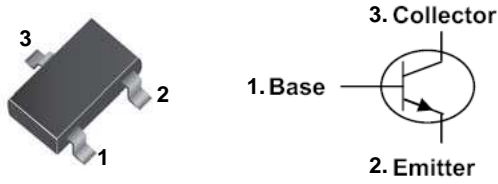


Small Signal Diode



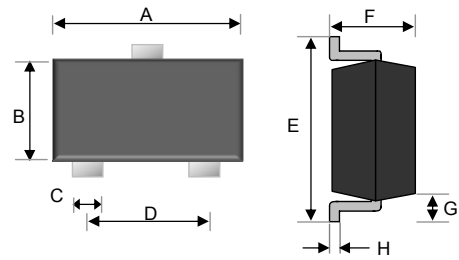
Features

- ↪ 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

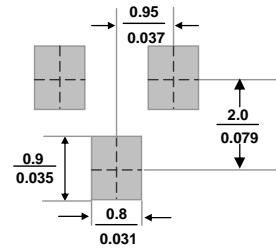


Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.30	0.50	0.012	0.020
D	1.80	2.00	0.071	0.079
E	2.25	2.55	0.089	0.100
F	0.90	1.20	0.035	0.047
G	0.550	REF	0.022	REF
H	0.08	0.19	0.003	0.007

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

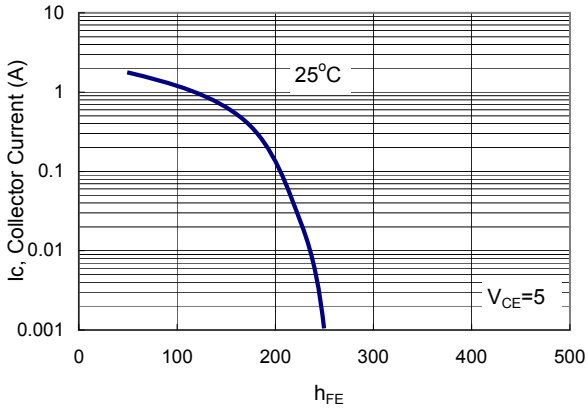


FIG 2 Collector-Emitter Saturation Voltage vs Collector Current

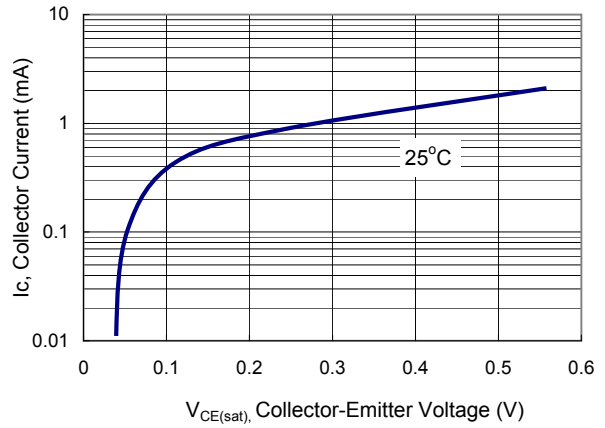


FIG 3 Base-Emitter Saturation Voltage vs Collector Current

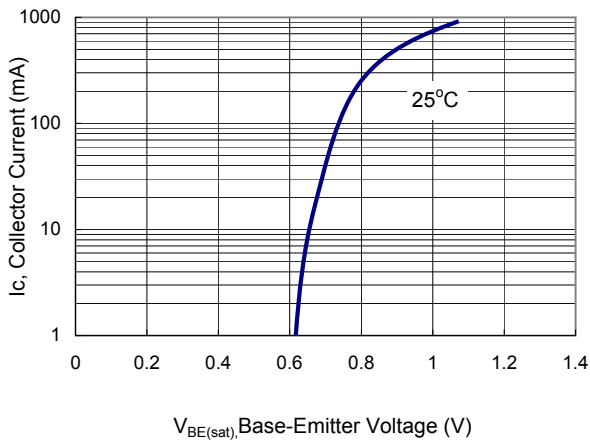


FIG 4 Base-Emitter on Voltage vs Collector Current

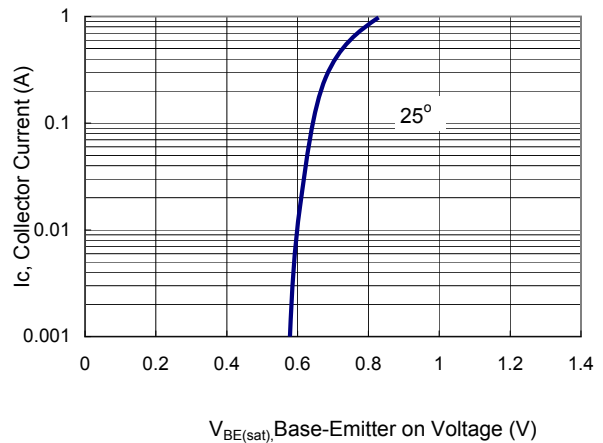


FIG 5 Collector-Base Capacitance vs Collector-Base Voltage

