



Micro Commercial Components



Micro Commercial Components  
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## BC847BV

### NPN Plastic-Encapsulate Transistors

### Features

- 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
- Moisture Sensitivity Level 1
- Marking:K4V

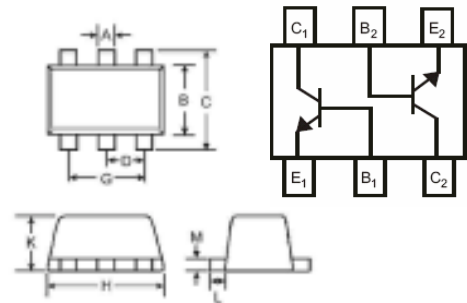
### Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Rating	Rating	Unit
$V_{CE0}$	Collector-Emitter Voltage	45	V
$V_{CB0}$	Collector-Base Voltage	50	V
$V_{EB0}$	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	°C/W
$T_J$	Operating Junction Temperature	-55 to +150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10\text{mAdc}$ , $I_E=0$ )	45	---	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\text{uAdc}$ , $I_E=0$ )	50	---	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=1\text{uAdc}$ , $I_C=0$ )	6	---	---	Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=30\text{Vdc}$ , $I_E=0\text{Vdc}$ )	---	---	15	nAdc
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5\text{Vdc}$ , $I_C=0\text{Vdc}$ )	---	---	100	nAdc
$h_{FE}$	DC Current Gain ( $I_C=2\text{mAdc}$ , $V_{CE}=5\text{Vdc}$ )	200	---	450	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=10\text{mAdc}$ , $I_B=0.5\text{mAdc}$ ) ( $I_C=100\text{mAdc}$ , $I_B=5\text{mAdc}$ )	---	---	100 300	mVdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=10\text{mAdc}$ , $I_B=0.5\text{mAdc}$ ) ( $I_C=100\text{mAdc}$ , $I_B=5\text{mAdc}$ )	---	700 900	---	mVdc
$V_{BE}$	Base-Emitter Voltage ( $I_C=2\text{mAdc}$ , $V_{CE}=5\text{Vdc}$ ) ( $I_C=10\text{mAdc}$ , $V_{CE}=5\text{Vdc}$ )	580	660	700 770	mVdc
$f_T$	Transition Frequency ( $V_{CE}=5\text{Vdc}$ , $I_C=10\text{mAdc}$ , $f=100\text{MHz}$ )	100	---	---	MHz
$C_{ob}$	Output Capacitance ( $V_{CB}=10\text{Vdc}$ , $f=1.0\text{MHz}$ , $I_E=0$ )	---	---	4.5	pF
NF	Noise Figure ( $V_{CE}=5\text{V}$ , $BW=200\text{Hz}$ , $f=1\text{KHz}$ , $R_S=2\text{k}\Omega$ )	---	---	10	dB

### SOT-563



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.006	.011	0.15	0.30	
B	.043	.049	1.10	1.25	
C	.061	.067	1.55	1.70	
D	.020		0.50		
G	.035	.043	0.90	1.10	
H	.059	.067	1.50	1.70	
K	.022	.023	0.56	0.60	
L	.004	.011	0.10	0.30	
M	.004	.007	0.10	0.18	

# BC847BV

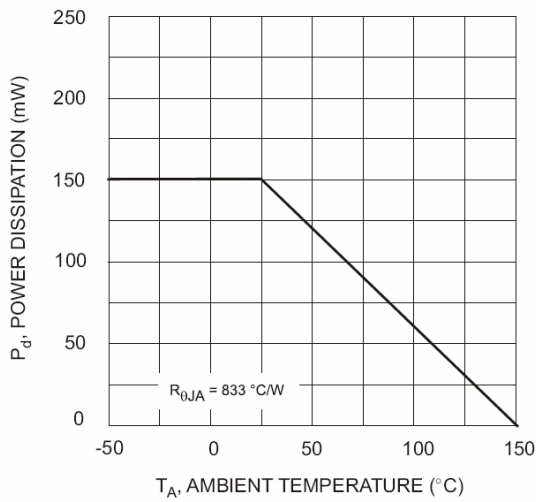


Fig. 1, Derating Curve - Total

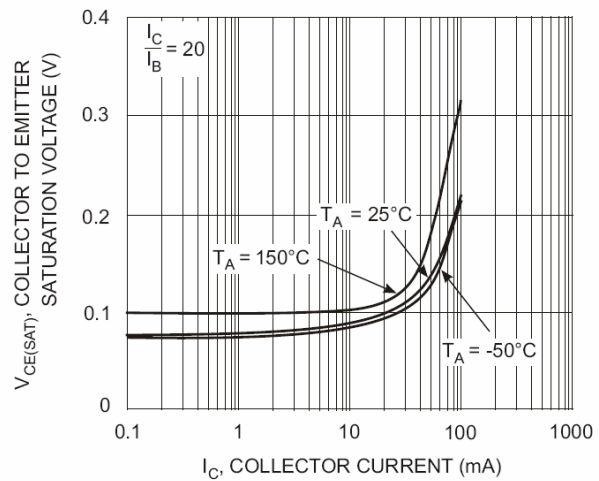


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

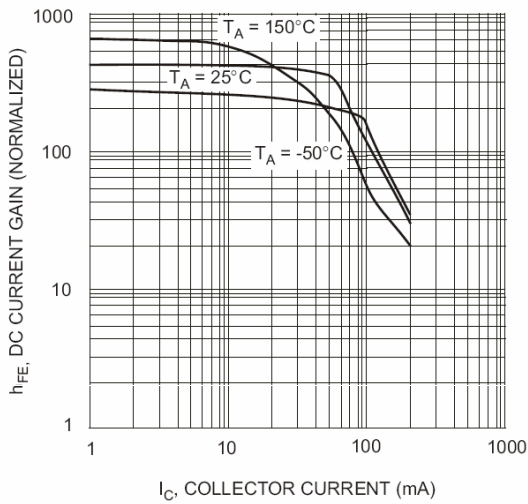


Fig. 3, DC Current Gain vs. Collector Current

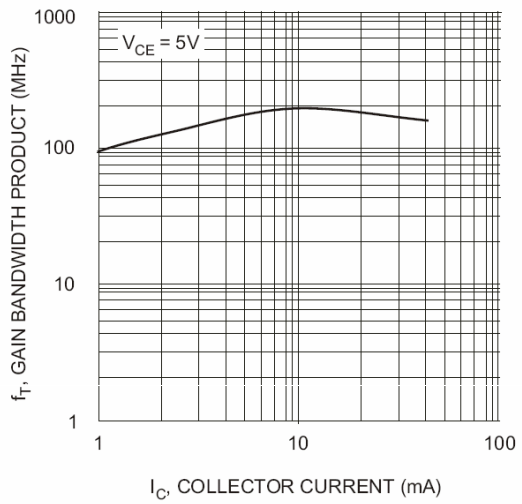


Fig. 4, Gain Bandwidth Product vs. Collector Current



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### Ordering Information :

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

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