

Small Signal Product

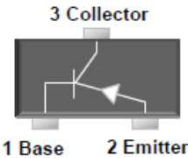
200mW, PNP Small Signal Transistor

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 complian
- 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

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 _{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 _{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 at V _{CB} = 20 V , T _J = 150 °C	I _{CBO}	-	100	nA
			5	μA
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	80	-	MHz
DC Current Gain at -V _{CE} = 1 V , -I _C = 100 mA -16W -25W -40W at -V _{CE} = 1 V , -I _C = 500 mA	h _{FE}	100	250	
		160	400	
		250	600	
		40		

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

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

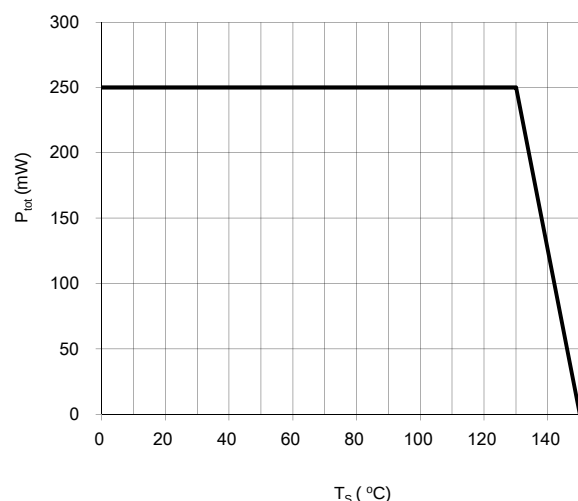


Fig.2 Permissible Pulse Load $R_{\theta JA} = f(tp)$

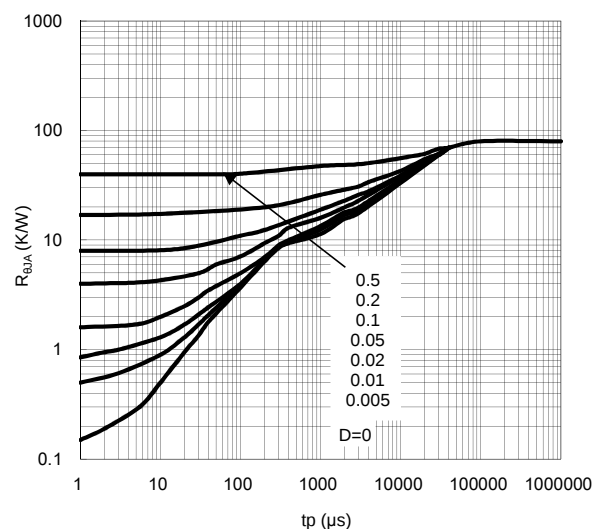


Fig.3 Permissible Pulse Load
 $P_{totmax} / P_{totDC} = f(tp)$

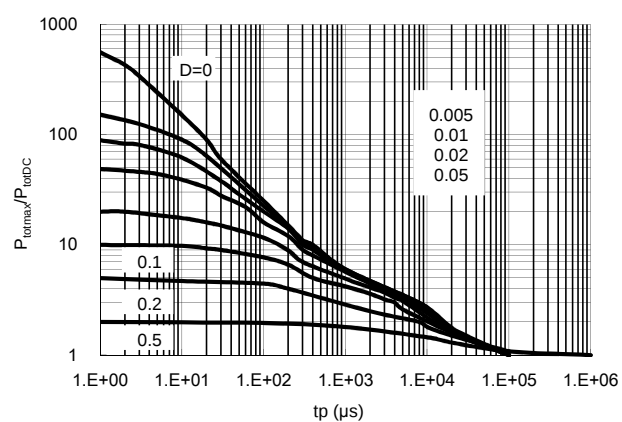
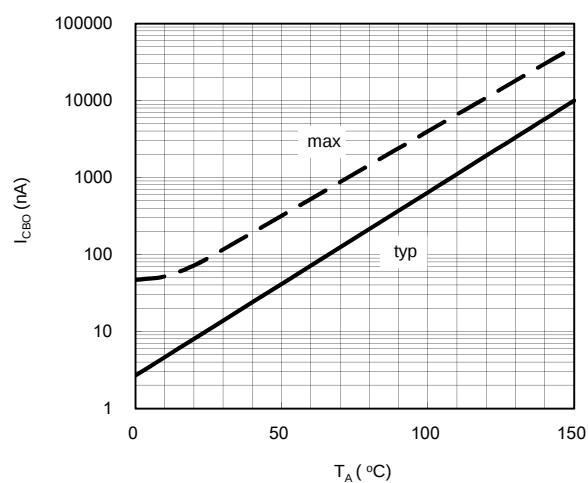


