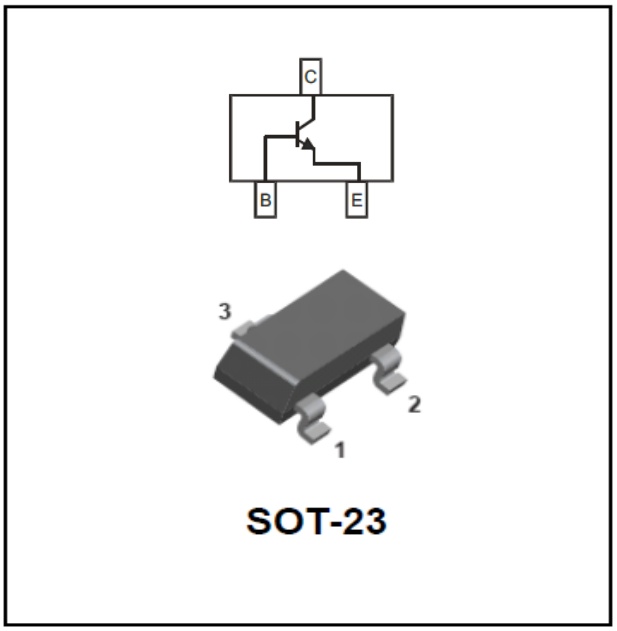
NPN General Purpose Amplifier



Features

- ●Capable of 0.3Watts(TA=25℃) of Power Dissipation
- ●Epoxy meets UL-94 V-0 flammability rating
- ●Halogen free available upon request by adding suffix ”HF”
- ●Moisture Sensitivity Level 1
- ●Device Marking:

BC817-16	6A
BC817-25	6B
BC817-40	6C

■ Maximum Rating

Item	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	45
Emitter –Base Voltage	V_{EBO}	V	5
Collector Current	I_C	mA	500
Collector Power Dissipation	P_C	mW	300
Operation Junction Temperature	T_j	℃	-55 to +150
Storage Temperature	T_{stg}	℃	-55 to +150
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	℃/W	417

■ Off Characteristics

Item	Symbol	Unit	Conditions	MIN	MAX
Collector-Emitter Voltage	V_{CEO}	V	I_C=10mAdc, I_B=0	45	
Collector-Base Voltage	V_{CBO}	V	I_C=10uAdc, I_E=0	50	
Emitter-Base Voltage	V_{EBO}	V	I_E=1.0uAdc, I_C=0	5.0	
Emitter-base Cut-off Current	I_{EBO}	uAdc	V_{EB}=4.0Vdc, I_C=0		0.1
Collector-base Cut-off Current	I_{CBO}	uAdc	V_{CB}=45Vdc, I_E=0		0.1

■ On Characteristics

Item		Symbol	Unit	Conditions	Min	Max
DC Current Gain	BC817-16	h_{FE}		I_C=100mAdc, V_{CE}=1.0Vdc	100	250
	BC817-25				160	400
	BC817-40				250	600
DC Current Gain		h_{FE}		I_C=500mAdc, V_{CE}=1.0Vdc	40	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	V	I_C=500mAdc, I_B=50mAdc		0.7
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	V	I_C=500mAdc, I_B=50mAdc		1.2

■ Small-signal Characteristics

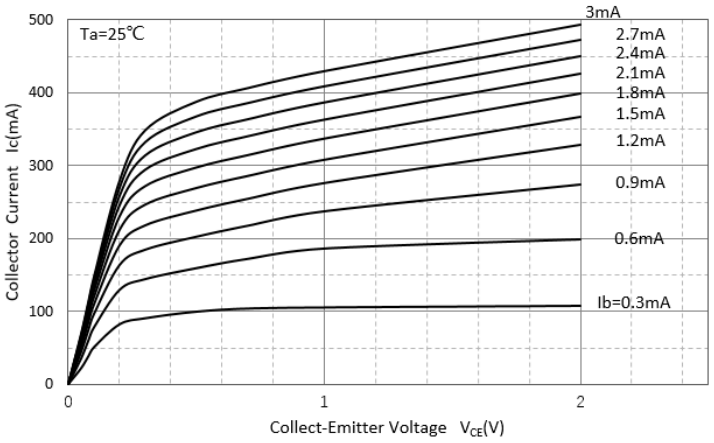
Item	Symbol	Unit	Conditions	Min	Typ	Max
Transition frequency	f_T	MHz	I_C=10mAdc,V_{CE}=5.0Vdc, f=100MHz	100		
Collector-base output capacitance	Cob	pF	VCB=10V,F=1MHz		4	

