



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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0.3W, PNP Plastic-Encapsulate Transistor

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

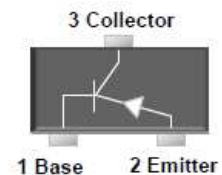
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOT-23
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 0.008grams (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_{CBO}	-50	V
V_{CEO}	-45	V
V_{EBO}	-5	V
I_C	-0.5	A
h_{FE}	250-600	
Package	SOT-23	
Configuration	Single Dice	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	BC807-16	BC807-25	BC807-40	UNIT
Marking code on the device		5A	5B	5C	
Power dissipation	P_D	0.3			W
Collector-base voltage, emitter open	$I_C = -10 \mu\text{A}, I_E = 0$	V_{CBO}	-50		V
Collector-emitter voltage, base open	$I_C = -10 \text{mA}, I_B = 0$	V_{CEO}	-45		V
Emitter-base voltage, collector open	$I_E = -1 \mu\text{A}, I_C = 0$	V_{EBO}	-5		V
Collector current, dc	I_C	-0.5			A
Junction temperature	T_J	-55 to +150			$^\circ\text{C}$
Storage temperature	T_{STG}	-55 to +150			$^\circ\text{C}$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Collector cutoff current, emitter open	$V_{CB} = -45\text{ V}, I_E = 0$	I_{CBO}	-	-	-0.1	μA
	$V_{CB} = -40\text{ V}, I_B = 0$		-	-	-0.2	
Emitter cutoff current, collector open	$V_{EB} = -4\text{ V}, I_C = 0$	I_{EBO}	-	-	-0.1	μA
DC current gain	$V_{CE} = -1\text{ V}, I_C = -100\text{ mA}$	BC807-16	100	-	250	
		BC807-25	160	-	400	
		BC807-40	250	-	600	
Collector-emitter saturation voltage	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$	$V_{CE(sat)}$	-	-	-0.7	V
Base-emitter saturation voltage	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$	$V_{BE(sat)}$	-	-	-1.2	V
Transition frequency	$V_{CE} = -5\text{ V}, I_C = -10\text{ mA}, f = 50\text{ MHz}$	f_T	100	-	-	MHz

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
BC807-XX (Note 1)	RF	G	SOT-23	3K / 7" Reel

Notes:

1. "xx" is Device Code is "16" and "25" and "40"

*: optional available

EXAMPLE				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BC807-16 RFG	BC807-16	RF	G	Green compound