Fig. 4 Collector Cutoff Current $I_{CBO} = f(T_A)$
 $V_{CB}=25V$



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

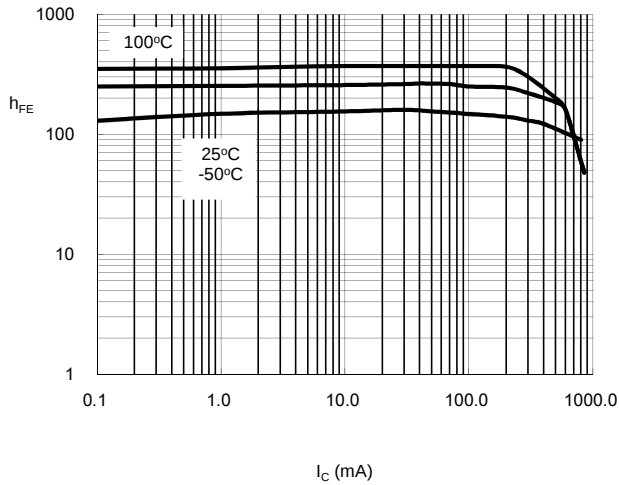


Fig. 6 Transition Frequency $f_T = f(I_C)$
 $V_{CE} = 5V$

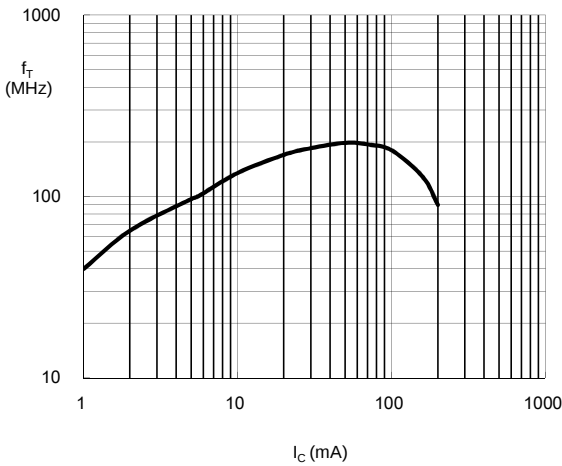


Fig. 7 Base-Emitter Saturation Voltage
 $I_C = f(V_{BEsat}), h_{FE} = 10$

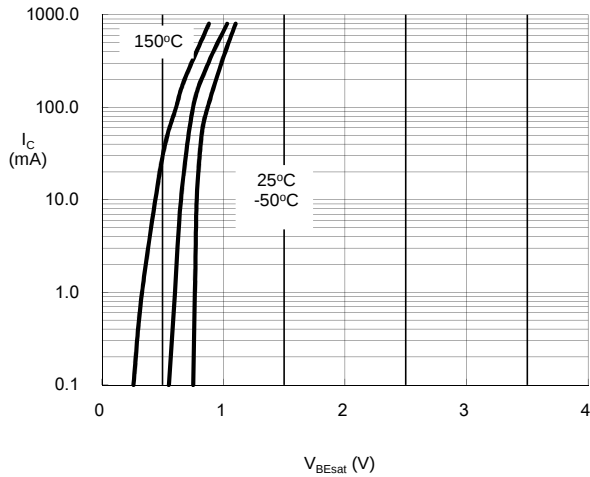
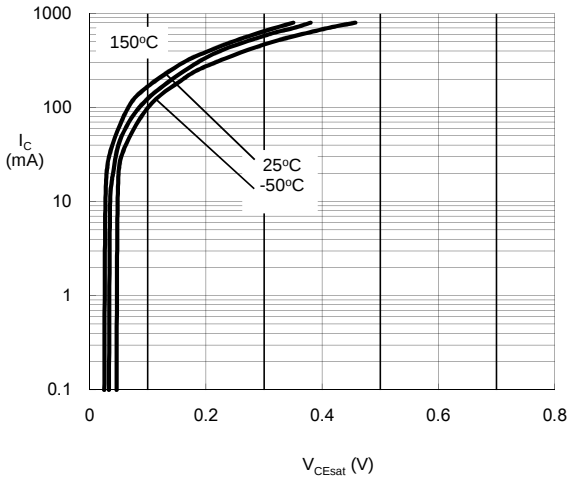


Fig. 8 Collector-Emitter Saturation Voltage
 $I_C = f(V_{CEsat}), h_{FE} = 10$



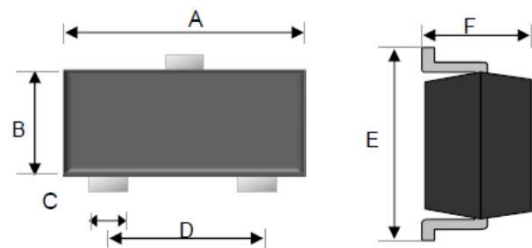
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ORDERING INFORMATION						
PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MARKING
BC807-16W	(Note)	RF	G	SOT-323	3K / 7" Reel	5CR
BC807-25W		RF	G	SOT-323	3K / 7" Reel	5CS
BC807-40W		RF	G	SOT-323	3K / 7" Reel	5CT

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

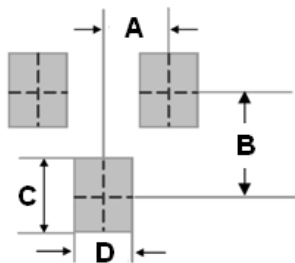
EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BC807-16W RFG	BC807-16W		RF	G	Green compound
BC807-16W-B0 RFG	BC807-16W	B0	RF	G	Green compound

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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