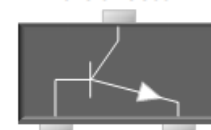


Small Signal Product

200mW, NPN 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 complian
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code


SOT-323
3 Collector

1 Base 2 Emitter

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)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P _D	200	mW
Collector-Base Voltage	V _{CB0}	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 _{θJA}	625	K/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

PARAMETER	SYMBOL	MIN	MAX	UNIT
Collector-Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	50	-	V
Collector-Emitter Breakdown Voltage at I _C = 10 mA	V _{(BR)CEO}	45	-	V
Emitter-Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	5	-	V
Collector Cut-off Current at V _{CB} = 20 V	I _{CBO}	-	100	nA
Emitter Cut-off Current at V _{EB} = 5 V	I _{EBO}	-	100	nA
Collector-Emitter Saturation Voltage at I _C = 500mA I _B = 50 mA	V _{CE(sat)}	-	0.7	V
Transition Frequency V _{CE} = 5 V I _C = 10 mA f = 100MHz	f _T	100	-	MHz
DC Current Gain	h _{FE}	at V _{CE} = 1 V, I _C = 100 mA		
		-16W	100	250
		-25W	160	400
		-40W	250	600
at V _{CE} = 1 V, I _C = 500 mA		40		

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

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

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

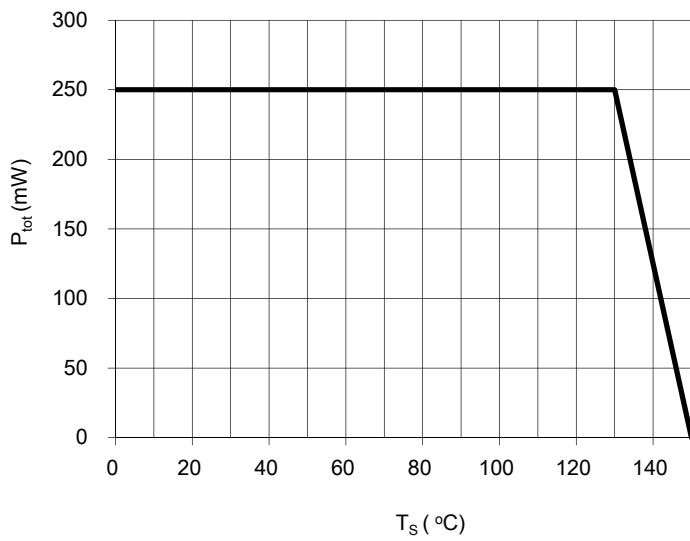


Fig.2 Permissible Pulse Load $R_{\theta JA} = f(tp)$

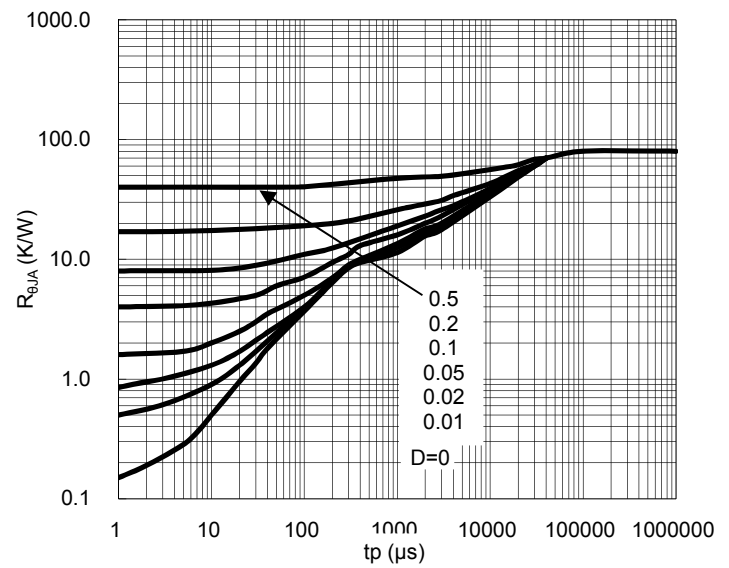


Fig.3 Permissible Pulse Load
 $P_{\text{totmax}} / P_{\text{totDC}} = f(tp)$

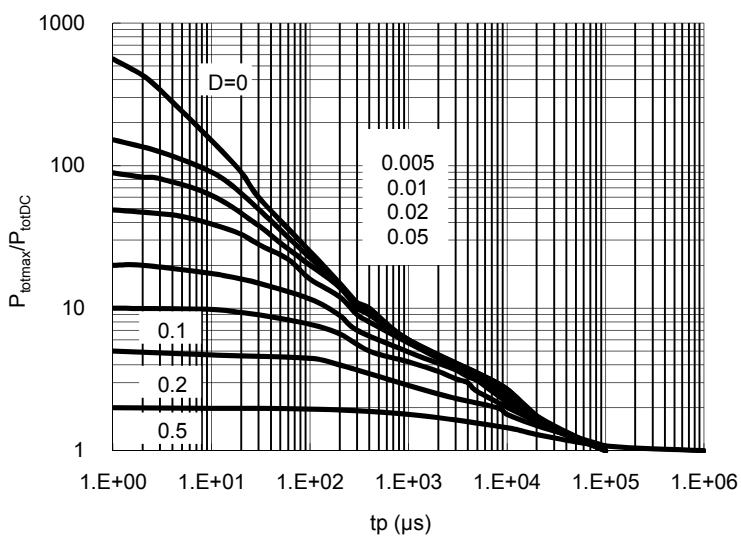
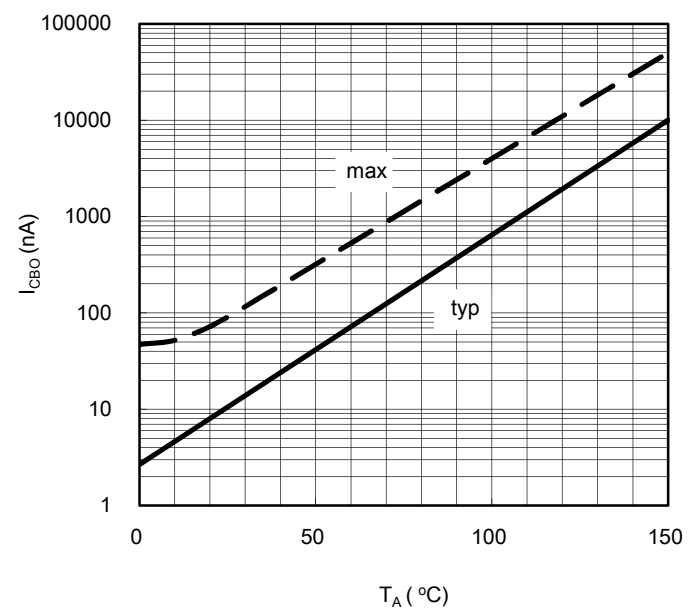


Fig. 4 Collector Cutoff Current $I_{\text{CBO}} = f(T_A)$
 $V_{\text{CB}}=25\text{V}$



Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

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

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

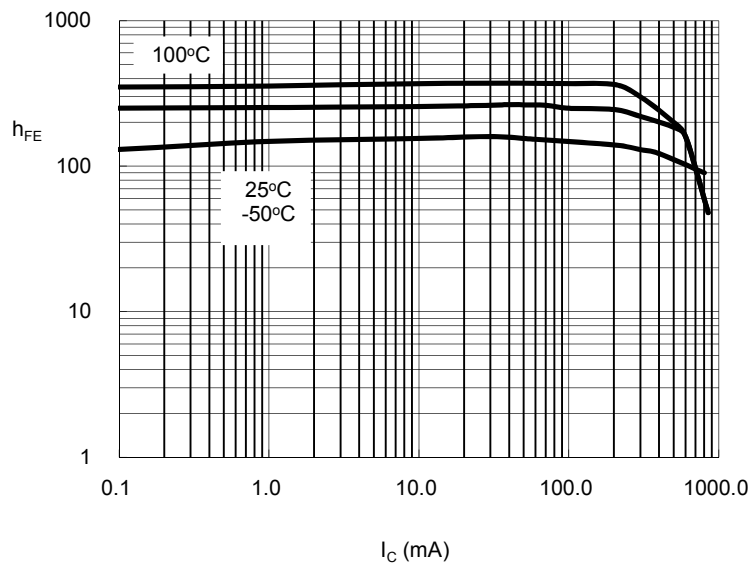


Fig. 6 Transition Frequency $f_T = f(I_C)$
 $V_{CE} = 5\text{V}$

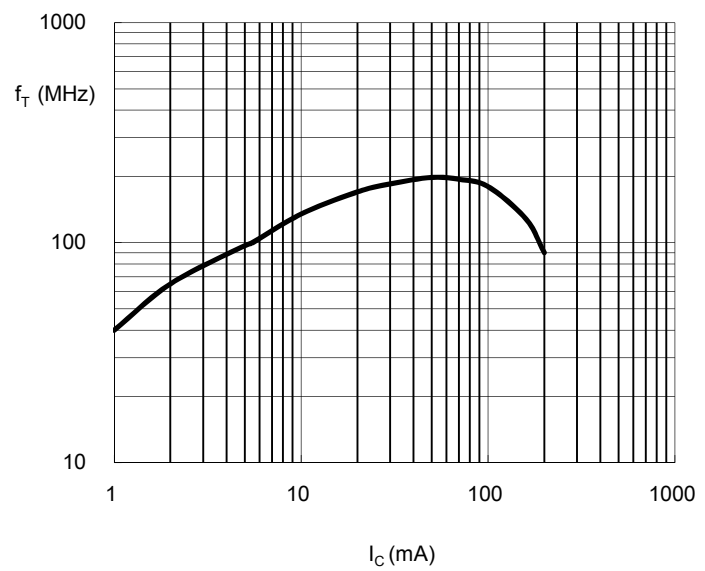


Fig. 7 Base-Emitter Saturation Voltage
 $I_C = f(V_{BEsat}), h_{FE} = 10$

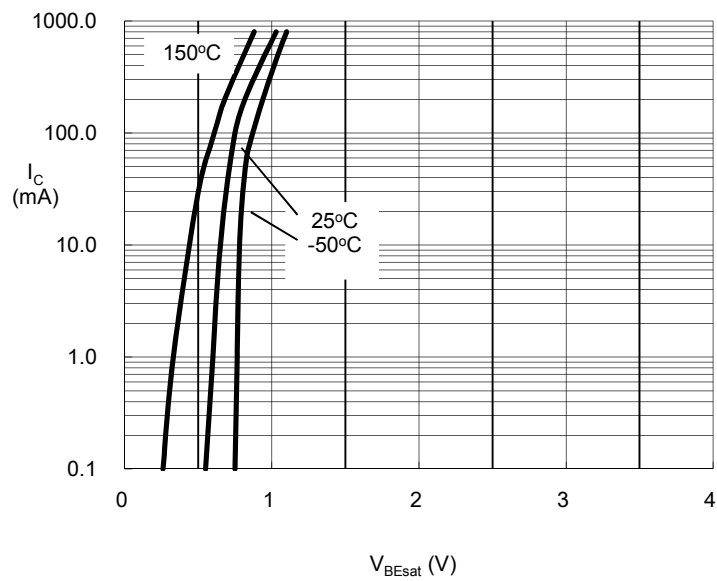
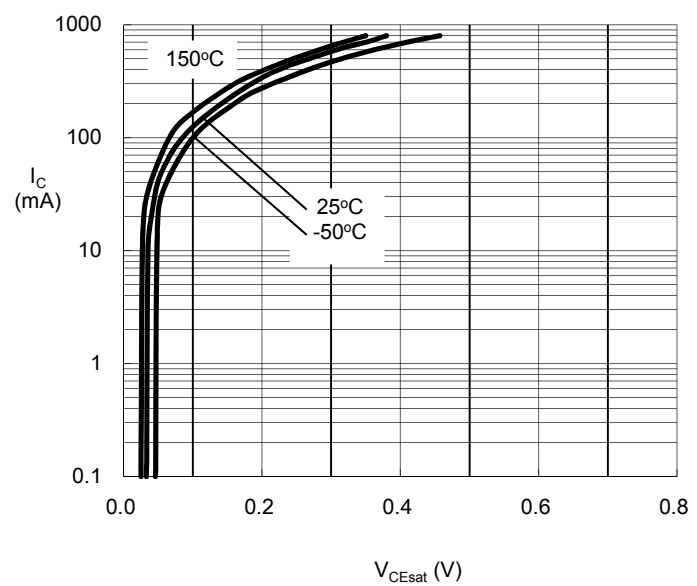


Fig. 8 Collector-Emitter Saturation Voltage



