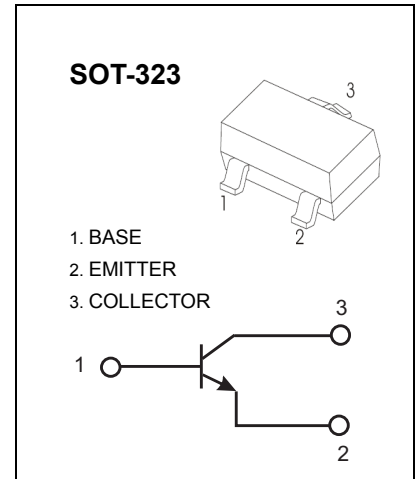


Features

- Epitaxial planar die construction
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical Data

- **Package:** SOT-323
Molding compound meets UL 94 V-0 flammability rating
- **Terminals:** Tin plated leads, solderable per J-STD-002 , Method 208



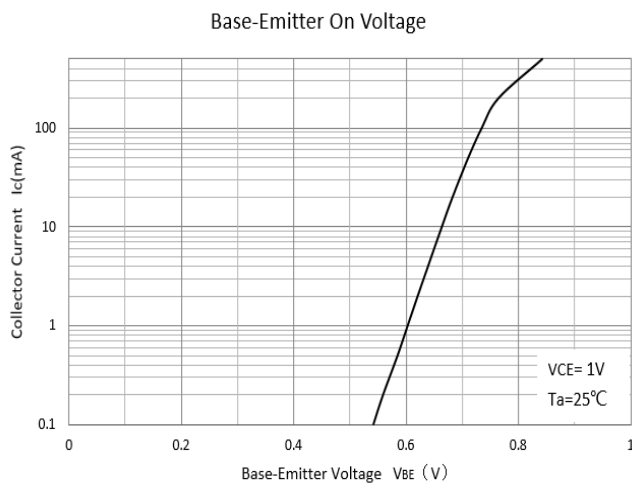
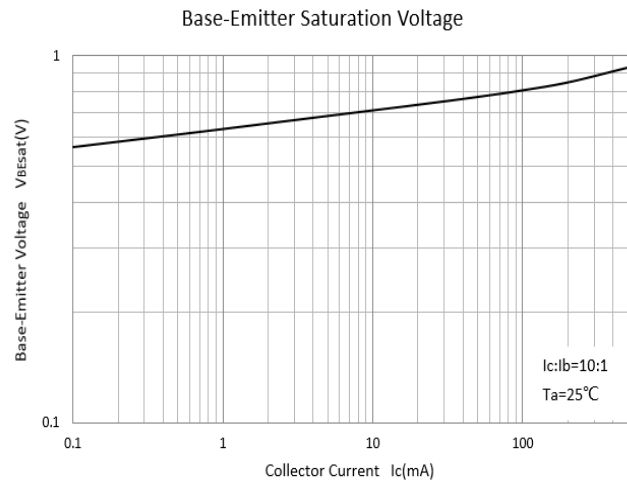
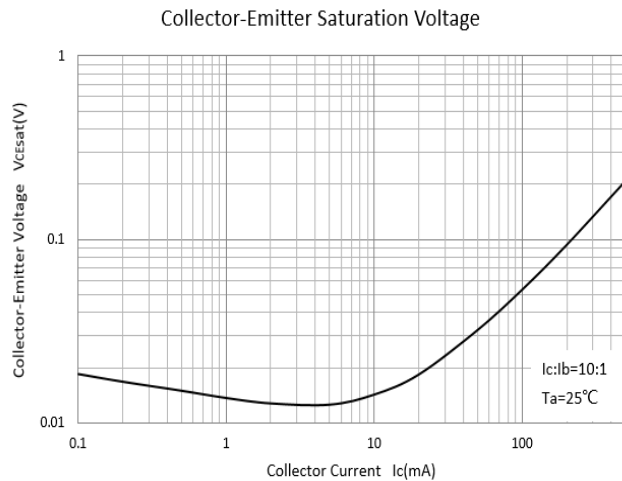
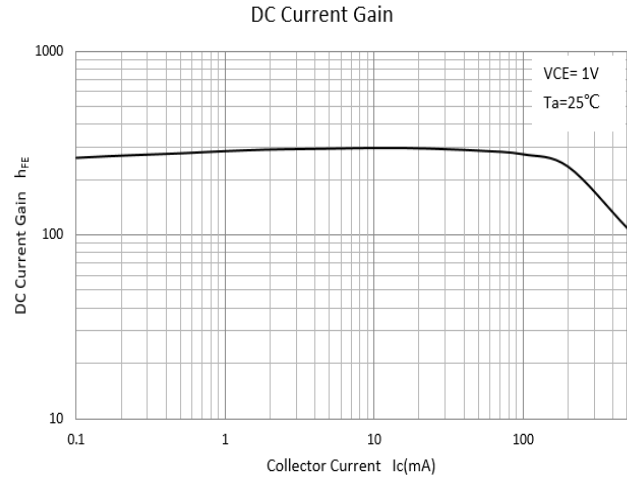
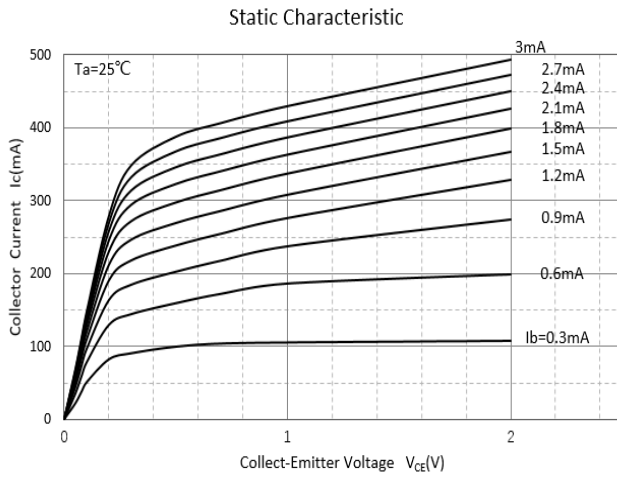
Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	50	V
Collector-Emitter Breakdown Voltage	V_{CEO}	45	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	0.5	A
Operating junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	50	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	45	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5	-	-	V
