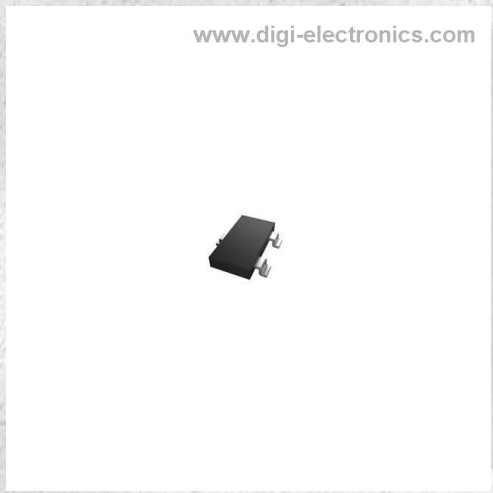
BC857CT-TP Datasheet



DiGi Electronics Part Number	BC857CT-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BC857CT-TP
Description	Interface
Detailed Description	Bipolar (BJT) Transistor PNP 45 V 100 mA 100MHz 150 mW Surface Mount SOT-523

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BC857CT-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:
45 V	650mV @ 5mA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
15nA (ICBO)	420 @ 2mA, 5V
Power - Max:	Frequency - Transition:
150 mW	100MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
SOT-523	SOT-523
Base Product Number:	
BC857	

Environmental & Export classification

REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

Features

- Epitaxial Die Construction
- For Switching and AF Amplifier Applications
- 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 Small Signal Surface Mount Transistor

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃

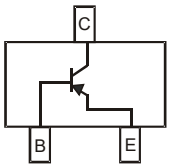
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-100	mA
Collector Power Dissipation	P_C	150	mW

Classification Of h_{FE}

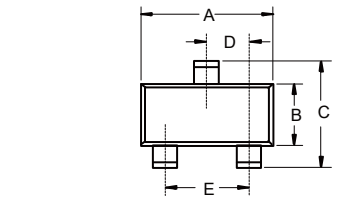
Rank	BC857AT	BC857BT	BC857CT
Range	125-250	220-475	420-800
Marking	3E	3F	3G

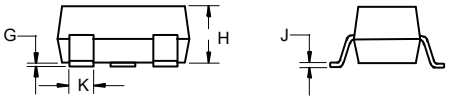
Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



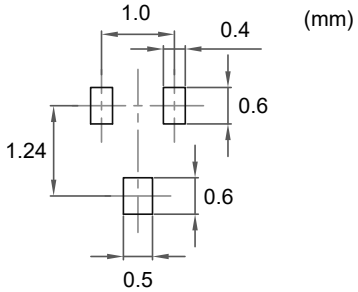
SOT-523





DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.059	0.067	1.50	1.70	
B	0.030	0.033	0.75	0.85	
C	0.057	0.069	1.45	1.75	
D	0.020		0.50		TYP.
E	0.035	0.043	0.90	1.10	
G	0.000	0.004	0.00	0.10	
H	0.024	0.031	0.60	0.80	
J	0.004	0.008	0.10	0.20	
K	0.006	0.014	0.15	0.35	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	I_C=-10μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			V	I_C=-10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6			V	I_E=-1μA, I_C=0
Collector-Base Cutoff Current	I_{CBO}			-15	nA	V_{CB}=-30V, I_E=0
DC Current Gain Current Gain A	h_{FE}	125		250		V_{CE}=-5V, I_C=-2mA
DC Current Gain B		220		475		
DC Current Gain C		420		800		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3	V	I_C=-10mA, I_B=-0.5mA
				-0.65	V	I_C=-100mA, I_B=-5mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.7		V	I_C=-10mA, I_B=-0.5mA
			-0.9		V	I_C=-100mA, I_B=-5mA
Base-Emitter Voltage	V_{BE}	-0.6		-0.75	V	V_{CE}=-5V, I_C=-2mA
				-0.82	V	V_{CE}=-5V, I_C=-10mA
Transition Frequency	f_T	100			MHz	V_{CE}=-5V, I_C=-10mA, f=100MHz
Output Capacitance	C_{ob}			4.5	pF	V_{CB}=-10V, f=1MHz
Noise Figure	NF			10	dB	V_{CE}=-5V, I_C=-0.2mA R_S=2KΩ, f=1KHz, BW=200Hz

