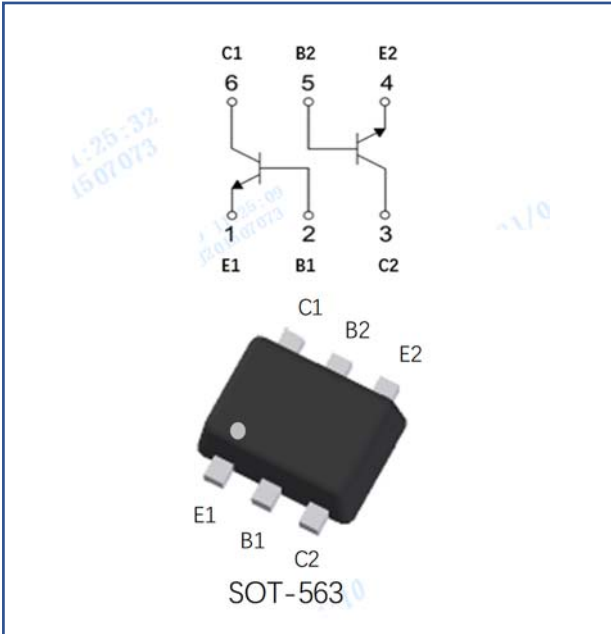


Dual NPN Small Signal Transistor



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic Insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-563
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				K4V
Collector-base voltage	V_{CB0}	V	$I_C=10\mu\text{A}, I_E=0$	50
Collector-emitter voltage	V_{CE0}	V	$I_C=10\text{mA}, I_B=0$	45
Emitter-base voltage	V_{EB0}	V	$I_E=10\mu\text{A}, I_C=0$	6
Collector current	I_C	mA		100
Power dissipation	P_D	mW		150
Junction temperature	T_J	$^\circ\text{C}$		-55 to +150
Storage temperature	T_{STG}	$^\circ\text{C}$		-55 to +150



BC847BV

RoHS
COMPLIANT

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =10uA, I _E =0	50		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =10mA, I _B =0	45		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =10uA, I _C =0	6		
Collector cut-off current	I _{CBO}	nA	V _{CB} =30V, I _B =0			15
Emitter-base cutoff current	I _{EBO}	nA	V _{EB} =5V, I _C =0			100
DC current gain	h _{FE}		V _{CE} =5V, I _C =2mA	200		450
Collector-emitter saturation voltage	V _{CE(sat)1}	V	I _C =10mA, I _B =0.5mA			0.1
	V _{CE(sat)2}	V	I _C =100mA, I _B =5mA			0.3
Base-emitter saturation voltage	V _{BE(sat)1}	V	I _C =10mA, I _B =0.5mA		0.7	
	V _{BE(sat)2}	V	I _C =100mA, I _B =5mA		0.9	
Base-emitter voltage	V _{BE1}	V	V _{CE} =5V, I _C =2mA	0.58	0.66	0.7
	V _{BE2}	V	V _{CE} =5V, I _C =10mA			0.77
Transition frequency	f _T	MHz	V _{CE} =5V, I _C =10mA, f=100MHz	100		

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	833
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	667

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 25.4mm*25.4mm copper pad areas



