

## 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

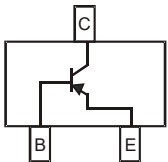
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 472°C/W Junction to Ambient<sup>(Note 2)</sup>

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	BC856A-BC856B	-80
BC857A-BC857C		-50	
BC858A-BC858C		-30	
Collector-Emitter Voltage	$V_{CEO}$	BC856A-BC856B	-65
BC857A-BC857C		-45	
BC858A-BC858C		-30	
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-100	mA
Collector Power Dissipation@ $T_A=25^\circ\text{C}$ <sup>(Note2)</sup>	$P_C$	265	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.

Note:2. Device Mounted on FR-5: 1.0 X 0.75 X 0.062 inch

## Internal Structure

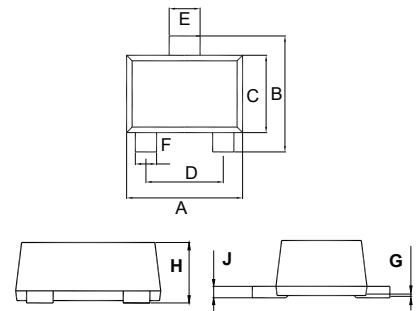


### Marking:

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

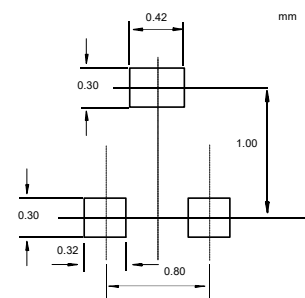
# PNP Plastic-Encapsulate Transistors

## SOT-723



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

### 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 BC858A-BC858C	$V_{(BR)CEO}$	-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	$V_{BE(on)}$		-0.65	-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