Curve Characteristics

Fig. 1 - Static Characteristics

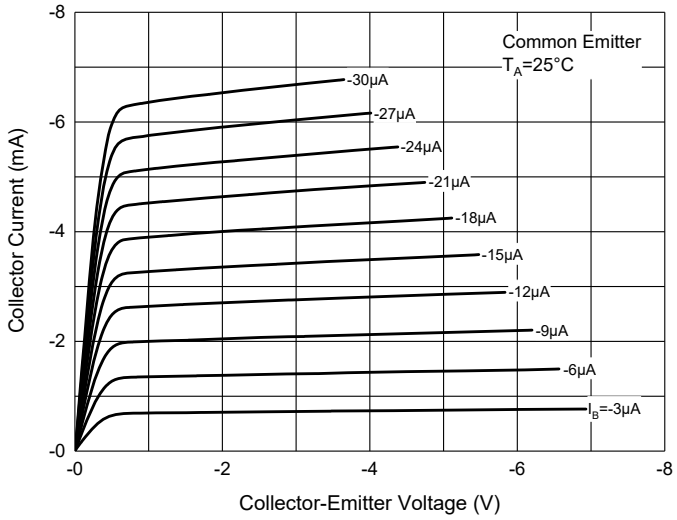


Fig. 2 - DC Current Gain Characteristics

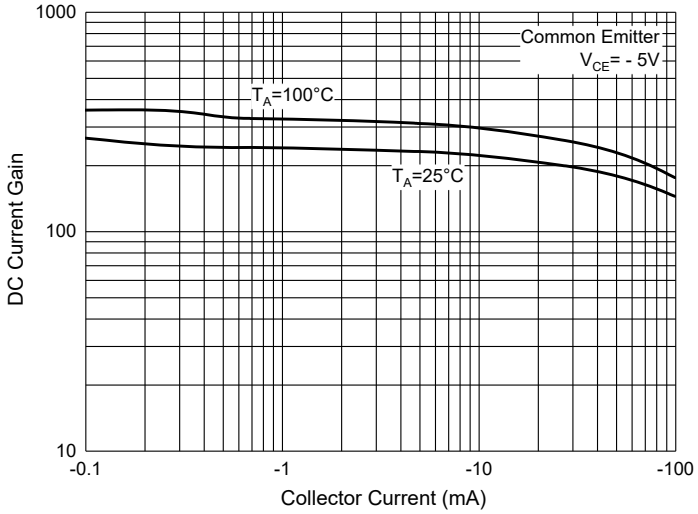


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

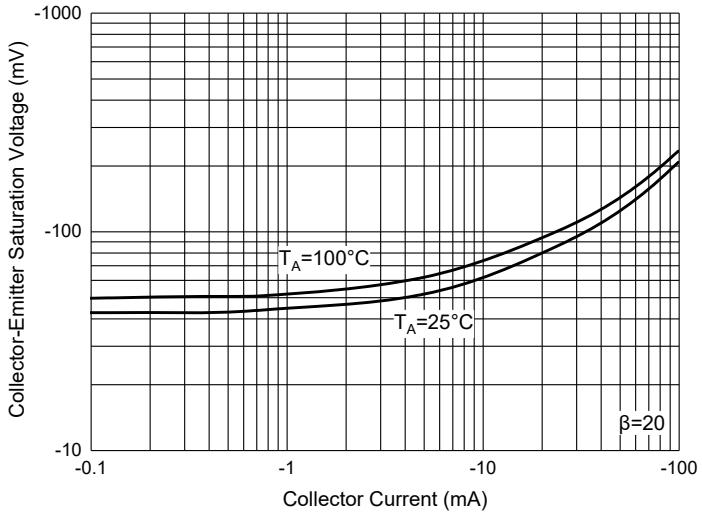


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

