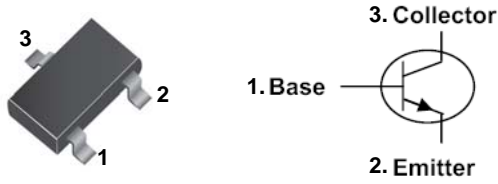


**Small Signal Diode**



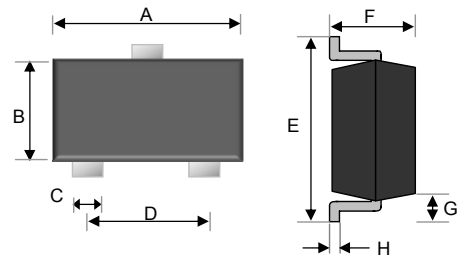
**Features**

- ↪ Low power loss, high current capability, low  $V_f$
- ↪ Surface device type mounting
- ↪ Moisture sensitivity level 1
- ↪ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ↪ Pb free version and RoHS compliant
- ↪ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

**Mechanical Data**

- ↪ Case : SOT- 23 small outline plastic package
- ↪ Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ↪ High temperature soldering guaranteed: 260°C/10s
- ↪ Weight : 0.008gram (approximately)

**SOT-23**

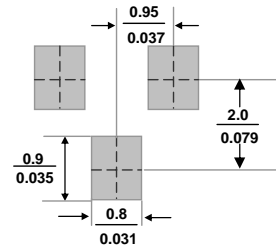


Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.30	0.50	0.012	0.020
D	1.80	2.00	0.071	0.079
E	2.25	2.55	0.089	0.100
F	0.90	1.20	0.035	0.047
G	0.550	REF	0.022	REF
H	0.08	0.19	0.003	0.007

**Ordering Information**

Part No.	Packing Code	Package	Packing
BC817-16/-25/-40	RF	SOT-23	3K / 7" Reel
BC817-16/-25/-40	RFG	SOT-23	3K / 7" Reel

**Suggested PAD Layout**



**Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified.

**Maximum Ratings**

Type Number	Symbol	Value	Units
Power Dissipation	$P_d$	300	mW
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	388	°C
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to + 150	°C

**Electrical Characteristics**

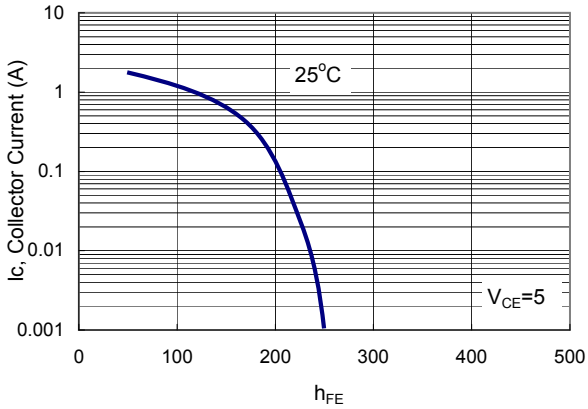
Type Number	Symbol	BC817-16	BC817-25	BC817-40	Units
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	45			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V
Collector Cut-off Current	$I_{CBO}$	0.1			μA
Emitter Cut-off Current	$I_{EBO}$	0.1			μA
Collector-Emitter saturation voltage	$V_{CE(sat)}$	0.7			V
Base-Emitter saturation voltage	$V_{BE(sat)}$	1.2			V
Transition frequency	$f_T$	100			MHz
Junction Capacitance	$C_J$	10			pF
DC current gain	$V_{CE}= 1V$ $I_C= 100mA$	100	-	600	
	$V_{CE}= 1V$ $I_C= 100mA$	>40	>40	>40	
DC current gain	$h_{FE}$	100-250	160-400	250-600	

Notes: 1.The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application.

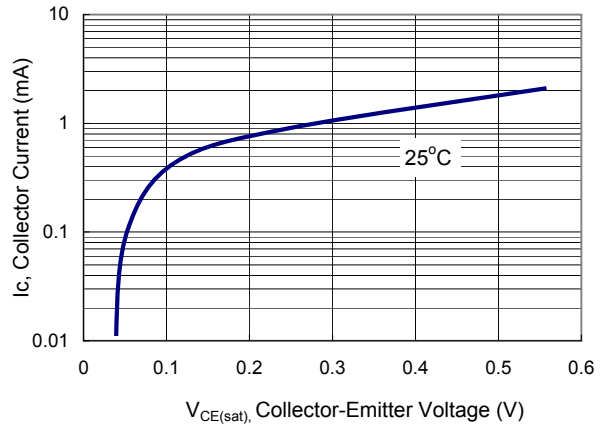
**Small Signal Diode**

**Rating and Characteristic Curves**

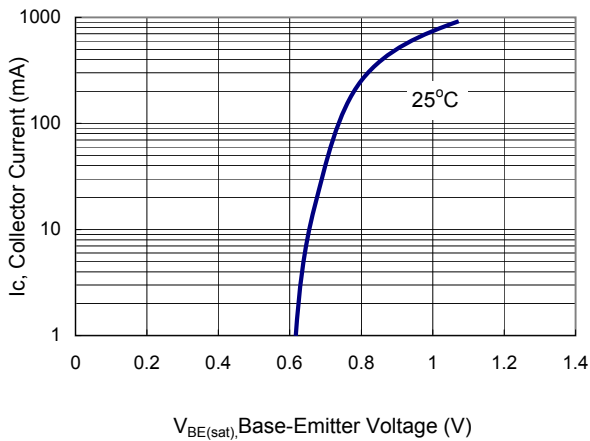
**FIG 1 Typical Pulsed Current Gain vs Collector Current**



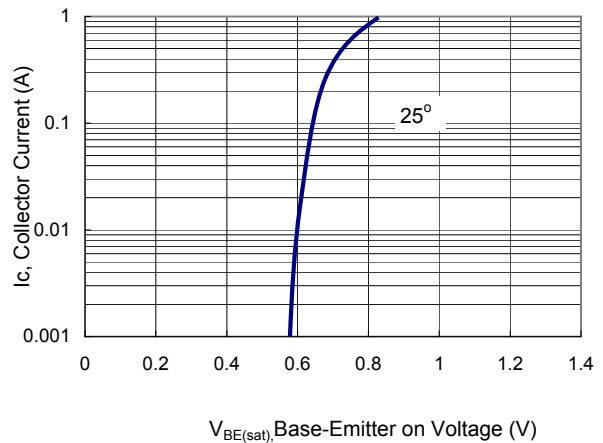
**FIG 2 Collector-Emitter Saturation Voltage vs Collector Current**



**FIG 3 Base-Emitter Saturation Voltage vs Collector Current**



**FIG 4 Base-Emitter on Voltage vs Collector Current**



**FIG 5 Collector-Base Capacitance vs Collector-Base Voltage**

