



Micro Commercial Components

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# BC847BV

## Features

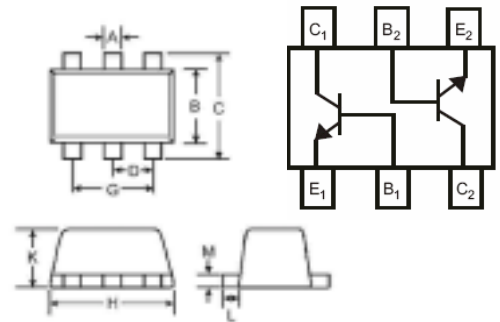
- Epitaxial Die Construction
- Complementary PNP Type Available (BC857BV)
- Ultra-small Surface Mount Package
- Lead Free Plating
- Marking:K4V
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

## NPN Plastic-Encapsulate Transistors

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

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current-Continuous	0.1	A
P <sub>C</sub>	Collector Dissipation	0.15	W
R <sup>θ</sup> <sub>JA</sub>	Thermal Resistance Junction to Ambient	833	°C/W
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### SOT-563



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

Symbol	Parameter	Min	Typ	Max	Units
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =10mA, I <sub>B</sub> =0)	45	---	---	Vdc
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =10mA, I <sub>E</sub> =0)	50	---	---	Vdc
V <sub>(BR)EBO</sub>	Collector-Emitter Breakdown Voltage (I <sub>E</sub> =1mA, I <sub>C</sub> =0)	6	---	---	Vdc
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =30Vdc, I <sub>E</sub> =0Vdc)	---	---	15	nAdc
I <sub>EBO</sub>	Emitter Cutoff Current (V <sub>EB</sub> =5Vdc, I <sub>C</sub> =0Vdc)	---	---	100	nAdc
h <sub>FE</sub>	DC Current Gain (I <sub>C</sub> =2mA, V <sub>CE</sub> =5Vdc)	200	---	450	---
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA) (I <sub>C</sub> =100mA, I <sub>B</sub> =5mA)	---	---	100 300	mVdc
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA) (I <sub>C</sub> =100mA, I <sub>B</sub> =5mA)	---	700 900	---	mVdc
V <sub>BE</sub>	Base-Emitter Voltage (I <sub>C</sub> =2mA, V <sub>CE</sub> =5Vdc) (I <sub>C</sub> =10mA, V <sub>CE</sub> =5Vdc)	580	660	700 770	mVdc
f <sub>T</sub>	Transition Frequency (V <sub>CE</sub> =5Vdc, I <sub>C</sub> =10mA, f=100MHz)	100	---	---	MHz
C <sub>ob</sub>	Output Capacitance (V <sub>CB</sub> =10Vdc, f=1.0MHz, I <sub>E</sub> =0)	---	---	4.5	pF
NF	Noise Figure (V <sub>CE</sub> =5V, BW=200Hz, f=1KHz, R <sub>S</sub> =2kΩ)	---	---	10	dB

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
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	

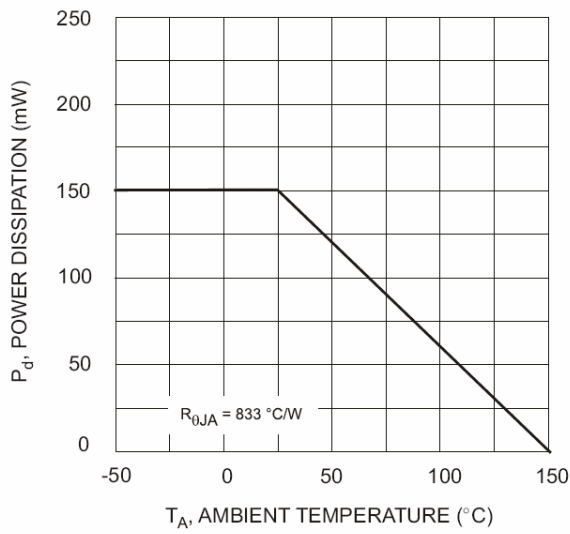


Fig. 1, Derating Curve - Total

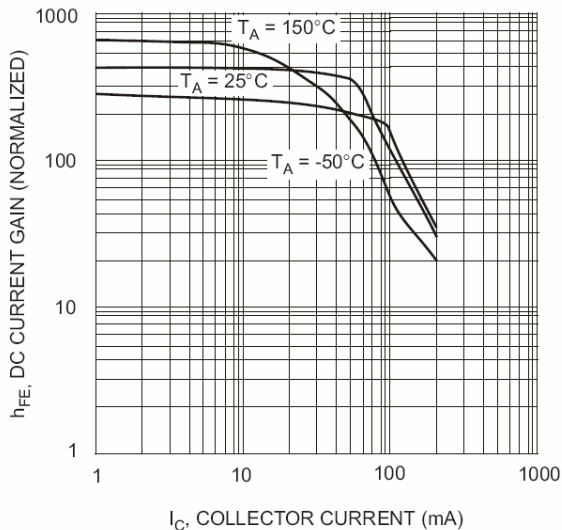


Fig. 3, DC Current Gain vs Collector Current

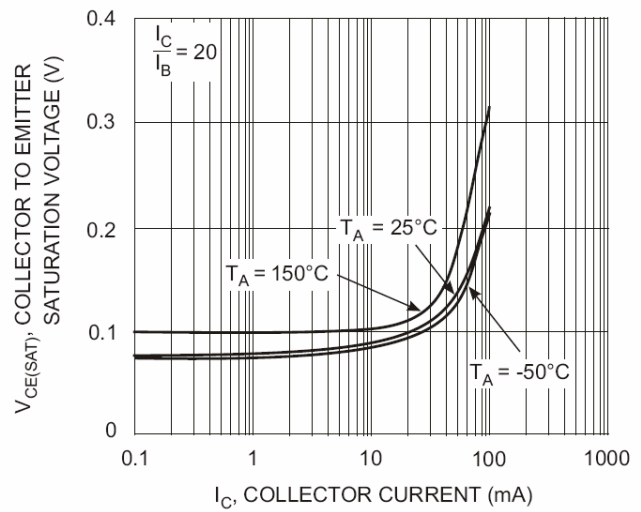


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

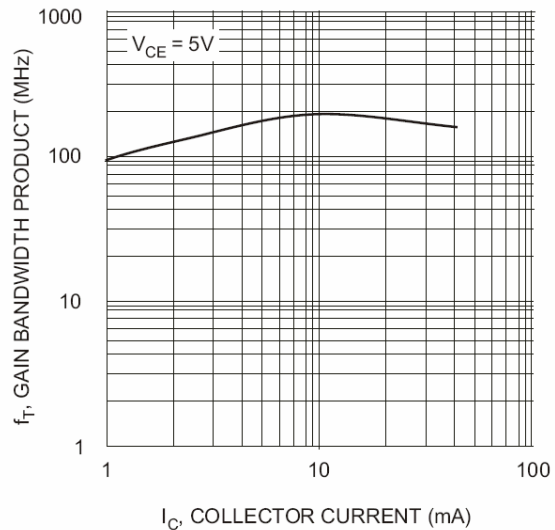


Fig. 4, Gain Bandwidth Product vs Collector Current



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## Ordering Information

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