CHARACTERISTICS CURVES

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

Fig.1 Power Derating Curve

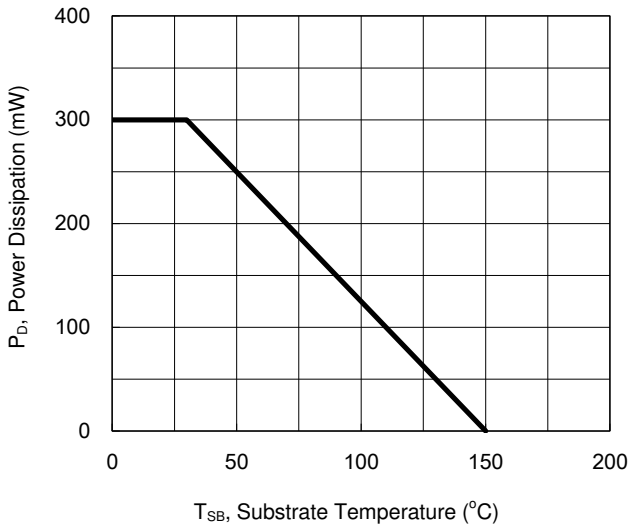


Fig. 2 Gain Bandwidth Product VS. Collector Current

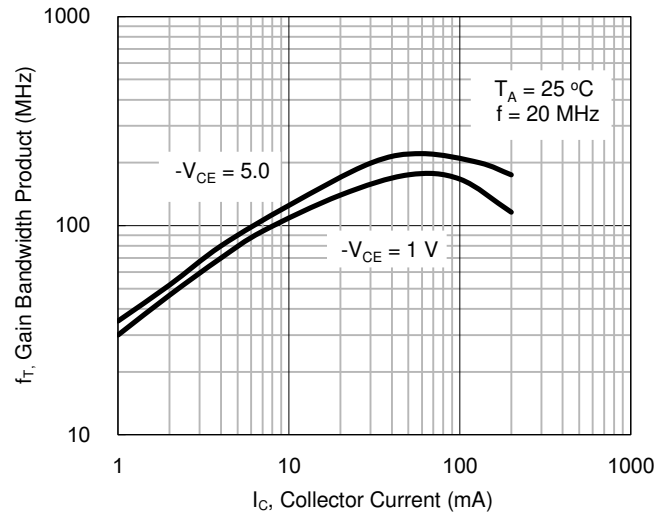


Fig.3 Collector Sat Voltage VS. Collector Current

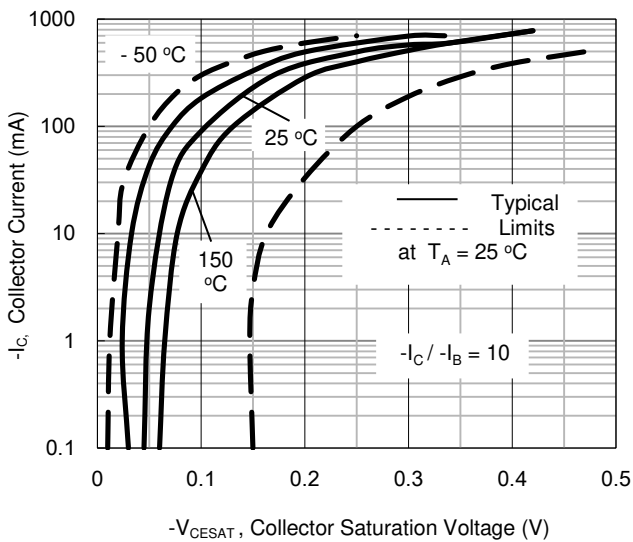
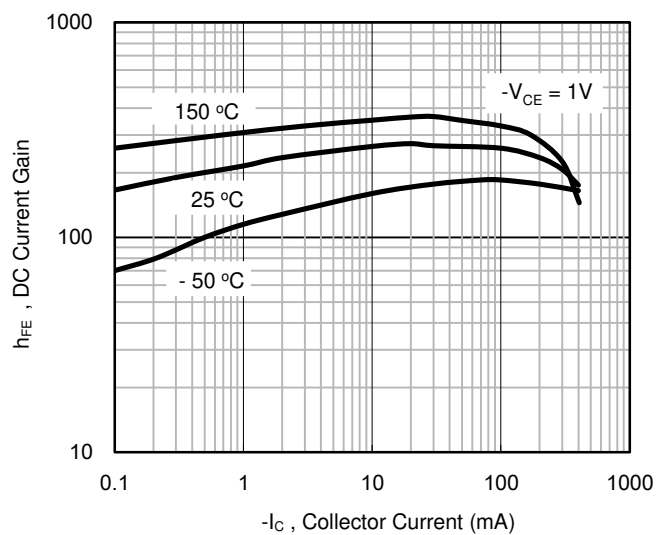


Fig.4 DC Current Gain VS. Collector Current



CHARACTERISTICS CURVES

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

Fig.5 Typical Emitter-Collector Characteristics

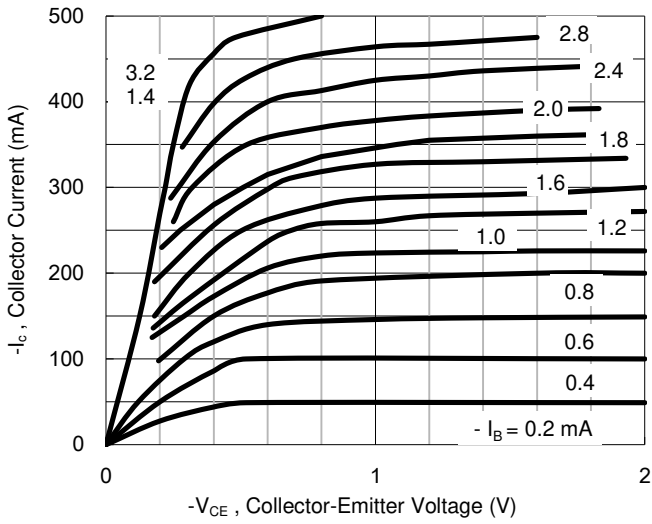
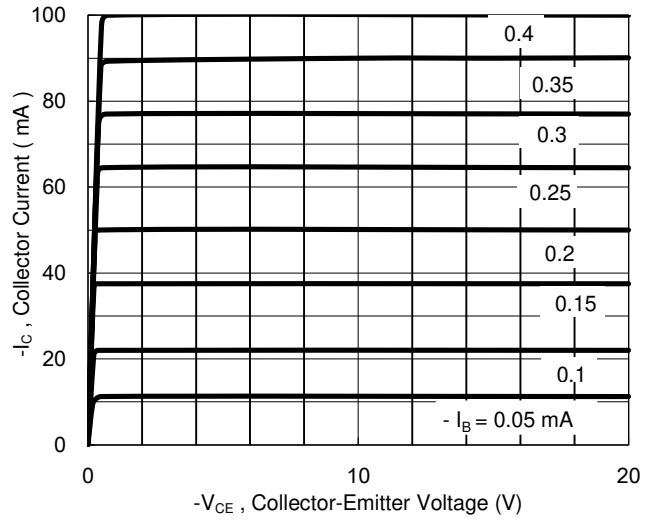
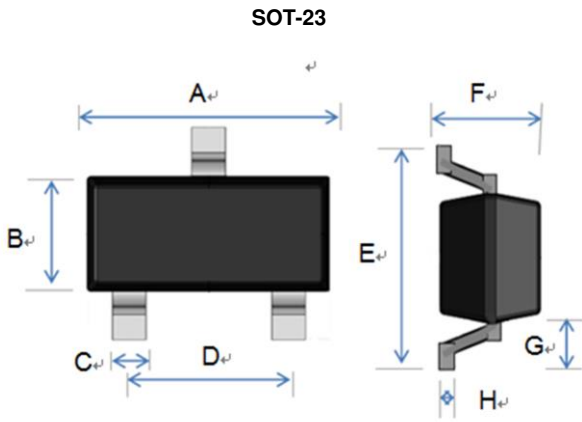


Fig. 6 Typical Transient Thermal Characteristics

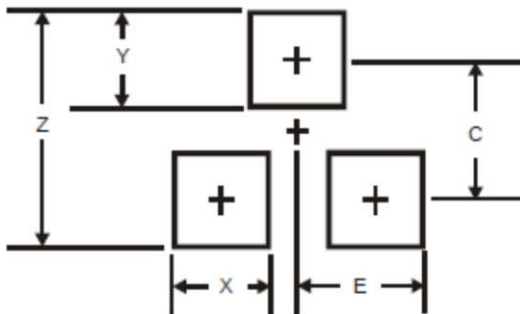


PACKAGE OUTLINE DIMENSION



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.10 REF		0.004 REF	

SUGGEST PAD LAYOUT



DIM.	Unit(mm)	Unit(inch)
	TYP	TYP
Z	2.8	0.11
X	0.7	0.03
Y	0.9	0.04
C	1.9	0.07
E	1.0	0.04

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