

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

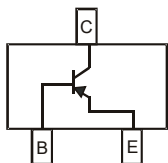
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 472°C/W Junction to Ambient^(Note 2)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage BC856AM3, BC856BM3 BC857AM3, BC857BM3, BC857CM3 BC858AM3, BC858BM3, BC858CM3	V_{CBO}	-80 -50 -30	V
Collector-Emitter Voltage BC856AM3, BC856BM3 BC857AM3, BC857BM3, BC857CM3 BC858AM3, BC858BM3, BC858CM3	V_{CEO}	-65 -45 -30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Collector Power Dissipation @ $T_A = 25^\circ\text{C}$ ^(Note 2)	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

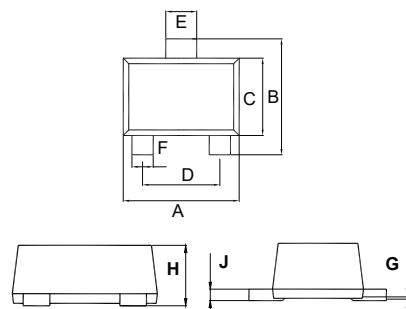


Marking:

BC856AM3:3A; BC856BM3:3B;
BC857AM3:3E; BC857BM3:3F; BC857CM3:3G;
BC858AM3:3J; BC858BM3:3K; BC858CM3:3L;

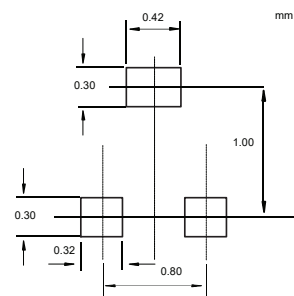
PNP Plastic-Encapsulate Transistors

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	$V_{(BR)CBO}$					
BC856AM3,BC856BM3		-80			V	$I_C=-10\mu\text{A}$, $I_E=0$
BC857AM3,BC857BM3,BC857CM3		-50				
BC858AM3,BC858BM3,BC858CM3		-30				
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$					
BC856AM3,BC856BM3		-65			V	$I_C=-10\text{mA}$, $I_B=0$
BC857AM3,BC857BM3,BC857CM3		-45				
BC858AM3,BC858BM3,BC858CM3		-30				
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$					
BC856AM3,BC856BM3		-5			V	$I_E=-1\mu\text{A}$, $I_C=0$
BC857AM3,BC857BM3,BC857CM3		-5				
BC858AM3,BC858BM3,BC858CM3		-5				
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	h_{FE}					
BC856AM3/BC857AM3/BC858AM3		110		220		$V_{CE}=-5\text{V}$, $I_C=-2\text{mA}$
BC856BM3/BC857BM3/BC858BM3		200		450		
BC857CM3/BC858CM3		420		800		
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	$V_{BE(on)}$		-0.65	-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

