NPN General Purpose Amplifier





SOT-323

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level . ¸ ב ! ᴹ m ! m

Mechanical Data

- Case: SOT-323
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking:

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

■ **Maximum Ratings** (Ta=25 unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	45
Collector-Base Voltage	V_{CBO}	V	50
Emitter-Base Voltage	V_{EBO}	V	5
Collector Current -Continuous	I_C	mA	500
Total Device Dissipation (*)	P_D	mW	200
Thermal Resistance Junction to Ambient (*)	R_{thJA}	K/W	625
Junction Temperature	T_j		-55 to +150
Storage Temperature	T_{STG}		-55 to +150

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch.

■ Electrical Characteristics (Ta=25 unless otherwise noted)

Item	Symbol	Unit	Conditions		Min	Typ	Max
Collector-emitter breakdown voltage	V_{CEO}	V	I_C=10mA , I_B=0		45		
Collector-base breakdown voltage	V_{CBO}	V	I_C=10uA , I_E=0		50		
Emitter-base breakdown voltage	V_{EBO}	V	I_E=1uA , I_C=0		5		
Emitter-base cut-off current	I_{EBO}	uA	V_{EB}=4V , I_C=0				0.1
Collector-base cut-off current	I_{CBO}	uA	V_{CB}=45V , I_E=0				0.1
DC current gain	h_{FE}		BC817-16WQ	V_{CE}=1V, I_C=100mA	100		250
			BC817-25WQ		160		400
			BC817-40WQ		250		600
DC current gain	h_{FE}		V_{CE}=1V, I_C=500mA		40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C=500mA, I_B= 50mA				0.7
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C=500mA, I_B= 50mA				1.2

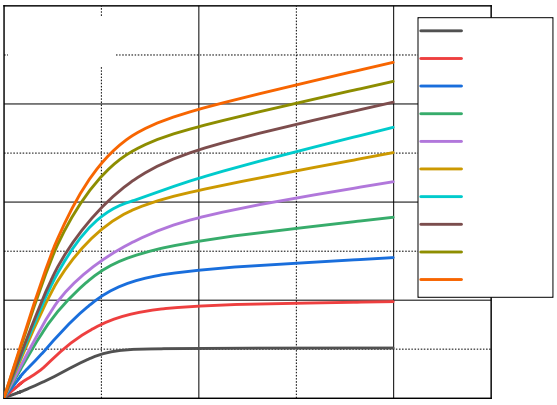
■ Other Characteristics (Ta=25 unless otherwise noted)

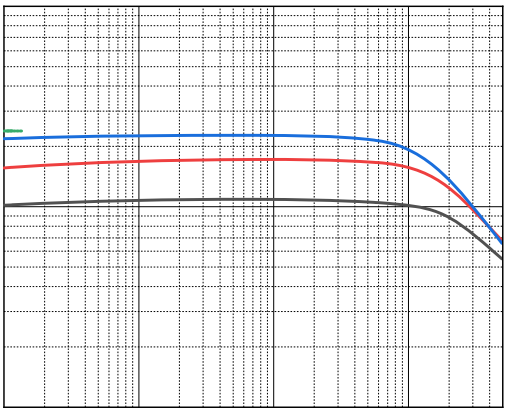
Item	Symbol	Unit	Conditions	Min	Typ	Max
Transition frequency	f_T	MHz	V_{CE}=5V,I_C=10mA,f=100MHz	100		

■ Ordering Information (Example)

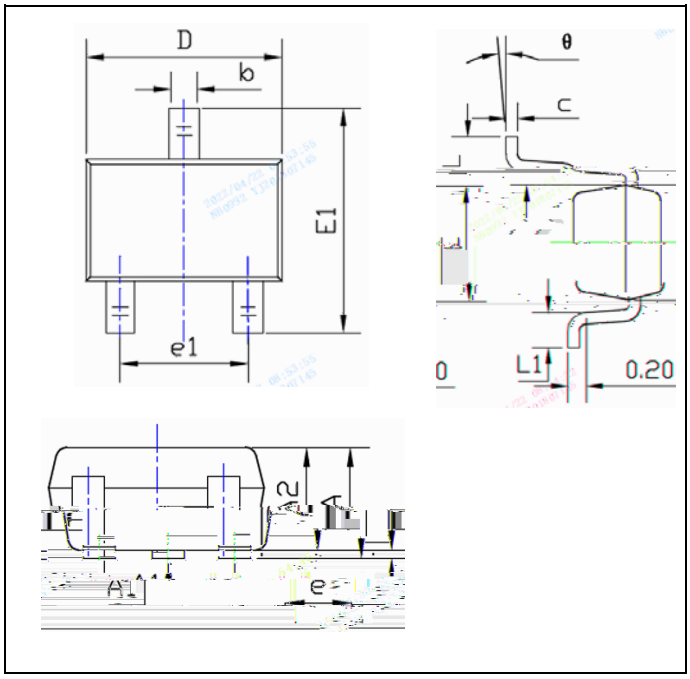
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC817-16WQ THRU BC817-40WQ	F2	Approximate 0.005	3000	30000	120000	7” reel

■ **Characteristics**(Typical)



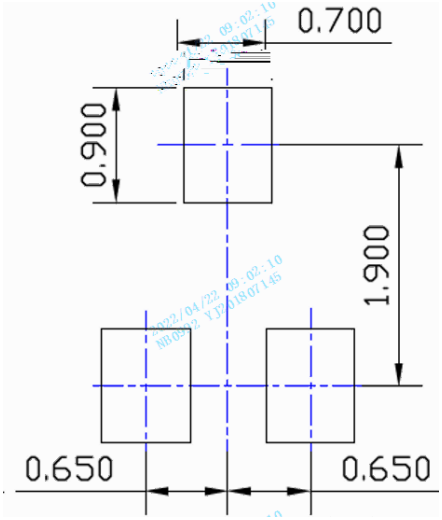


■SOT-323 Package Outline Dimensions



DIMENSIONS				
MAX	MIN	MAX		MIN
0.043	0.900	1.100	A	0.035
0.004	0.000	0.100	A1	0.000
0.005	0.016	0.150	0.400	b
0.004	0.010	0.100	0.250	c
E	0.045	0.053	1.150	1.350
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
0°	8°	θ	0°	8°

■ SOT-323 Suggested Pad Layout



Unit mm

Disclaimer