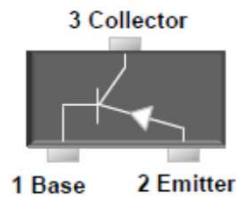
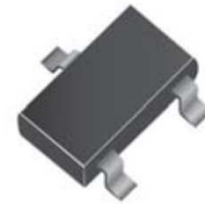


**Small Signal Product**

**200mW, PNP Small Signal Transistor**

**FEATURES**

- Epitaxial planar die construction
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- Pb free and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code



**MECHANICAL DATA**

- Case: SOT- 323 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: 0.005 grams (approximately)

**SOT-323**

<b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	$P_D$	200	mW
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	45	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	0.5	A
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	K/W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^\circ\text{C}$

Notes: 1. Transistor mounted on a FR4 printed-circuit board

PARAMETER	SYMBOL	MIN	MAX	UNIT
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	$I_{CBO}$	-	100	nA
Emitter Cut-off Current	$I_{EBO}$	-	100	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.7	V
Transition Frequency	$f_T$	100	-	MHz
DC Current Gain	$h_{FE}$	at $V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	100	250
		-16W	160	400
		-25W	250	600
		-40W	40	
		at $V_{CE} = 1\text{ V}, I_C = 500\text{ mA}$		

**Small Signal Product**

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

Fig.1 Total Power Dissipation  $P_{tot} = f(T_S)$

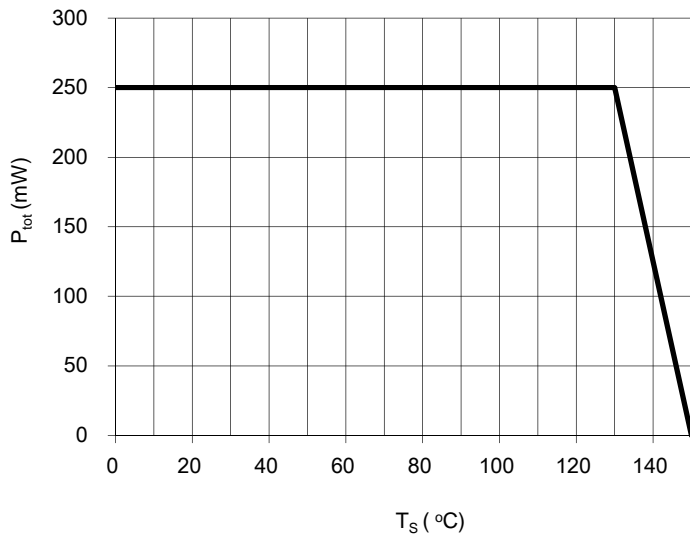


Fig.2 Permissible Pulse Load  $R_{\theta JA} = f(tp)$

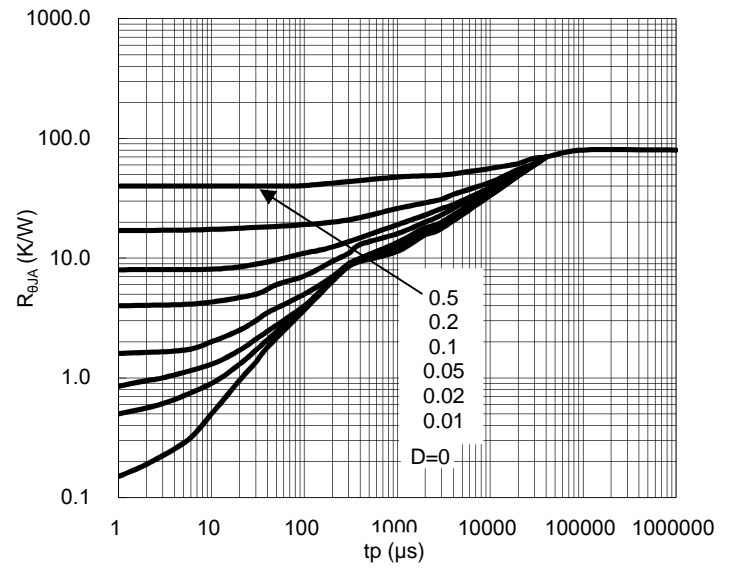


Fig.3 Permissible Pulse Load  $P_{totmax} / P_{totDC} = f(tp)$

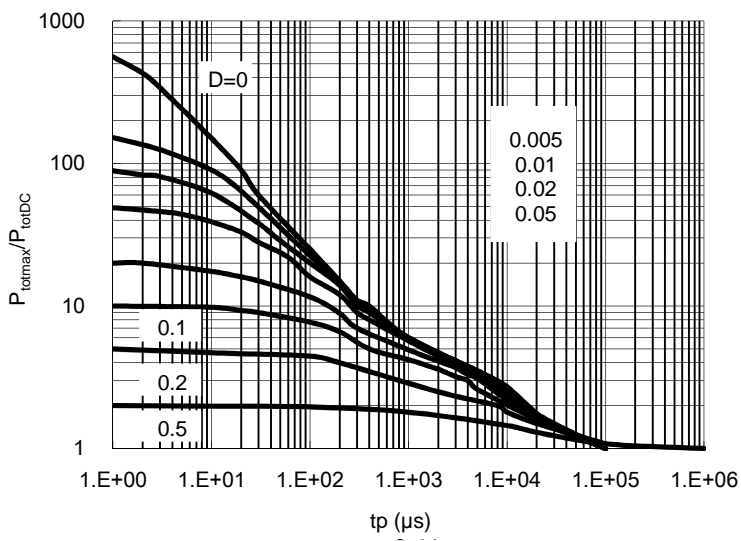
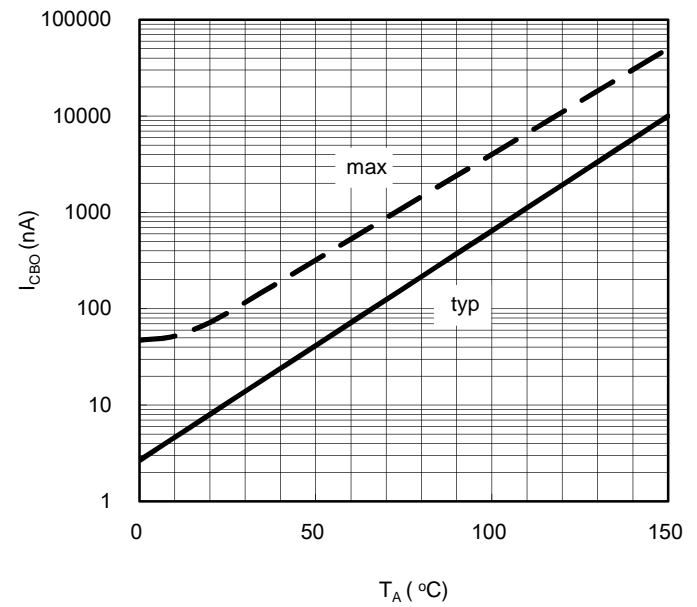


