BC856BW-TP Datasheet

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DiGi Electronics Part Number	BC856BW-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BC856BW-TP
Description	TRANS PNP 65V 0.1A SOT323
Detailed Description	Bipolar (BJT) Transistor PNP 65 V 100 mA 100MHz 150 mW Surface Mount SOT-323

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BC856BW-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP	100 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
65 V	650mV @ 5mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
15nA (ICBO)	220 @ 2mA, 5V
Power - Max:	Frequency - Transition:
150 mW	100MHz
Operating Temperature:	Mounting Type:
-65°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
SC-70, SOT-323	SOT-323
Base Product Number:	
BC856	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

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Micro Commercial Components

BC856AW THRU BC858CW

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)

PNP General Purpose Transistors

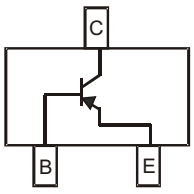
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -65℃ to +150℃
- Storage Temperature Range: -65℃ to +150℃
- Maximum Thermal Resistance:625℃/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage			
BC856AW,BC856BW	V_{CBO}	-80	V
BC857AW,BC857BW,BC857CW		-50	
BC858AW,BC858BW,BC858CW		-30	
Collector-Emitter Voltage			
BC856AW,BC856BW	V_{CEO}	-65	V
BC857AW,BC857BW,BC857CW		-45	
BC858AW,BC858BW,BC858CW		-30	
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Power Dissipation	P_D	200	mW

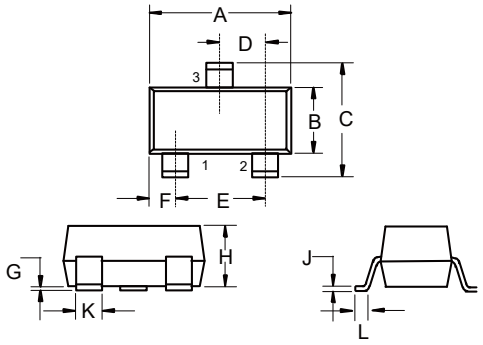
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



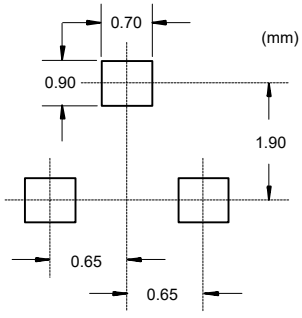
Marking:
BC856AW:3A; BC856BW:3B
BC857AW:3E; BC857BW:3F; BC857CW:3G
BC858AW:3J; BC858BW:3K; BC858CW:3L

SOT-323



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	
L	0.010	0.018	0.26	0.46	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage						
BC856AW,BC856BW	$V_{(BR)CBO}$	-80			V	I_C=-10μA, I_E=0
BC857AW,BC857BW,BC857CW		-50				
BC858AW,BC858BW,BC858CW		-30				
Collector-Emitter Breakdown Voltage						
BC856AW,BC856BW	$V_{(BR)CEO}$	-65			V	I_C=-10mA, I_B=0
BC857AW,BC857BW,BC857CW		-45				
BC858AW,BC858BW,BC858CW		-30				
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-1μA, I_C=0
Collector-Base Cutoff Current	I_{CBO}			-15	nA	V_{CB}=-30V, I_E=0
DC Current Gain						
BC856AW,BC857AW,BC858AW	h_{FE}	125		250		V_{CE}=-5V, I_C=-2mA
BC856BW,BC857BW,BC858BW		220		475		
BC857CW,BC858CW		420		800		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.65	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-Base Capacitance	C_{CBO}			4.5	pF	V_{CB}=-10V, f=1MHz
Noise Figure	NF			10	dB	V_{CE}=-5V, I_C=-200μA R_S=2KΩ, f=1KHz