■ Ordering Information (Example)

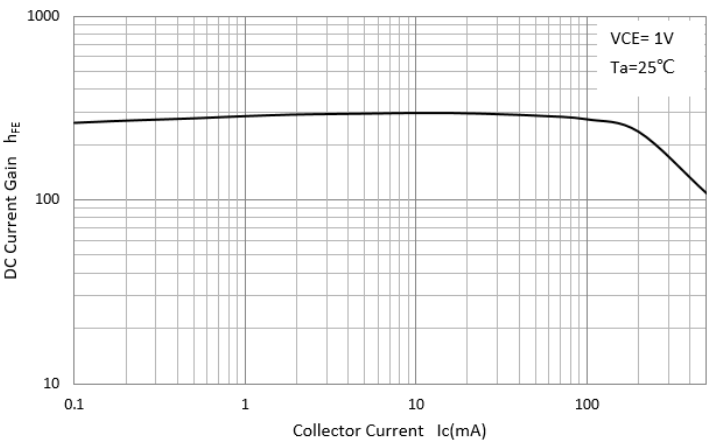
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC817-16 Thru BC817-40	F2	Approximate 0.008	3000	30000	120000	7” reel
BC817-16 Thru BC817-40	F4	Approximate 0.008	10000	/	210000	13” reel

■ **Characteristics** (Typical)