Collector Cut-off Current		I_{CBO}	$V_{CB} = 25V, I_E = 0$	-	-	100	nA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 4V, I_C = 0$	-	-	100	nA
DC Current Gain	BC817-16W-Q1	h_{FE}	$V_{CE} = 1V, I_C = 100mA$	100	-	250	-
	BC817-25W-Q1			160	-	400	-
	BC817-40W-Q1			250	-	600	-
	BC817-16W-Q1		$V_{CE} = 1V, I_C = 300mA$	40	-	-	-
	BC817-25W-Q1						
	BC817-40W-Q1						
Collector-emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$	-	-	0.7	V
Base-emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$	-	-	1.2	V
Transition Frequency		f_T	$I_C = 10mA, V_{CE} = 5V, f=100MHZ$	-	170	-	MHz

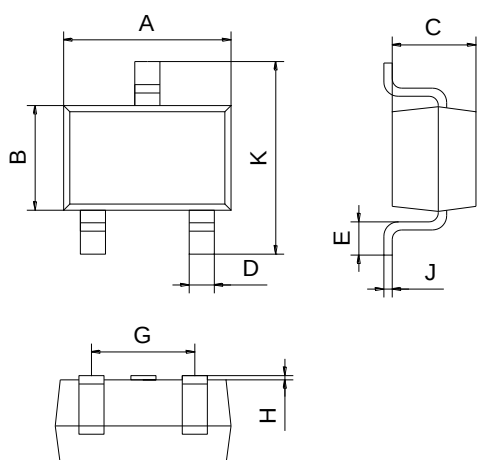
Characteristics (Typical)



Marking

Type number	Marking code
BC817-16W-Q1	6A
BC817-25W-Q1	6B
BC817-40W-Q1	6C

SOT-323 Package Outline Dimensions



SOT-323		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

SOT-323 Soldering Footprint (mm)

