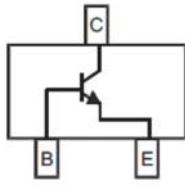


NPN General Purpose Amplifier



SOT-323

Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Part no. with suffix "Q" means AEC-Q101 qualified

Applications

- NPN General purpose switching and amplification

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°C unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CEO}	V	45
Collector-Emitter 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
Junction Temperature	T_j	°C	-55 to +150
Storage Temperature	T_{STG}	°C	-55 to +150

■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CEO}	V	$I_C=10mA, I_B=0$	45		
Collector-emitter breakdown voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	50		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=1\mu A, I_C=0$	5		
Collector-base cut-off current	I_{EBO}	μA	$V_{EB}=4V, I_C=0$			0.1
Emitter-base cut-off current	I_{CBO}	μA	$V_{CB}=45V, I_E=0$			0.1
DC current gain	h_{FE}		BC817-16WQ	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



BC817-16WQ THRU BC817-40WQ

Other Characteristics (Ta=25°C unless otherwise noted)

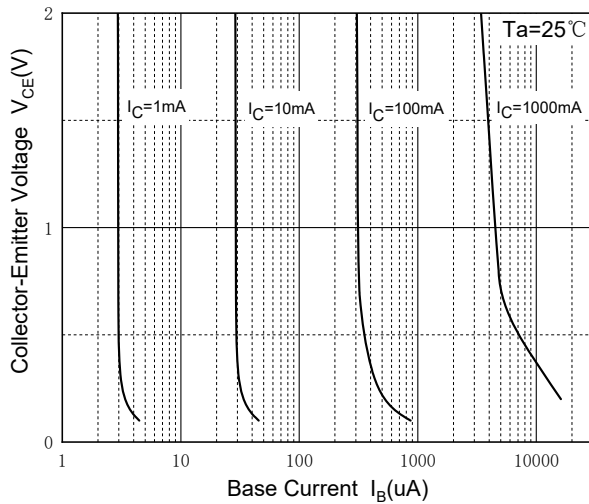
Item	Symbol	Unit	Conditions	Min	Typ	Max
Transition frequency	f_T	MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$	100		

Ordering Information (Example)

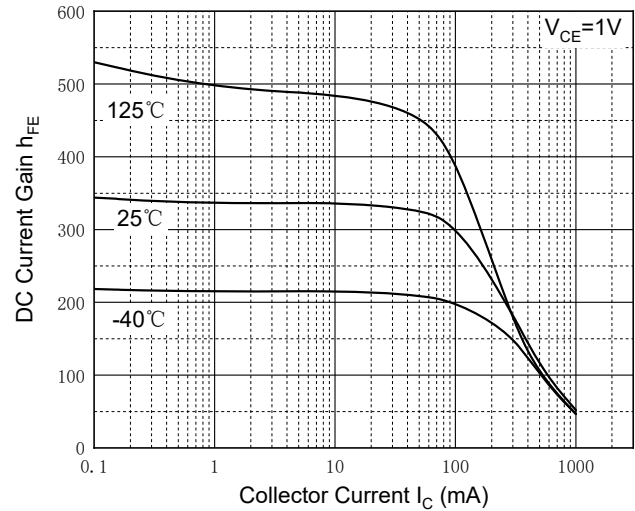
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC817-16WQ THRU BC817-40WQ	F2	Approximate 0.005	3000	30000	120000	7" reel

Characteristics(Typical)