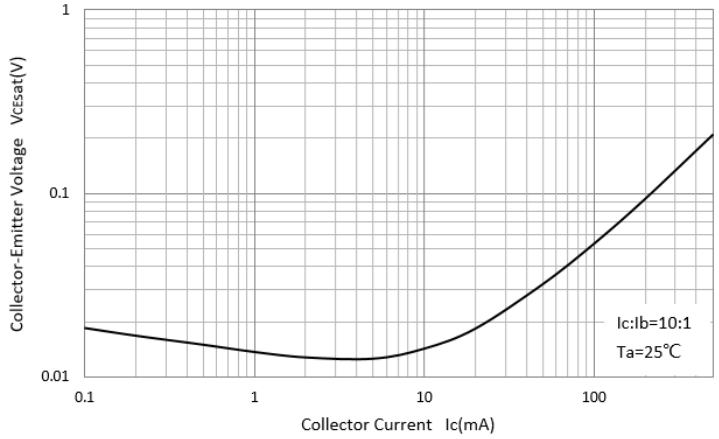
Static Characteristic



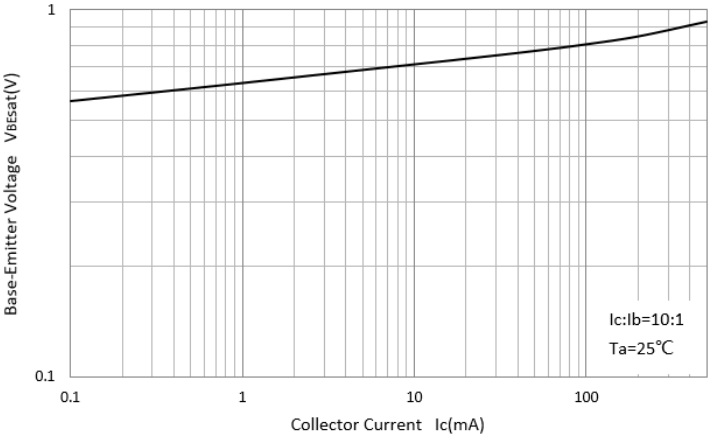
DC Current Gain



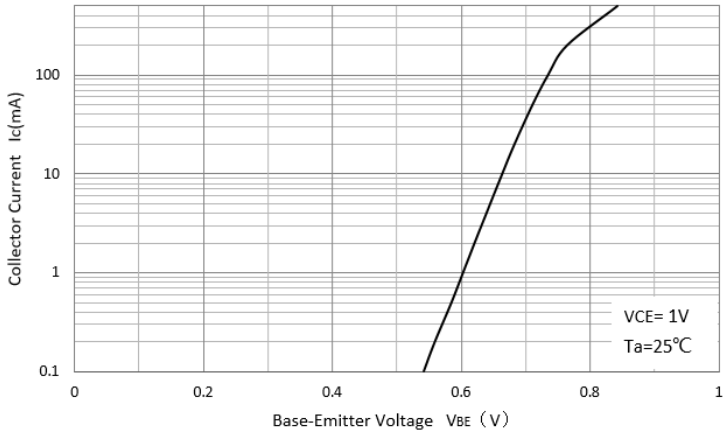
Collector-Emitter Saturation Voltage



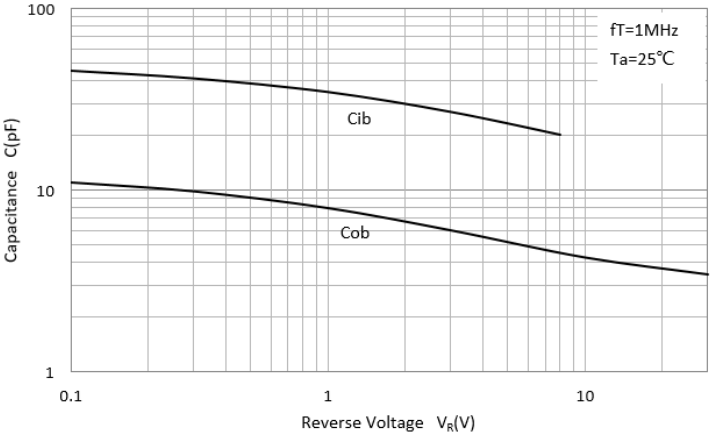
Base-Emitter Saturation Voltage



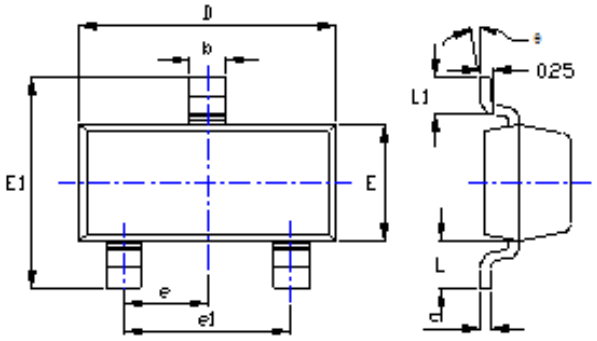
Base-Emitter On Voltage

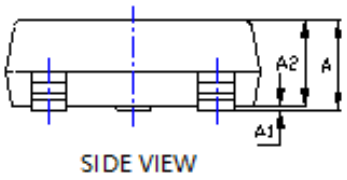


Cob/Cib-V_{CB}/V_{EB}



■SOT-23 Package Outline Dimensions

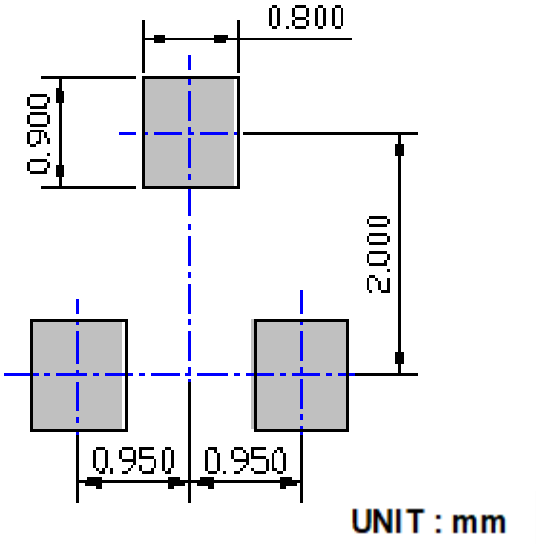




DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]

■SOT-23 Soldering Footprint



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