Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

BC857AT, BT, CT

PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Halogen free available upon request by adding suffix "-HF"
- Epitaxial Die Construction
- For Switching and AF Amplifier Applications
- Lead Free Finish/Rohs Compliant ("P"Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{CBO}	Collector-Base Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6.0	V
I_C	Collector Current-Continuous	-100	mA
P_d	Power Dissipation	150	mW
T_J	Operating Junction Temperature	-55 to +150	℃
T_{STG}	Storage Temperature	-55 to +150	℃

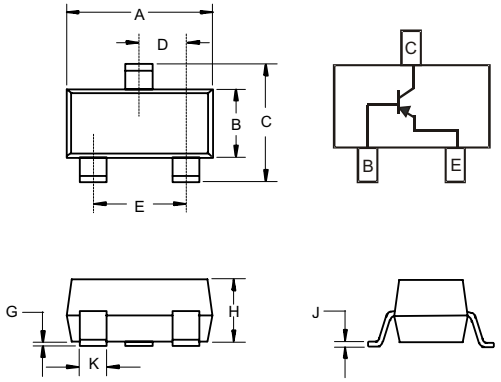
Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=-10mA, I_B=0)	-45	---	---	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=-10μA, I_B=0)	-50	---	---	V
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage (I_E=-1μA, I_C=0)	-6	---	---	V
I_{CBO}	Collector Cutoff Current (V_{CB} = -30V)	---	---	-15	nA
h_{FE}	DC Current Gain Current Gain A (V_{CE}=-5.0V,I_C=-2.0mA) B C	125 220 420	--- --- ---	250 475 800	---
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage (I_C = -10mA, I_B = -0.5mA) (I_C = -100mA, I_B = -5.0 mA)	--- ---	--- ---	-300 -650	mV
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (I_C = -10mA, I_B = -0.5mA) (I_C = -100mA, I_B = -5.0mA)	--- ---	-700 -900	--- ---	mV
$V_{BE(ON)}$	Base-Emitter Voltage (V_{CE} = -5.0V, I_C = -2.0mA) (V_{CE} = -5.0V, I_C = -10mA)	-600 ---	--- ---	-750 -820	mV
Noise Figure	NF (I_C = -0.2mA, V_{CE} = -5.0V, R_S = 2.0KΩ, f = 1.0KHz, BW = 200Hz)	---	---	10	dB
f_T	Transition Frequency (V_{CE} = -5.0V, I_C = -10mA,f=100MHz)	100	---	---	MHz
C_{oB}	Output Capacitance (V_{CB} = -10V, f = 1.0MHz)	---	---	4.5	pF

Classification OF h_{FE}

Rank	AT	BT	CT
Marking	3E	3F	3G

SOT-523



DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Typical Characteristics

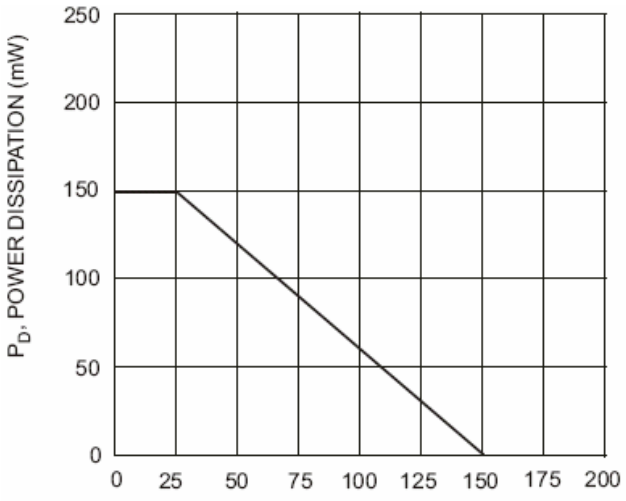


Fig. 1, Max Power Dissipation vs Ambient Temperature

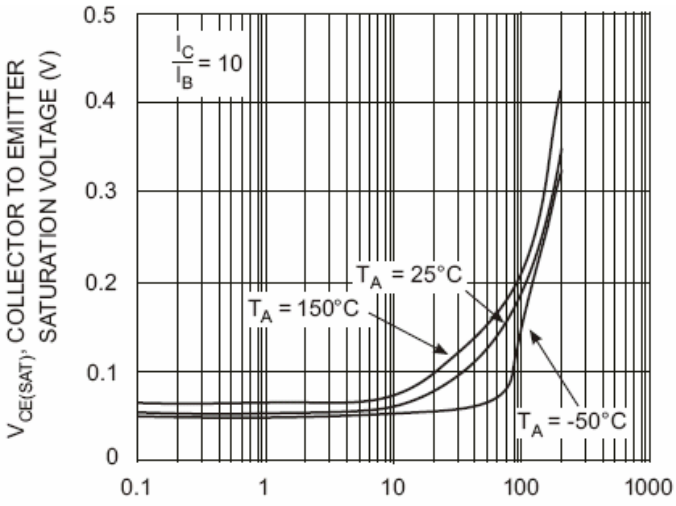


Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

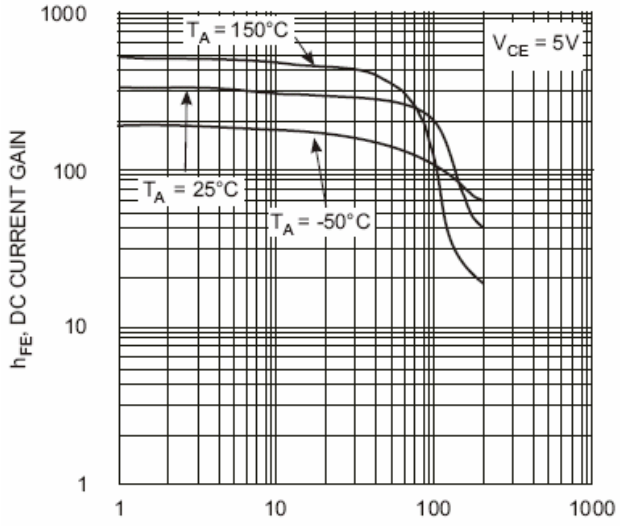


Fig. 3, DC Current Gain vs. Collector Current

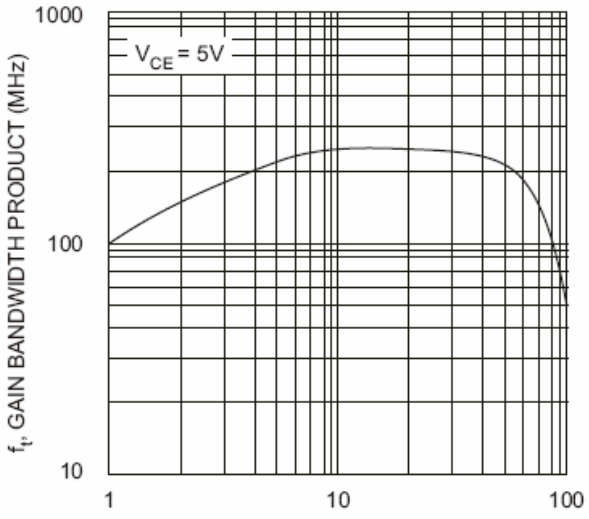


Fig. 4, Gain Bandwidth Product vs Collector Current

Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

IMPORTANT NOTICE
Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . ***Micro Commercial Components Corp .*** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold ***Micro Commercial Components Corp .*** and all the companies whose products are represented on our website, harmless against all damages.
LIFE SUPPORT
MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.
CUSTOMER AWARENESS
Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.