

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)

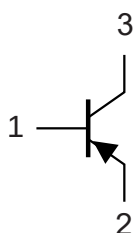
Maximum Ratings @ 25°C Unless Otherwise Specified

- 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 BC856AL3-BC856BL3 BC857AL3-BC857CL3 BC858AL3-BC858CL3	V_{CBO}	-80 -50 -30	V
Collector-Emitter Voltage BC856AL3-BC856BL3 BC857AL3-BC857CL3 BC858AL3-BC858CL3	V_{CEO}	-65 -45 -30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Collector Power Dissipation	P_C	150	mW

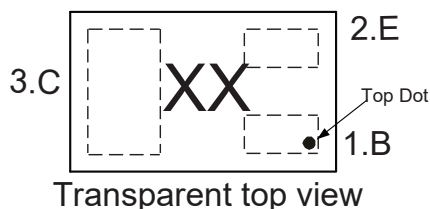
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds

Internal Structure



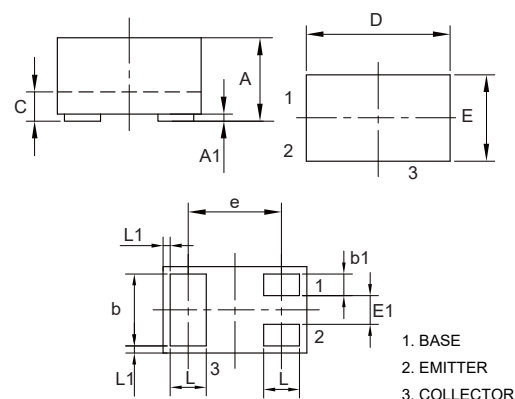
1.BASE
2.EMITTER
3.COLLECTOR

Marking Code



PNP Plastic-Encapsulate Transistors

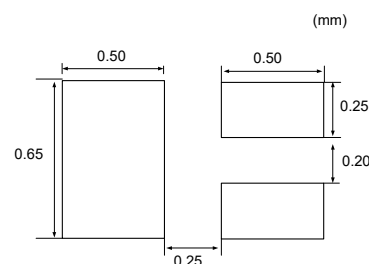
DFN1006-3



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



Part NO.	BC856AL3	BC856BL3	BC857AL3	BC857BL3	BC857CL3	BC858AL3	BC858BL3	BC858CL3
Marking code	3A	3B	3E	3F	3G	3J	3K	3L

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

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage BC856AL3-BC856BL3 BC857AL3-BC857CL3 BC858AL3-BC858CL3	$V_{(BR)CBO}$	-80 -50 -30			V	$I_C=-10\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage BC856AL3-BC856BL3 BC857AL3-BC857CL3 BC848AL3-BC848CL3	$V_{(BR)CEO}$	-65 -45 -30			V	$I_C=-10\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage BC856AL3-BC856BL3 BC857AL3-BC857CL3 BC858AL3-BC858CL3	$V_{(BR)EBO}$	-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 BC856AL3/BC857AL3/BC858AL3 BC856BL3/BC857BL3/BC858BL3 BC857CL3/BC858CL3	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	V	$I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$
				-0.65		$I_C=-100\text{mA}$, $I_B=-5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.7		V	$I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$
			-0.85			$I_C=-100\text{mA}$, $I_B=-5\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)}$	-0.6	-0.65	-0.75	V	$V_{CE}=-5\text{V}$, $I_C=-2\text{mA}$
				-0.82		$V_{CE}=-5\text{V}$, $I_C=-10\text{mA}$
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

