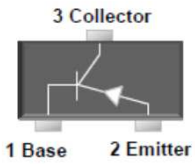
Small Signal Product

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

Pb-Free



RoHS COMPLIANT

SOT-323

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℃ 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	°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
	at V_{CB} = 20 V , T_J = 150 °C			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	h_{FE}			
	-16W		100	250	
	-25W		160	400	
	-40W		250	600	
	at $-V_{CE}$ = 1 V , $-I_C$ = 500 mA		40		

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RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

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

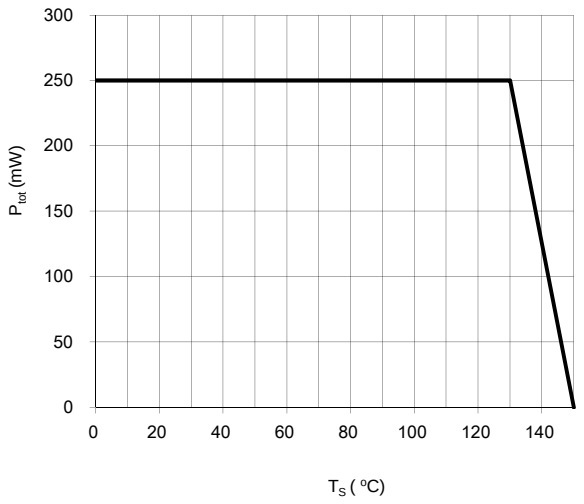


Fig.2 Permissible Pulse Load $R_{\theta JA} = f(tp)$

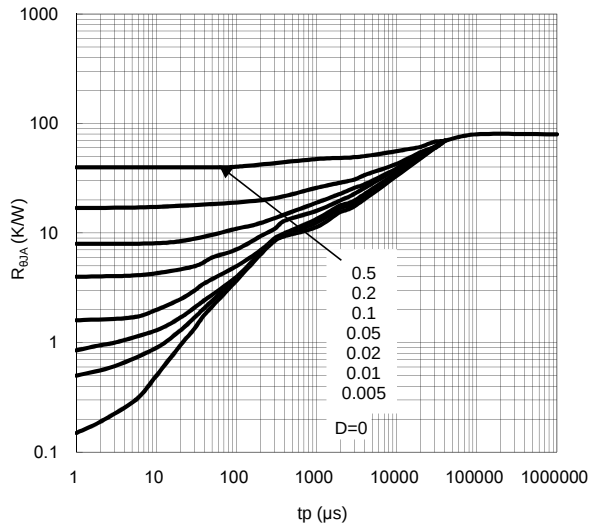


Fig.3 Permissible Pulse Load
$P_{totmax} / P_{totDC} = f(tp)$

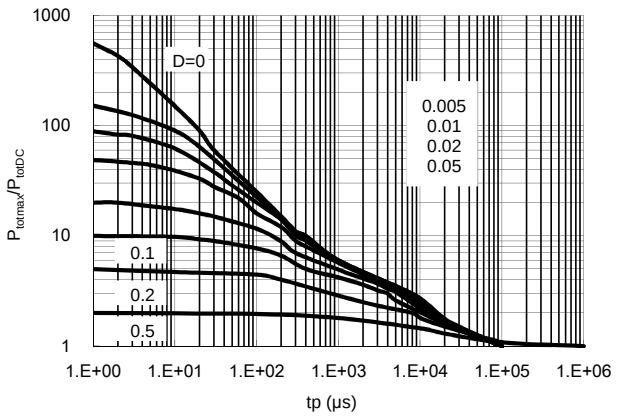
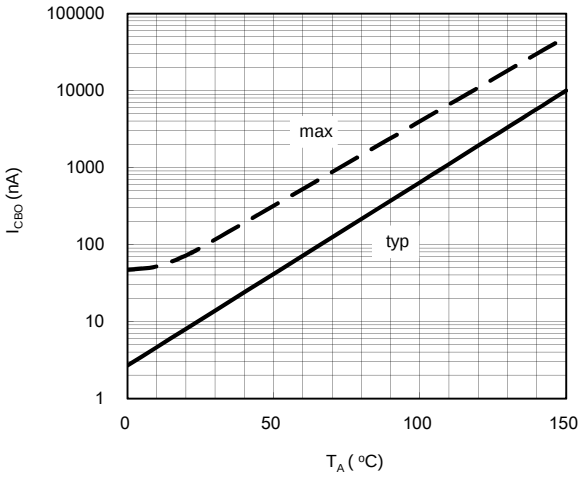


Fig. 4 Coolector Cutoff Current $I_{CBO} = f(T_A)$
V_{CB}=25V



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RATINGS AND CHARACTERISTICS CURVES

