

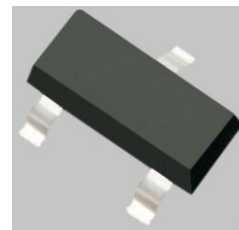
# BC817-16/-25/-40

## NPN Transistor

### Features

- ◆ For switching, AF driver and amplifier applications
- ◆ These transistors are subdivided into three groups -16, -25 and -40, according to their current gain. As complementary types the PNP transistors BC817 are recommended

SOT-23



1 Base 2. Emitter 3. Collector

### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	50	V
Collector Emitter Voltage	$V_{CEO}$	45	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	0.5	A
Power Dissipation	$P_C$	0.3	W
Operation Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55 to 150	$^\circ\text{C}$

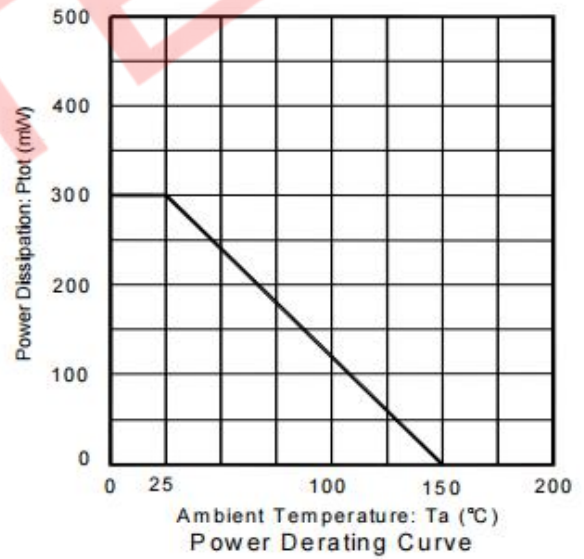
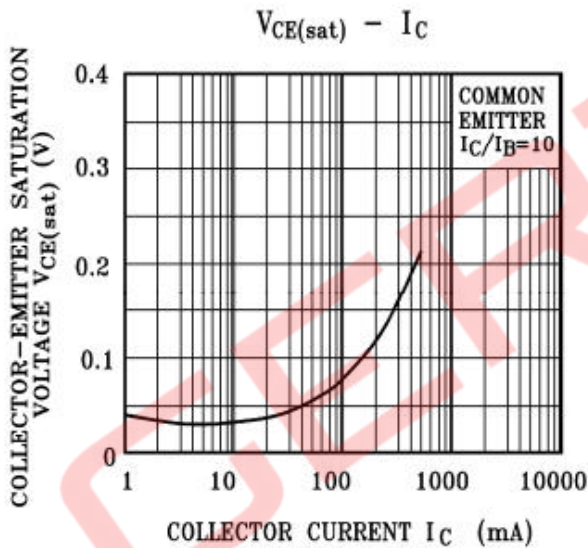
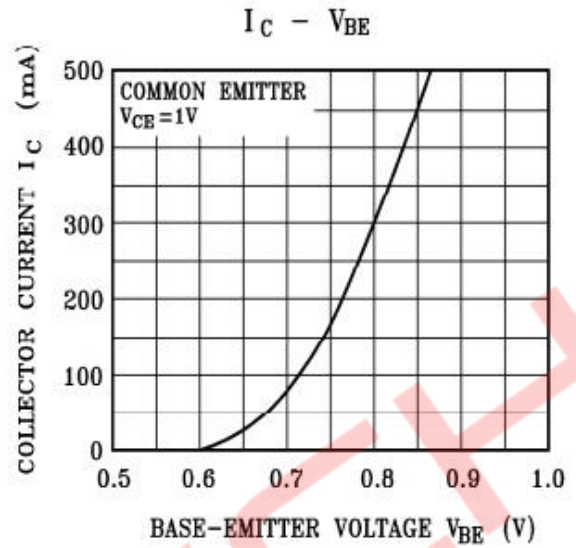
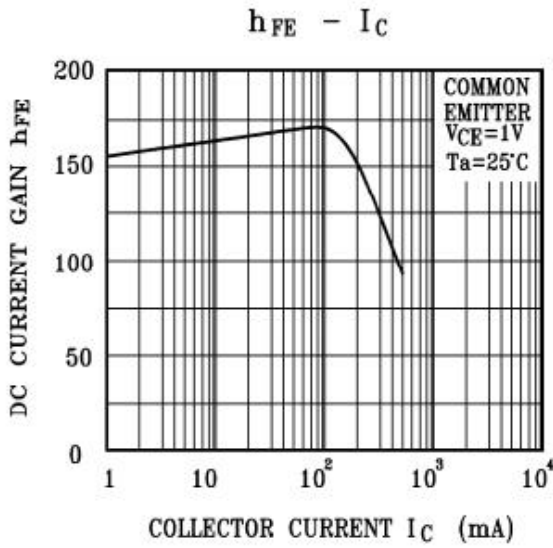
### Electrical Characteristics ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit				
Collector cut-off current	$I_{CBO}$	$V_{CB} = 20\text{V}$			100	nA				
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{V}$			100	nA				
DC current gain	BC817-16	$h_{FE1}$	100	160	250					
	BC817-25						$h_{FE2}$	250	400	
	BC817-40									
		$h_{FE4}$	40							
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.7	V				
Base-emitter saturation voltage	$V_{BE(on)}$	$I_C = 500\text{mA}, V_{CE} = 1\text{V}$			1.2	V				
Transition frequency	$f_T$	$V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 50\text{MHz}$	100			MHZ				
Collector Base Capacitance	$C_{bo}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		9		pF				