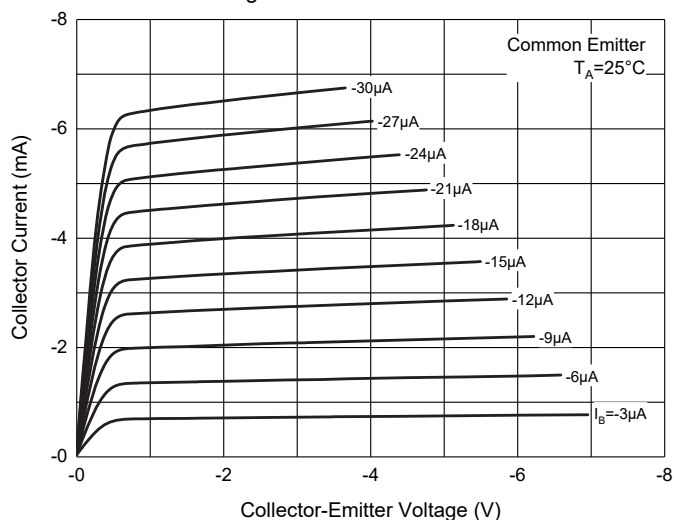


Fig. 2 - DC Current Gain Characteristics

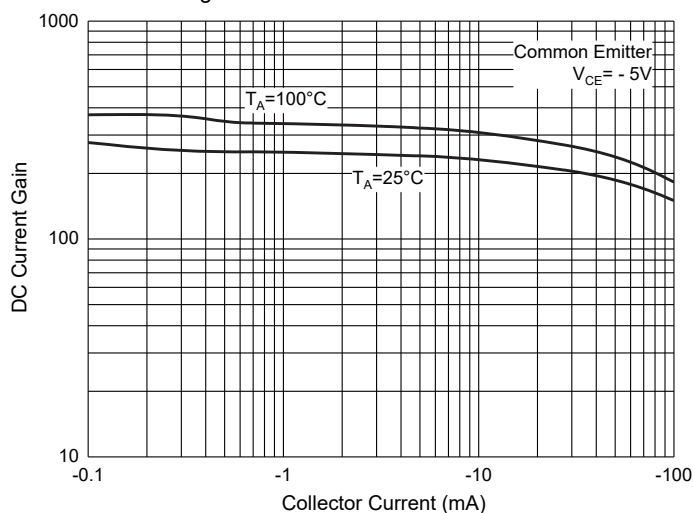


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

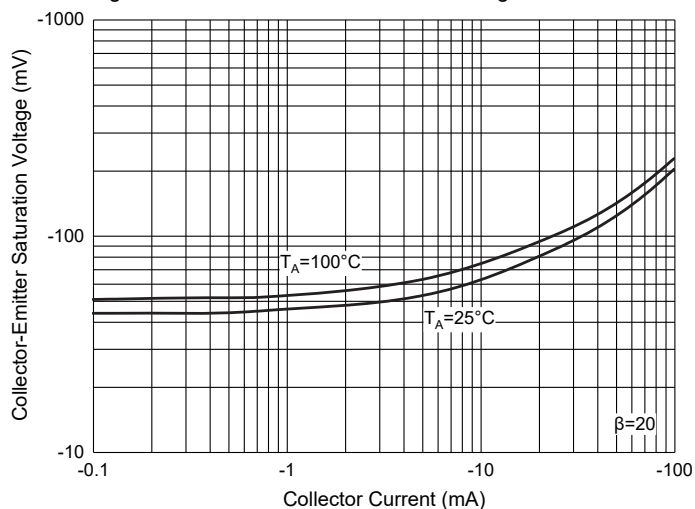


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

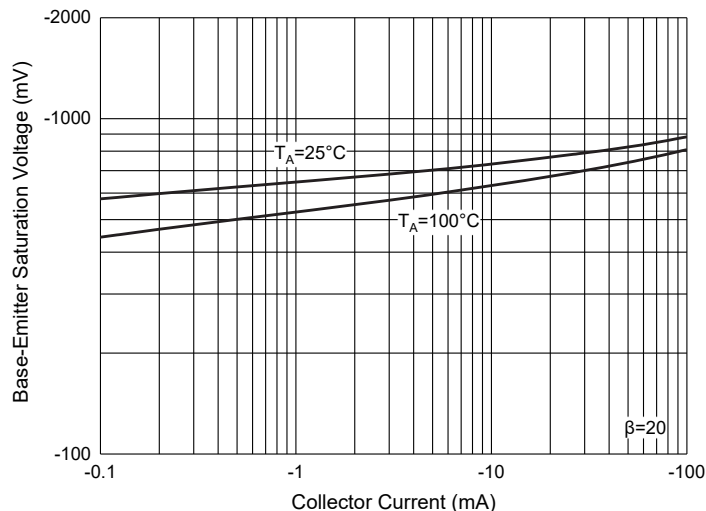


Fig. 5 - Base-Emitter Voltage Characteristics

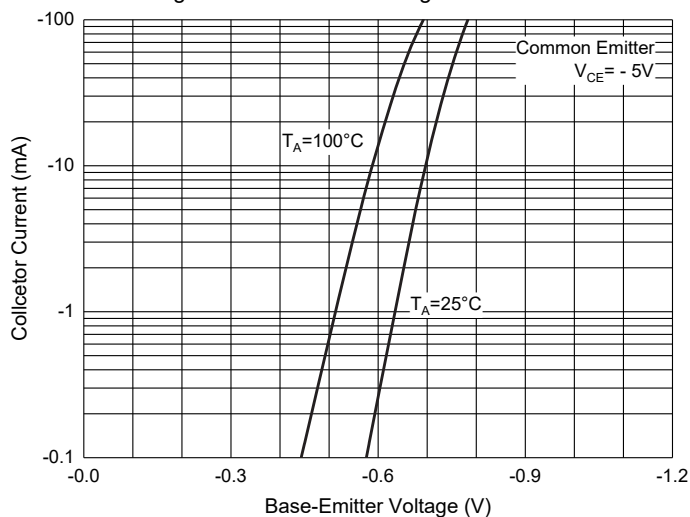
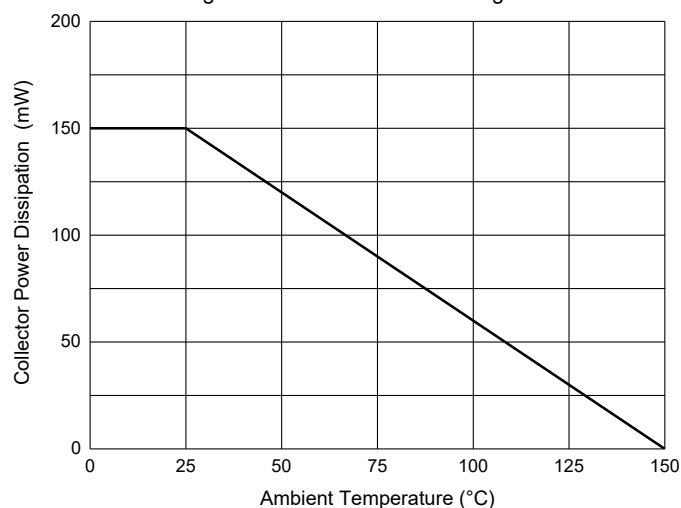


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

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[BC858CL3-TP](#)