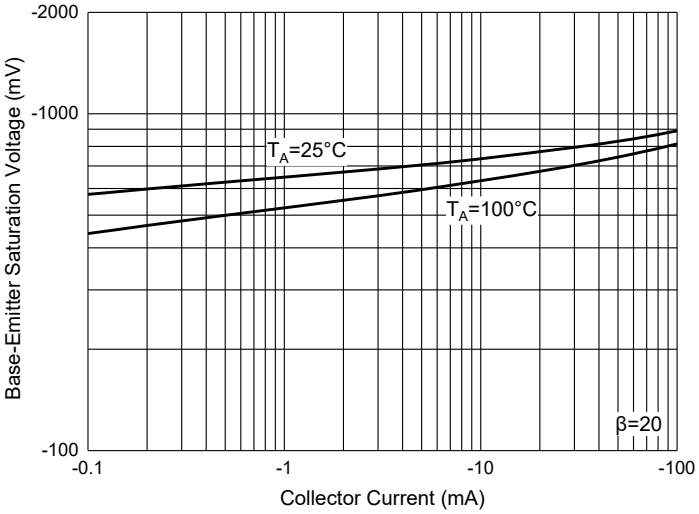


Fig. 5 - Base-Emitter Voltage Characteristics

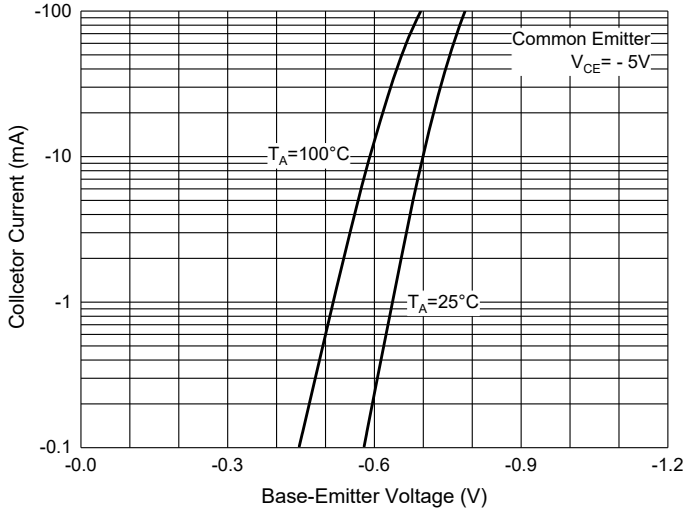
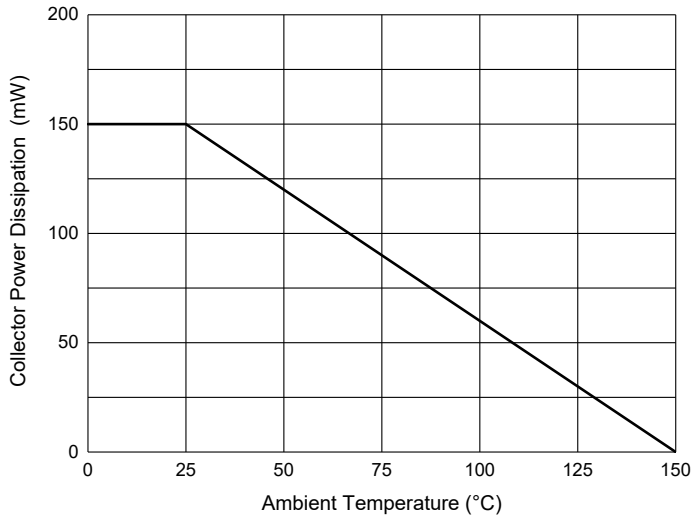


Fig. 6 - Collector Power Derating Curve



Ordering Information

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

OUR CERTIFICATE

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