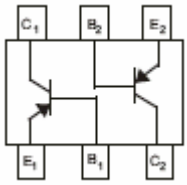
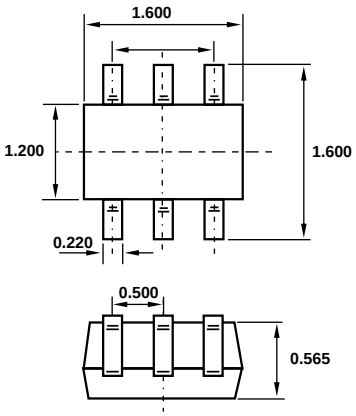
BC847BV

NPN Plastic-Encapsulate Transistors



SOT-563



Dimensions in inches and (millimeters)

Features

- ✧ Halogen free available upon request by adding suffix "-HF" Epitaxial Die Construction
- ✧ Complementary PNP Type Available (BC857BV)
- ✧ Ultra-small Surface Mount Package
- ✧ Lead Free Finish/RoHS Compliant ("P" Suffix designates
- ✧ RoHS Compliant. See ordering information)
- ✧ Epoxy meets UL 94 V-0 flammability rating
- ✧ Moisure 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	V
I_C	Collector Current-Continuous	0.1	A
P_C	Collector Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	833	℃/W
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=10mAdc, I_B=0)	45	---	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=10uAdc, I_E=0)	50	---	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage (I_E=1uAdc, I_C=0)	6	---	---	Vdc
I_{CBO}	Collector Cutoff Current (V_{CB}=30Vdc, I_E=0Vdc)	---	---	15	nAdc
I_{EBO}	Emitter Cutoff Current (V_{EB}=5Vdc, I_C=0Vdc)	---	---	100	nAdc
h_{FE}	DC Current Gain (I_C=2mAdc, V_{CE}=5Vdc)	200	---	450	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=10mAdc, I_B=0.5mAdc) (I_C=100mAdc, I_B=5mAdc)	--- ---	--- ---	100 300	mVdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (I_C=10mAdc, I_B=0.5mAdc) (I_C=100mAdc, I_B=5mAdc)	--- ---	700 900	--- ---	mVdc
V_{BE}	Base-Emitter Voltage (I_C=2mAdc, V_{CE}=5Vdc) (I_C=10mAdc, V_{CE}=5Vdc)	580	660	700 770	mVdc
f_T	Transition Frequency (V_{CE}=5Vdc, I_C=10mAdc, f=100MHz)	100	---	---	MHz
C_{ob}	Output Capacitance (V_{CB}=10Vdc, f=1.0MHz, I_E=0)	---	---	4.5	pF
NF	Noise Figure (V_{CE}=5V,BW=200Hz, f=1KHz, R_S=2kΩ)	---	---	10	dB

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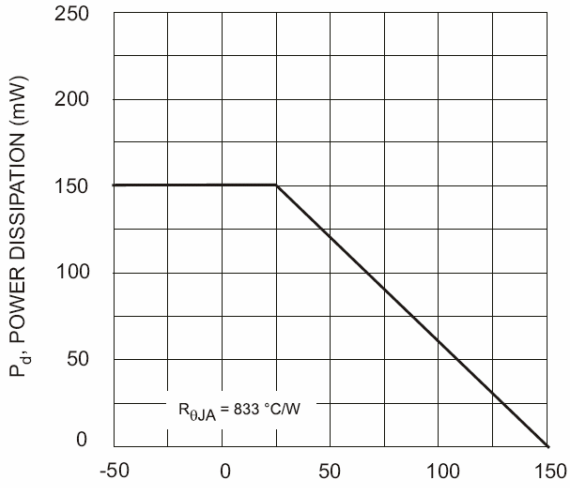

Fig. 1, Derating Curve - Total

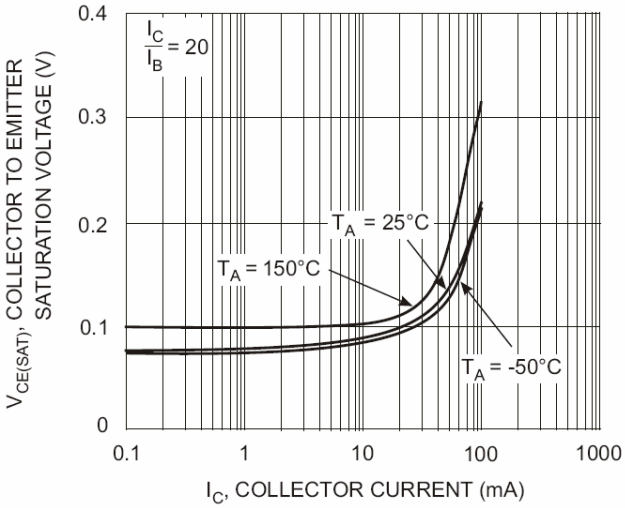

Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

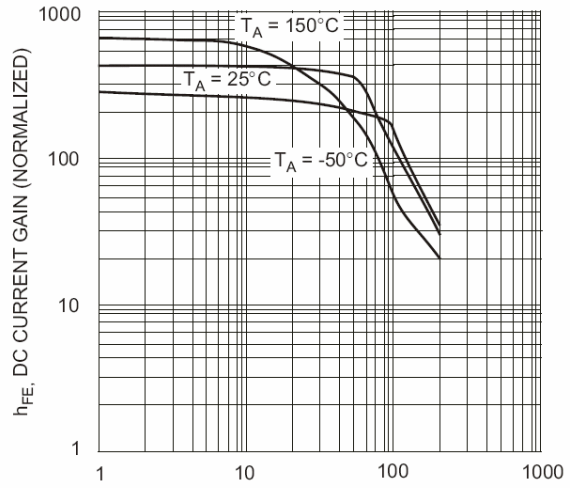

Fig. 3, DC Current Gain vs Collector Current

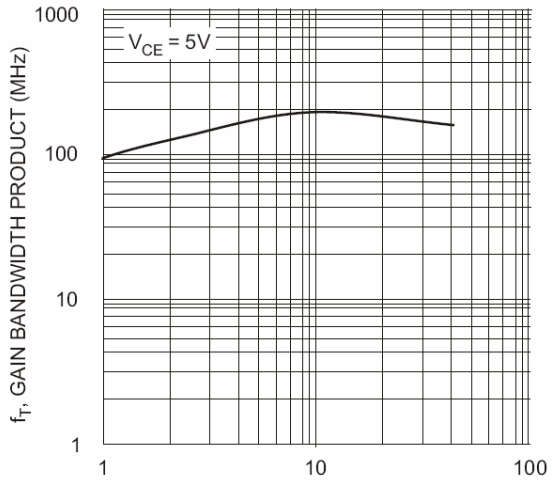

Fig. 4, Gain Bandwidth Product vs Collector Current