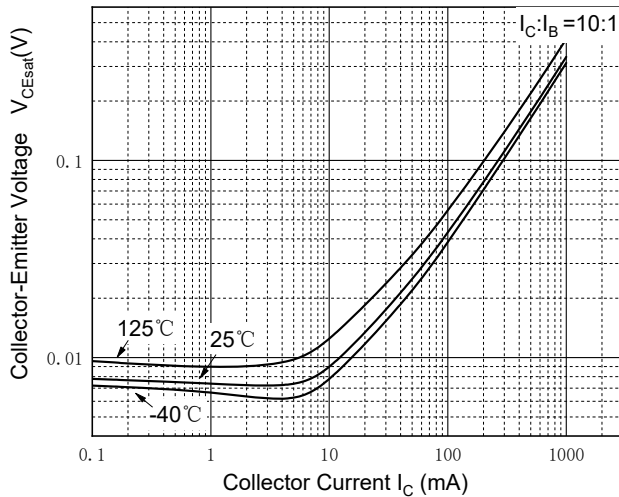
Static Characteristic



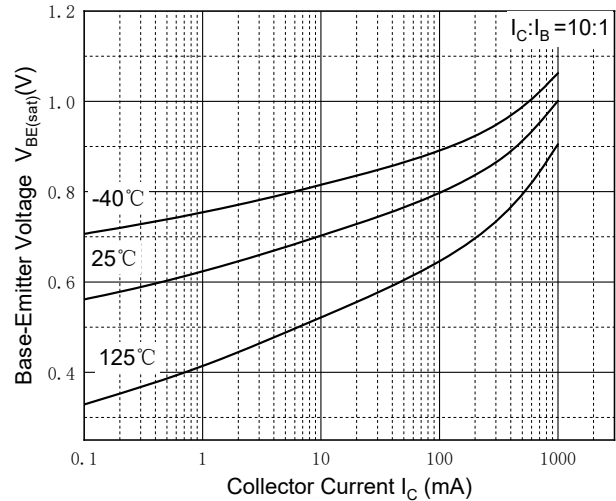
DC Current Gain



Collector-Emitter Saturation Voltage

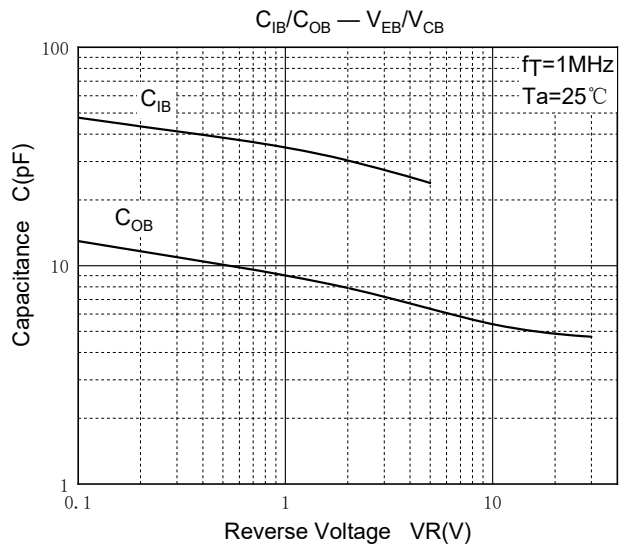


Base-Emitter Saturation Voltage





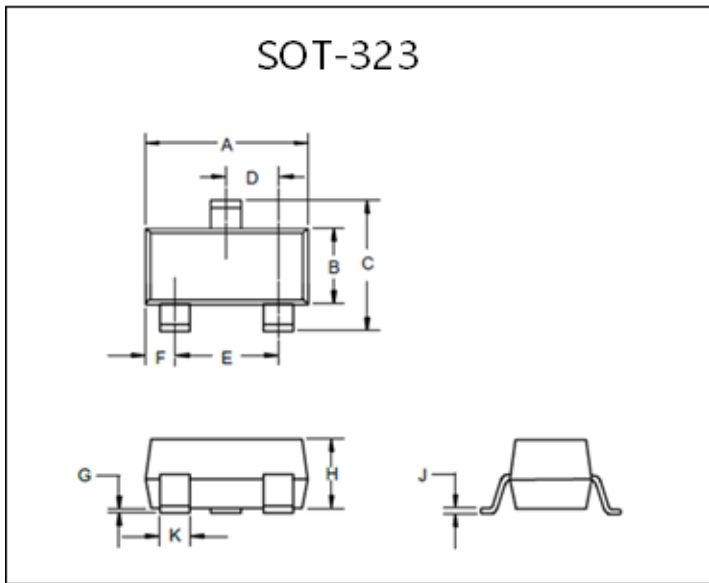
BC817-16WQ THRU BC817-40WQ





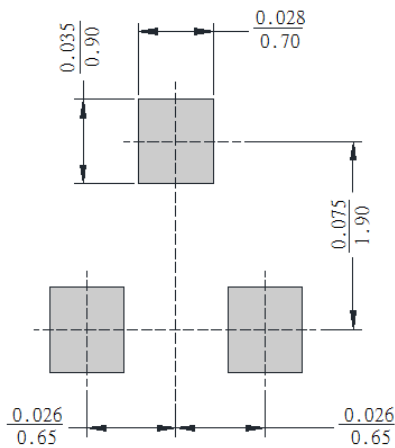
BC817-16WQ THRU BC817-40WQ

■ SOT-323 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026Nominal		0.65Nominal		
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.039	0.90	1.00	
J	0.004	0.010	0.10	0.250	
K	0.006	0.016	0.15	0.40	

■ SOT-323 Suggested Pad Layout



Unit: $\frac{\text{inch}}{\text{mm}}$



BC817-16WQ THRU BC817-40WQ

Disclaimer

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