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

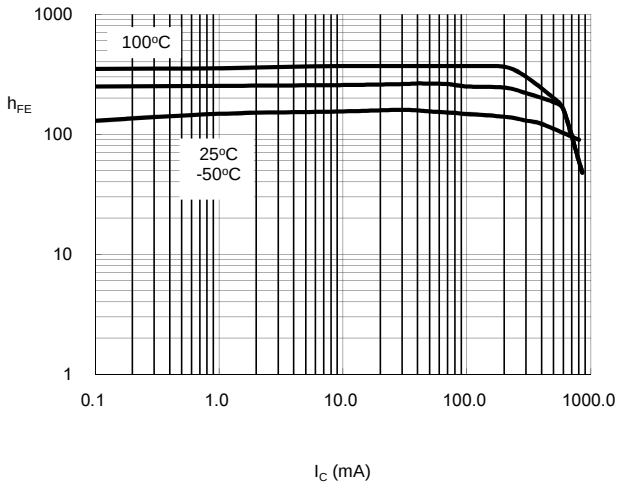


Fig. 6 Transition Frequency $f_T = f(I_C)$
$V_{CE} = 5$ V

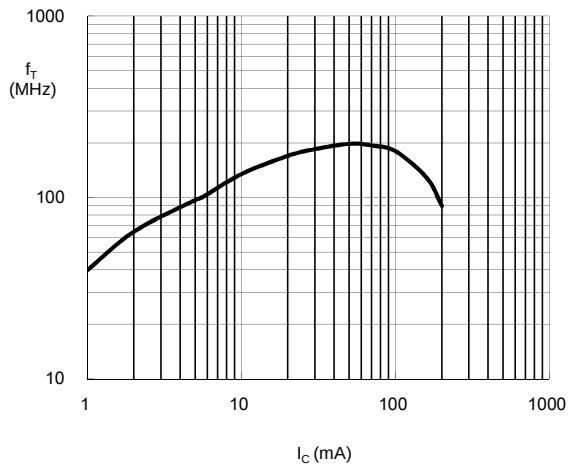


Fig. 7 Base-Emitter Saturation Voltage
$I_C = f(V_{BEsat})$, $h_{FE} = 10$

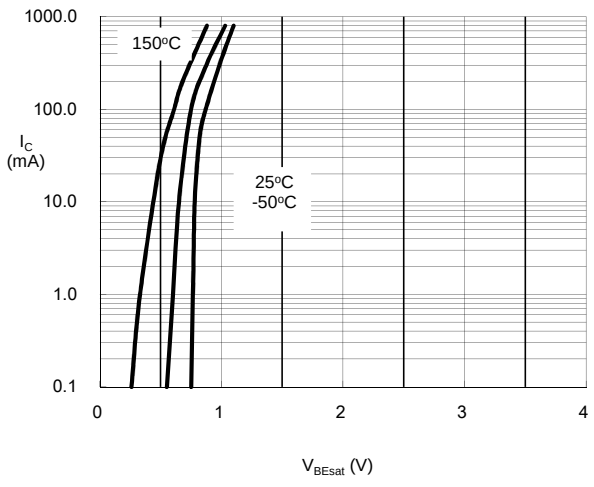
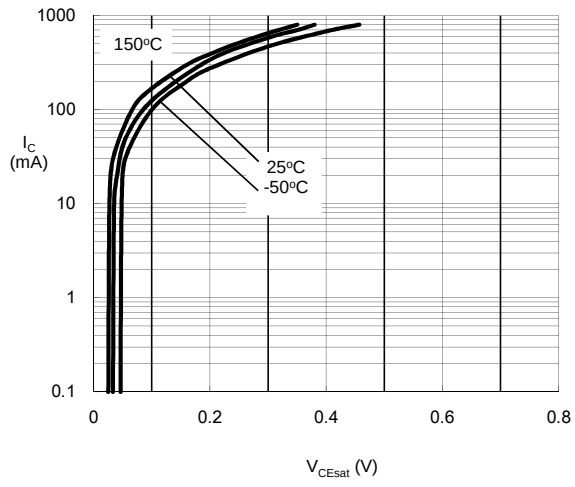


Fig. 8 Collector-Emitter Saturation Voltage
$I_C = f(V_{CEsat})$, $h_{FE} = 10$



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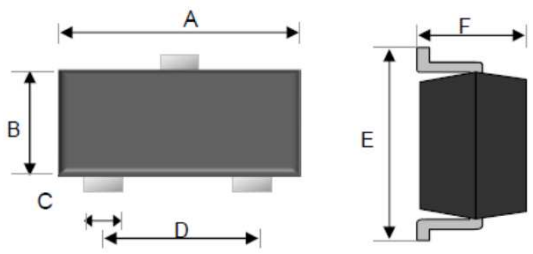
ORDERING INFORMATION						
PART NO.	**MANUFACTURE CODE**	**PACKING CODE**	**GREEN COMPOUND CODE**	**PACKAGE**	**PACKING**	**MARKING**
BC807-16W	(Note)	RF	G	SOT-323	3K / 7" Reel	5CR
BC807-25W		RF	G	SOT-323	3K / 7" Reel	5CS
BC807-40W		RF	G	SOT-323	3K / 7" Reel	5CT

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

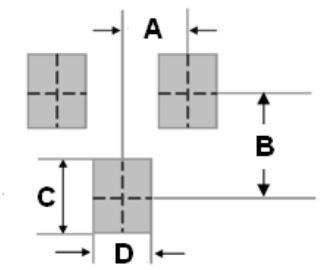
EXAMPLE					
PREFERRED P/N	**PART NO.**	**MANUFACTURE CODE**	**PACKING CODE**	**GREEN COMPOUND CODE**	**DESCRIPTION**
BC807-16W RFG	BC807-16W		RF	G	Green compound
BC807-16W-B0 RFG	BC807-16W	B0	RF	G	Green compound

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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