### Marking

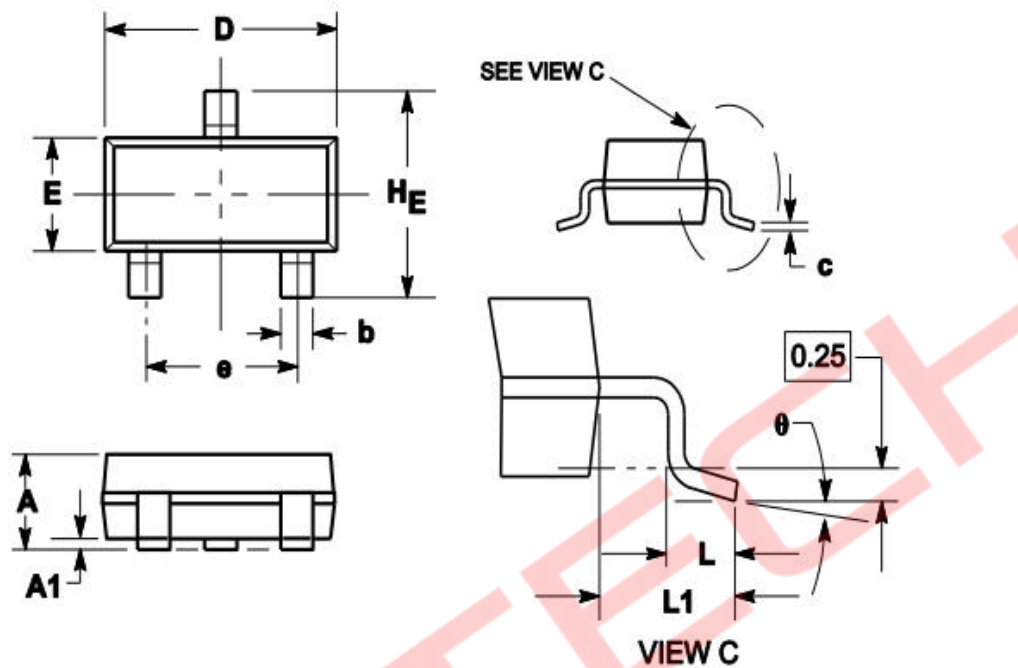
RANK	BC817-16	BC817-25	BC817-40
Marking	6CQ	6CS	6CT

## Typical Characteristics Curves

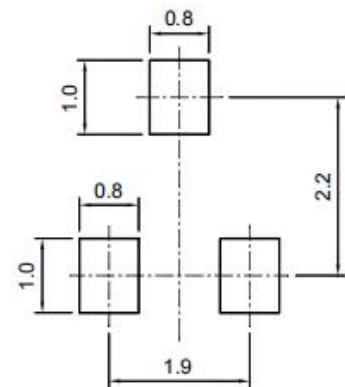


## Package Outline

SOT-23



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°



SOT-23

Recommended soldering pad