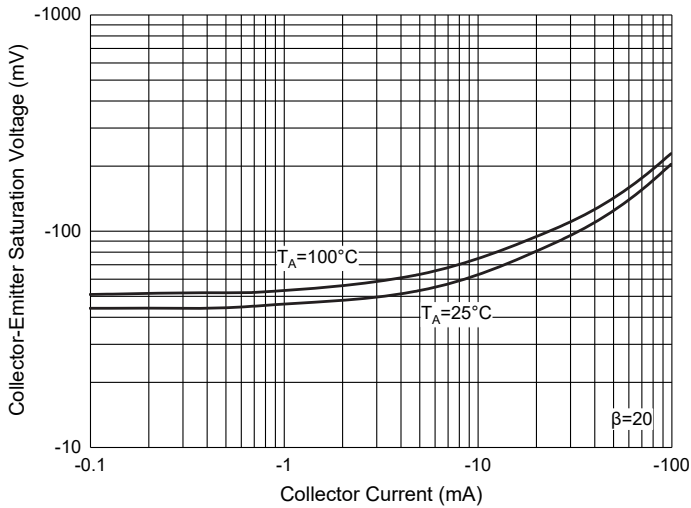


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

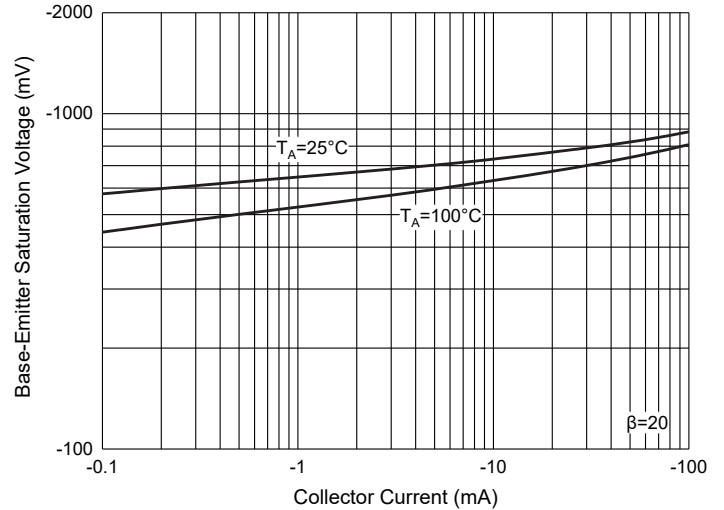


Fig. 5 - Base-Emitter Voltage Characteristics

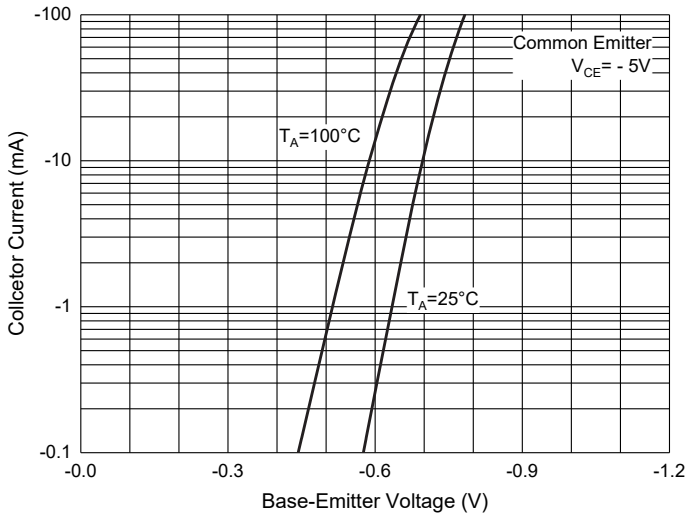
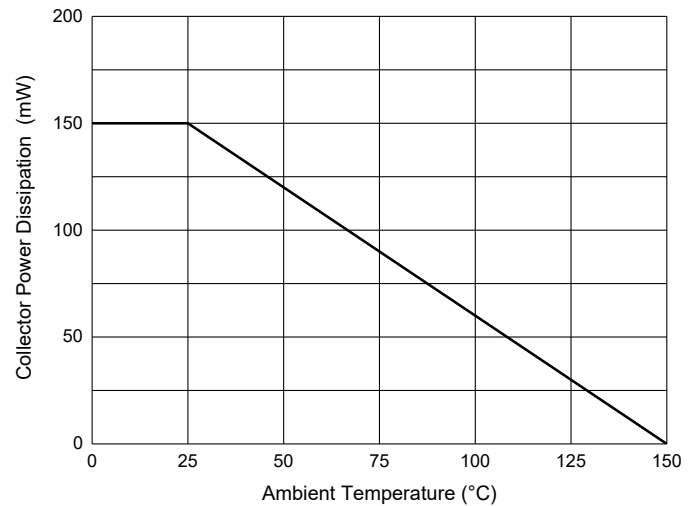


Fig. 6 - Collector Power Derating Curve



## Ordering Information

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

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