■ Characteristics

Fig 1: Static Characteristics

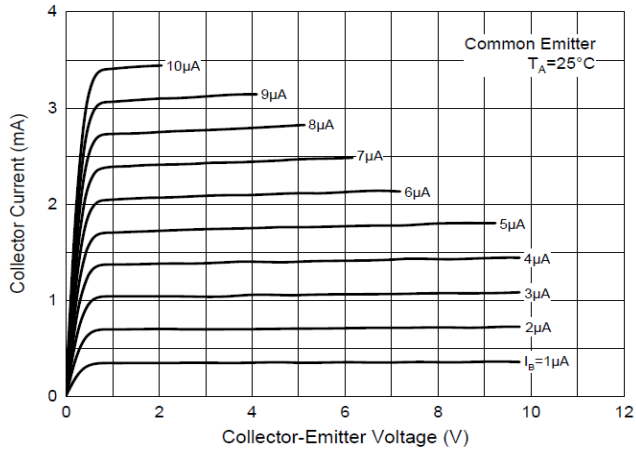


Fig 2: DC Current Gain Characteristics

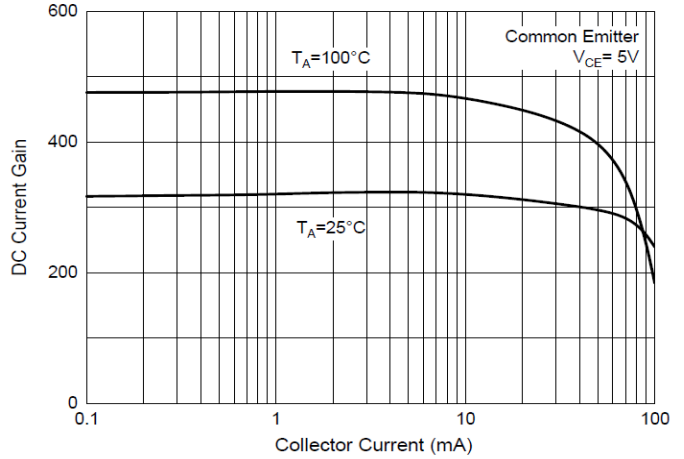


Fig 3: Collector-Emitter Saturation Voltage

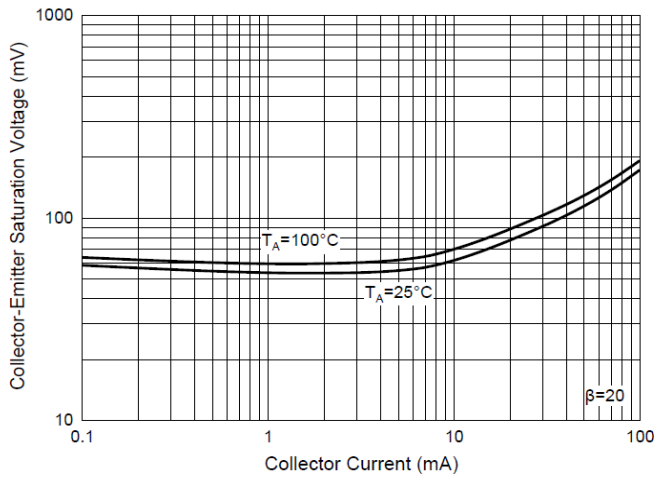


Fig 4: Base-Emitter Saturation Voltage

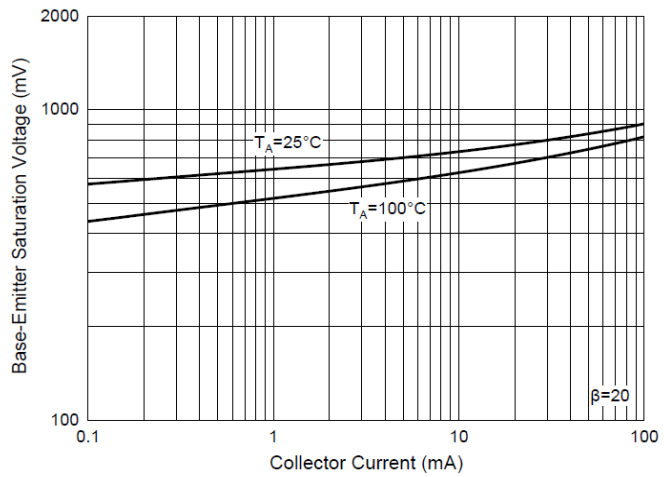


Fig 5: Base-emitter on voltage

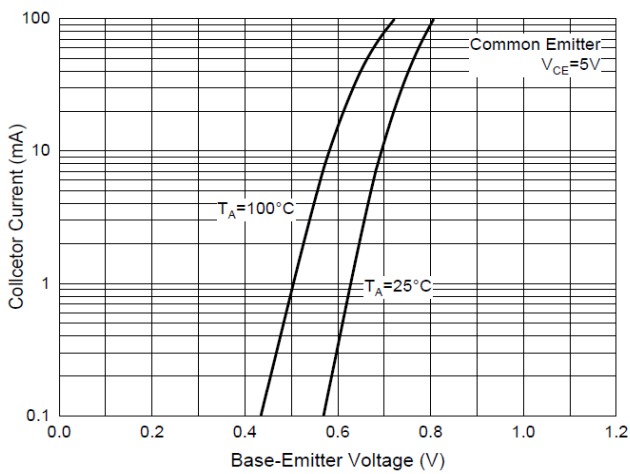
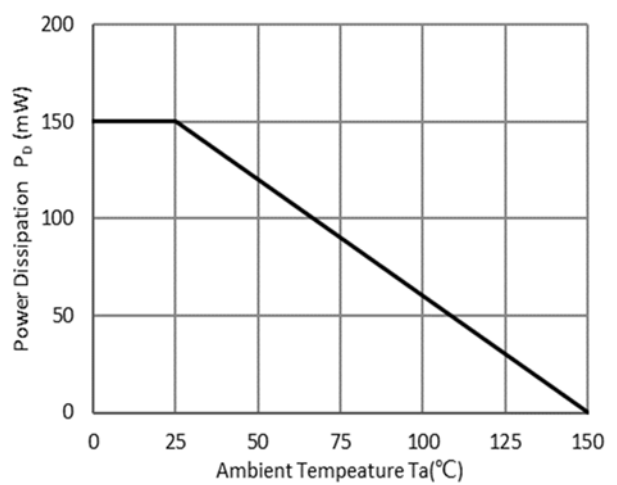


Fig 6: P_D - T_a Curve





BC847BV

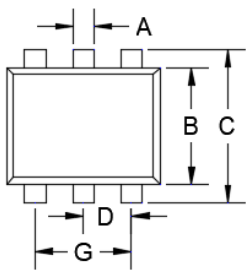
RoHS
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Ordering Information

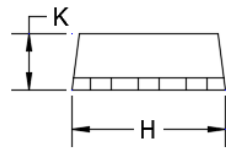
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BC847BV	F2	Approximate 0.0035	3000	30000	120000	7" reel

Outline Dimensions

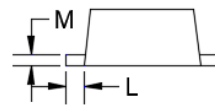
SOT-563



TOP VIEW



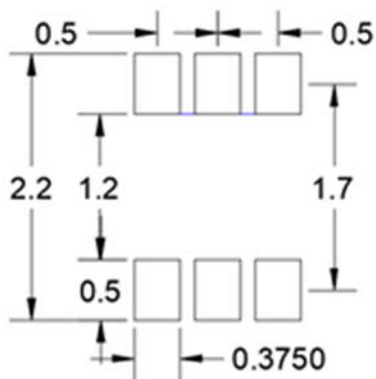
SIDE VIEW



SIDE VIEW

DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.006	0.011	0.150	0.300
B	0.043	0.051	1.100	1.300
C	0.059	0.067	1.500	1.700
D	0.016	0.024	0.400	0.600
G	0.035	0.043	0.900	1.100
H	0.059	0.067	1.500	1.700
K	0.021	0.026	0.550	0.650
L	0.004	0.011	0.100	0.300
M	0.004	0.007	0.100	0.180

Suggested Pad Layout



UNIT:mm



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