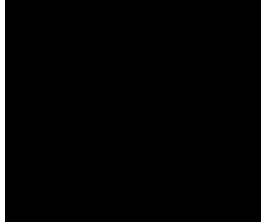




## NPN General Purpose Amplifier



**SOT-323**

### Features

Epoxy meets UL-94 V-0 flammability rating and halogen free  
Moisture Sensitivity Level . . . . .

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 unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Emitter Voltage	$V_{CE0}$	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.



# BC817-16WQ THRU BC817-40WQ

## 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	$I_C=10\mu A, I_E=0$	50		
Emitter-base breakdown voltage	$V_{EBO}$	V	$I_E=1\mu A, I_C=0$	5		
Emitter-base cut-off current	$I_{EBO}$	$\mu A$	$V_{EB}=4V, I_C=0$			0.1
Collector-base cut-off current	$I_{CBO}$	$\mu A$	$V_{CB}=45V, I_E=0$			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

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





# BC817-16WQ THRU BC817-40WQ

Fig 7 - Collect-Emittter Saturation Voltage

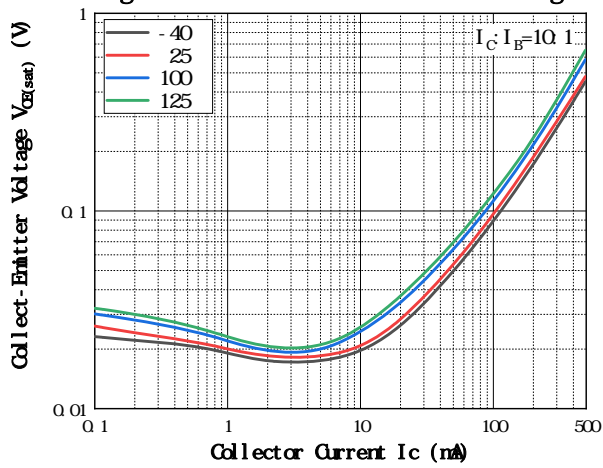
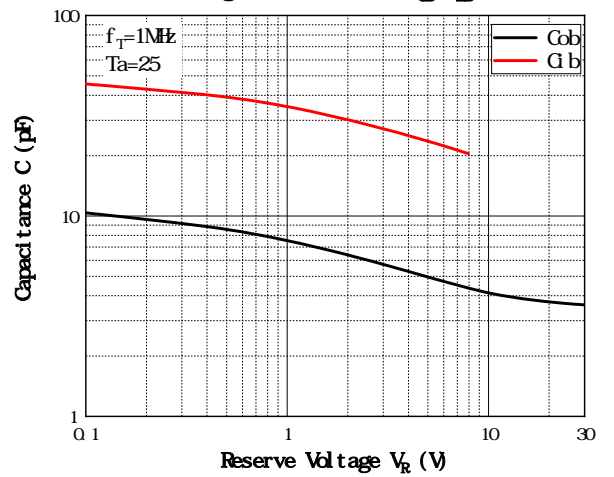


Fig 10 -  $C_{ob}/C_{cb} - V_{CE}/V_{BE}$





## BC817-16WQ THRU BC817-40WQ

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### SOT-323 Package Outline Dimensions

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# BC817-16WQ THRU BC817-40WQ

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## Disclaimer