Curve Characteristics

Fig. 1 - Static Characteristics

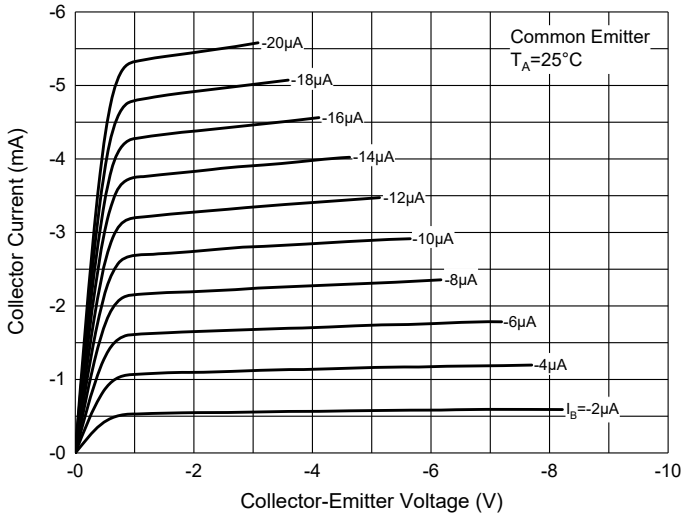


Fig. 2 - DC Current Gain Characteristics

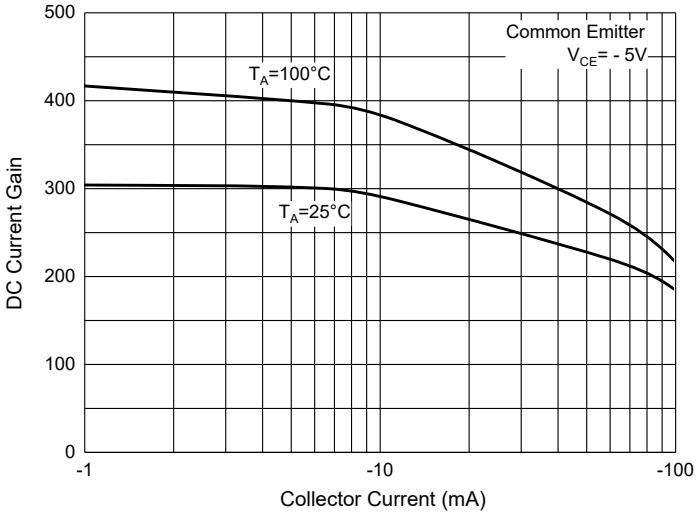


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

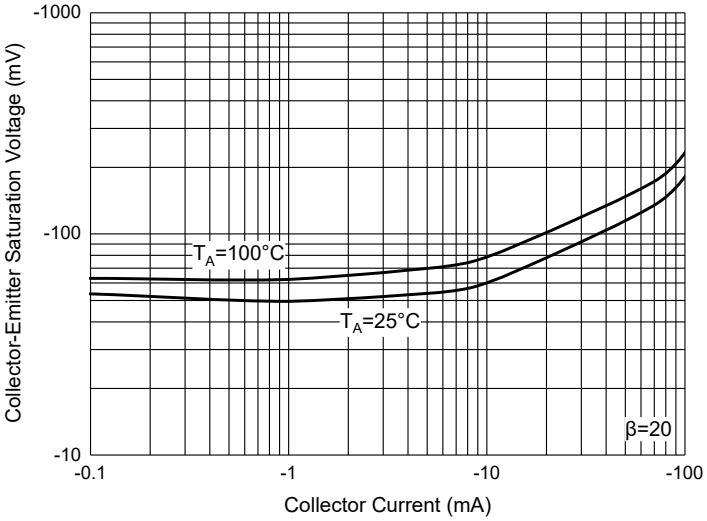


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

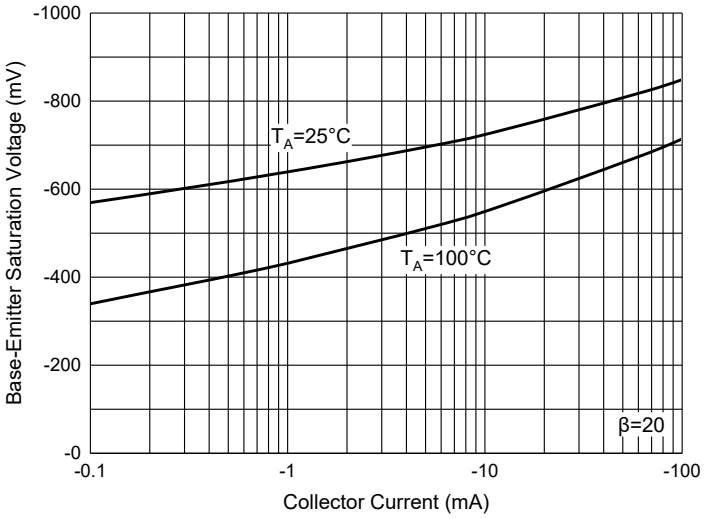
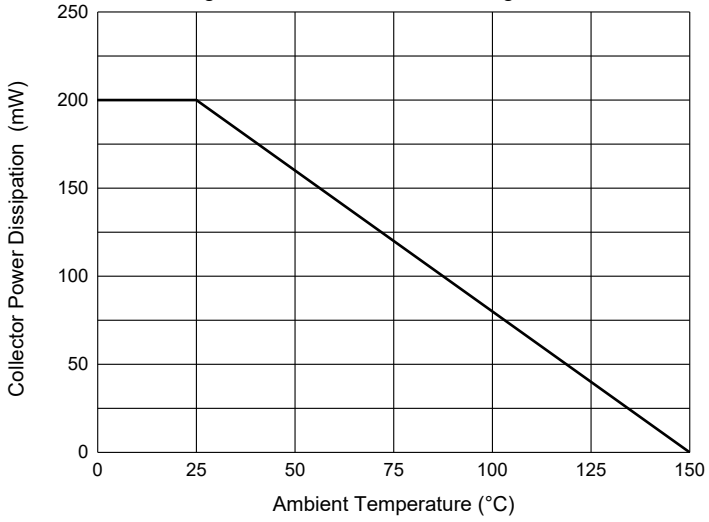


Fig. 5 - Collector Power Derating Curve



Ordering Information

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

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