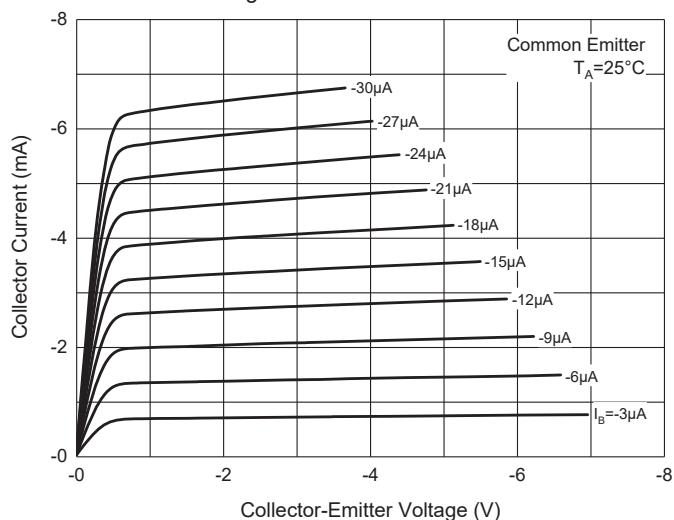


Fig. 2 - DC Current Gain Characteristics

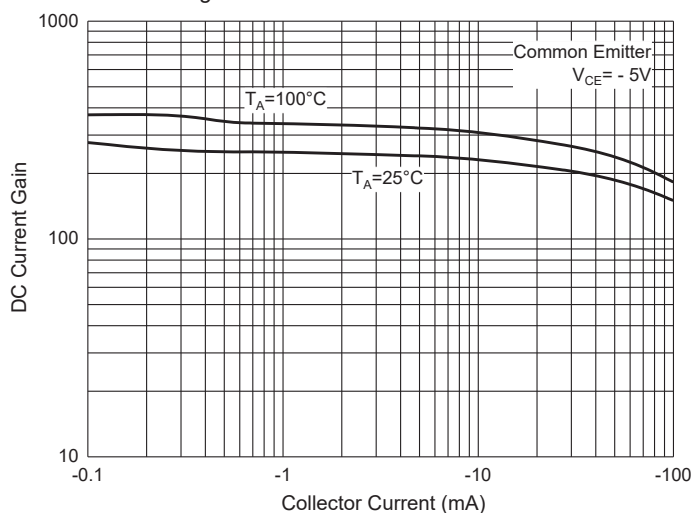


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

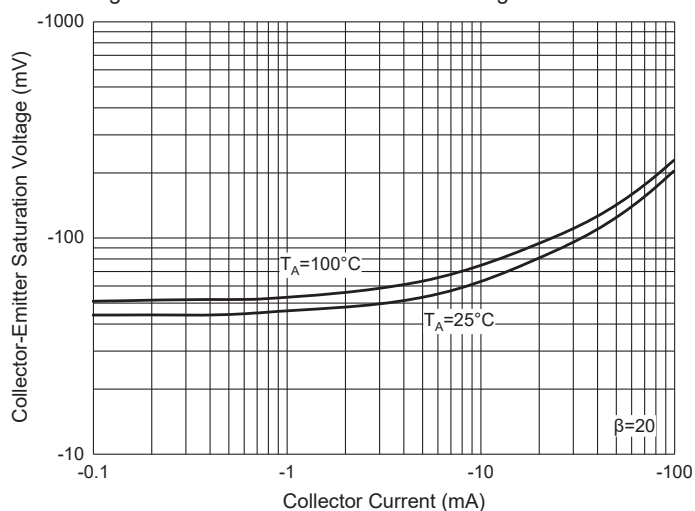


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

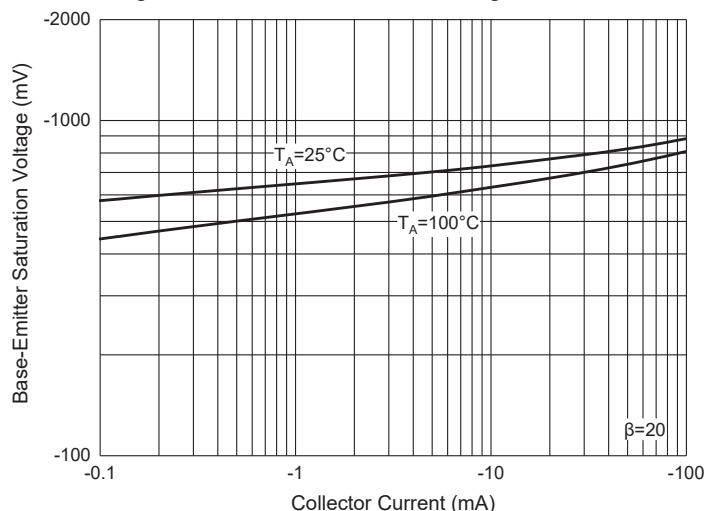


Fig. 5 - Base-Emitter Voltage Characteristics

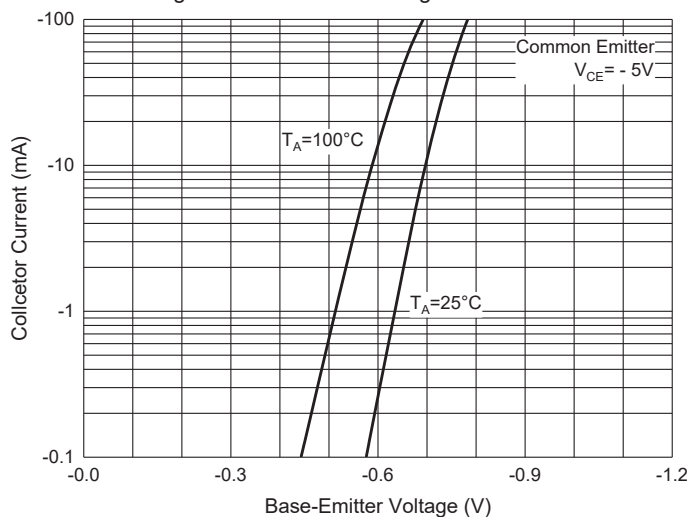
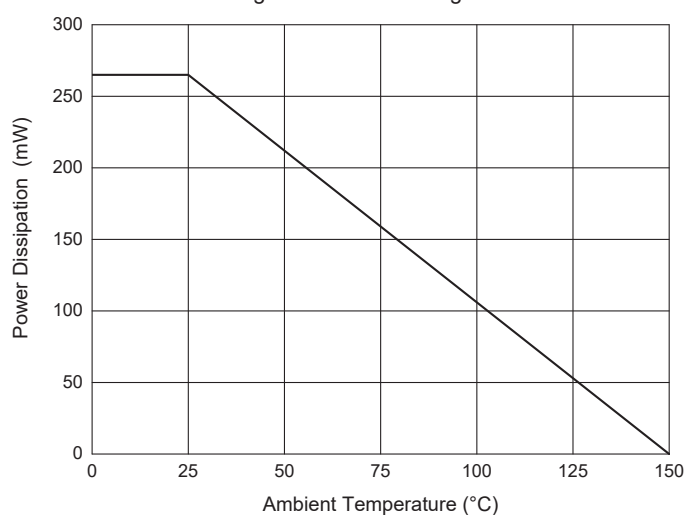


Fig. 6 - Power Derating Curve



Ordering Information

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

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[BC858CM3-TP](#)