Small Signal Product

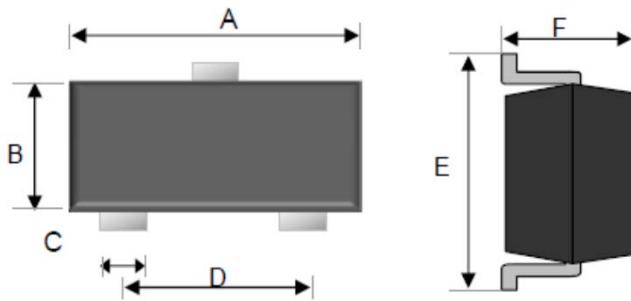
ORDERING INFORMATION					
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING	MARKING
BC817-16W	RF	G	SOT-323	3K / 7" Reel	6CR
BC817-25W	RF	G	SOT-323	3K / 7" Reel	6CS
BC817-40W	RF	G	SOT-323	3K / 7" Reel	6CT

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BC817-16W RFG	BC817-16W	RF	G	Green compound

Small Signal Product

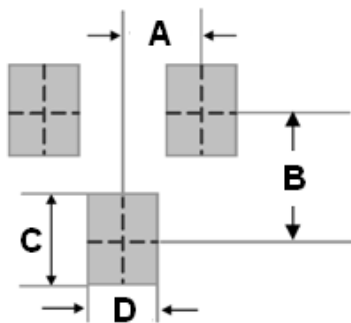
DIMENSIONS

SOT-323



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.