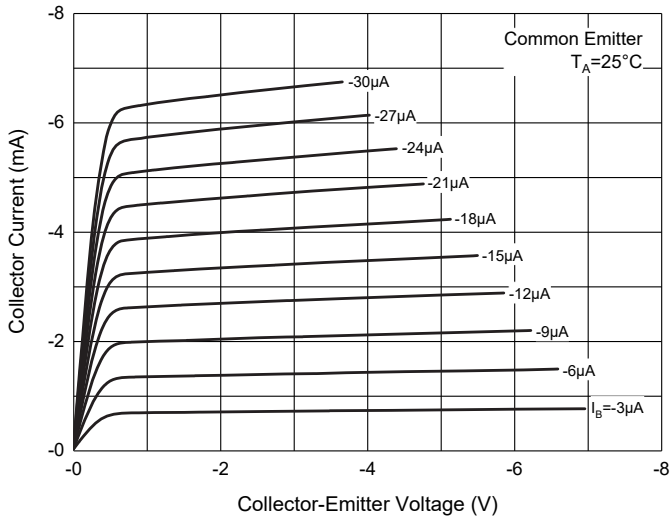


Fig. 2 - DC Current Gain Characteristics

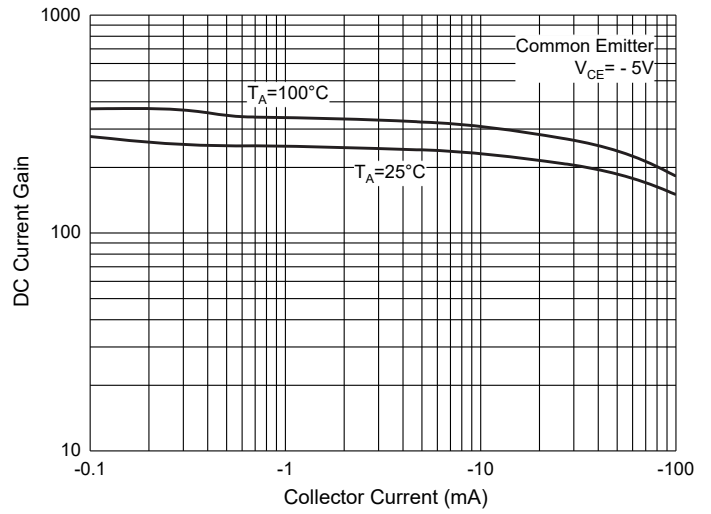


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

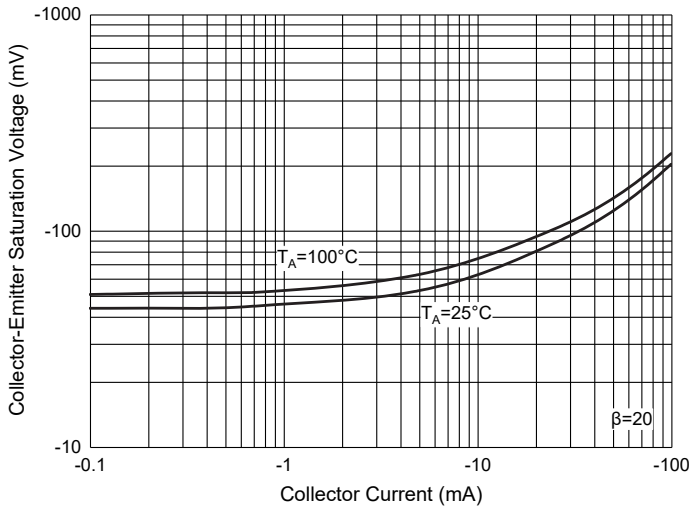


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

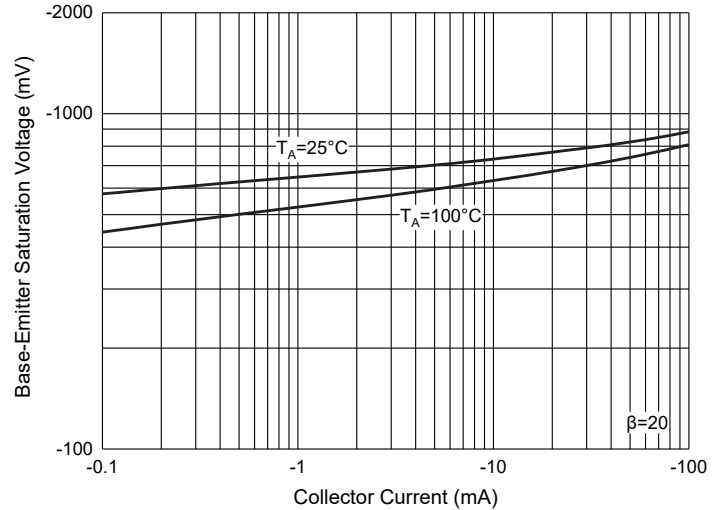


Fig. 5 - Base-Emitter Voltage Characteristics

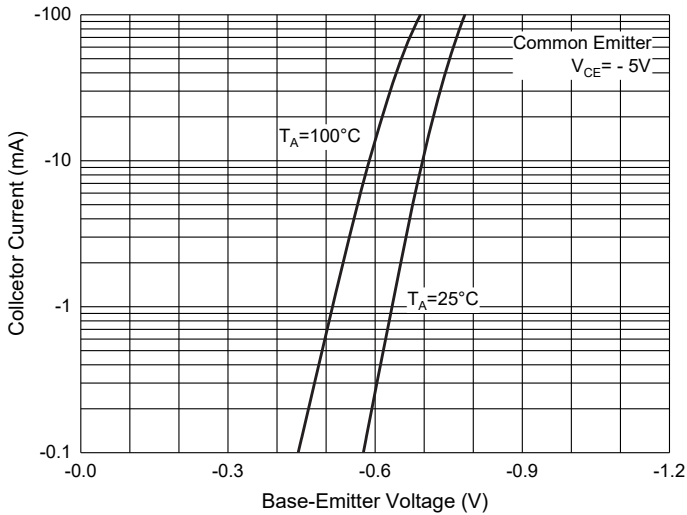
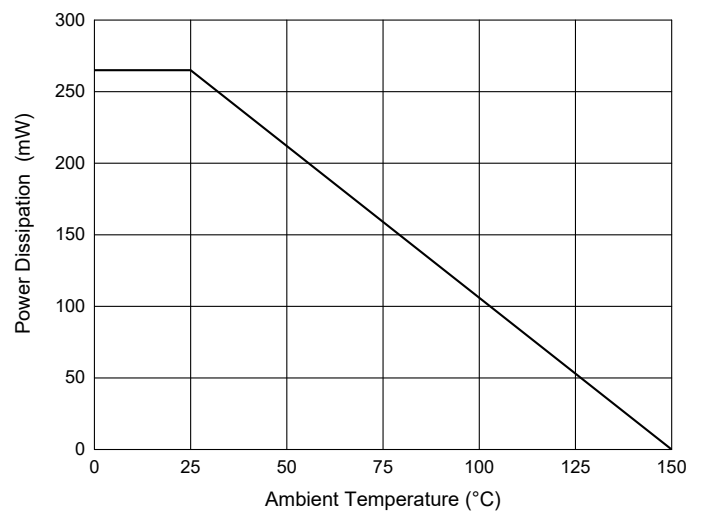


Fig. 6 - Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

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