Fig. 4 Collector Cutoff Current  $I_{CBO} = f(T_A)$   
 $V_{CB}=25V$



**Small Signal Product**

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

Fig.5 DC Current Gain  $h_{FE} = f(I_C)$   
 $V_{CE} = 1V$

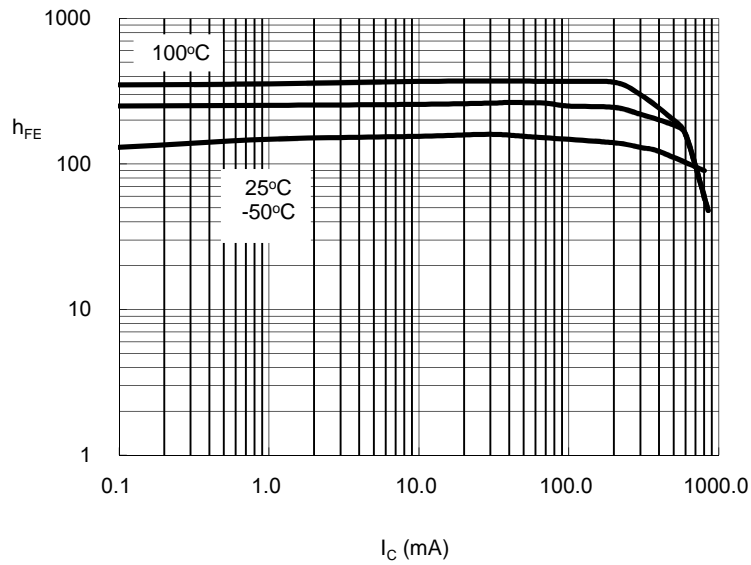


Fig. 6 Transition Frequency  $f_T = f(I_C)$   
 $V_{CE} = 5V$

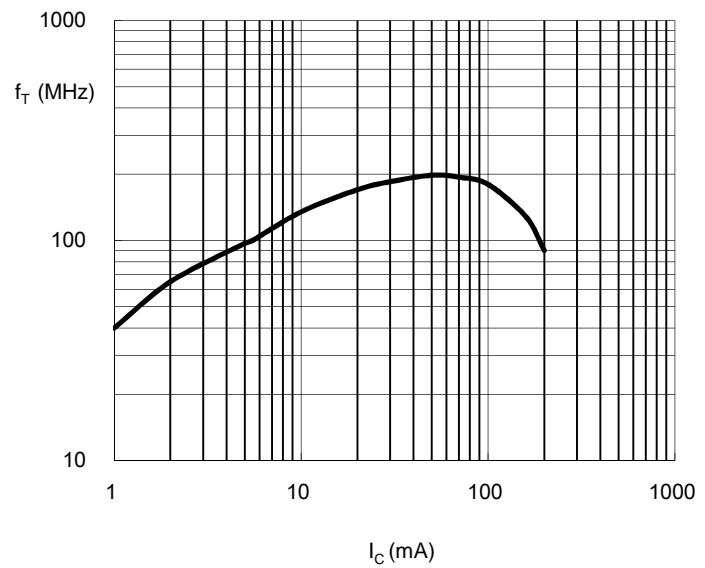


Fig. 7 Base-Emitter Saturation Voltage  
 $I_C = f(V_{BEsat}), h_{FE} = 10$

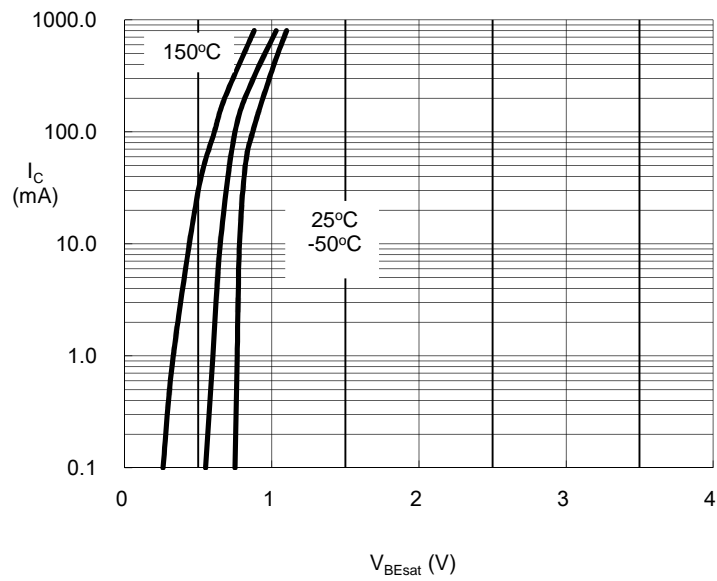
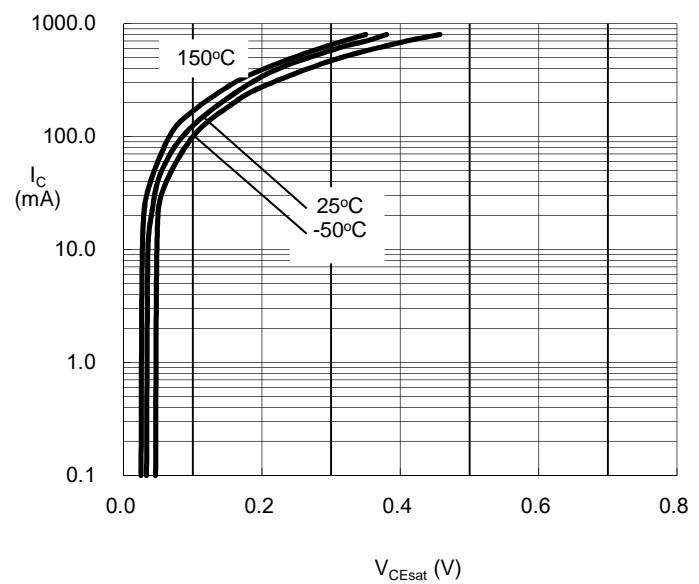


Fig. 8 Collector-Emitter Saturation Voltage



**Small Signal Product**

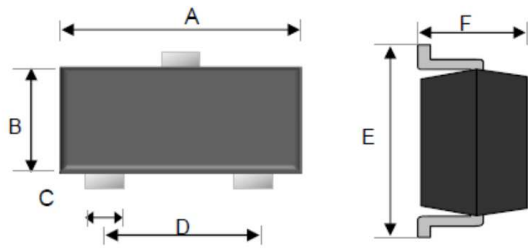
<b>ORDERING INFORMATION</b>						
<b>PART NO.</b>	<b>MANUFACTURE CODE</b>	<b>PACKING CODE</b>	<b>GREEN COMPOUND CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>	<b>MARKING</b>
BC817-16W	(Note)	RF	G	SOT-323	3K / 7" Reel	6CR
BC817-25W		RF	G	SOT-323	3K / 7" Reel	6CS
BC817-40W		RF	G	SOT-323	3K / 7" Reel	6CT

Note: Manufacture special control, if empty means no special control requirement.

<b>EXAMPLE</b>					
<b>PREFERRED P/N</b>	<b>PART NO.</b>	<b>MANUFACTURE CODE</b>	<b>PACKING CODE</b>	<b>GREEN COMPOUND CODE</b>	<b>DESCRIPTION</b>
BC817-16W RFG	BC817-16W		RF	G	Green compound
BC817-16W-B0 RFG	BC817-16W	B0	RF	G	Green compound

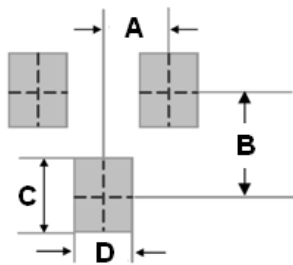
**Small Signal Product**

**DIMENSIONS**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

**SUGGEST PAD LAYOUT**



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
A	0.65	0.026
B	1.6	0.063
C	0.8	0.031
D	0.8	0.031

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