BC807 THRU BC808

PNP TRANSISTORS

宏嘉诚科技 www.ichjc.com

SOT-23 Plastic-Encapsulate Transistors

Features

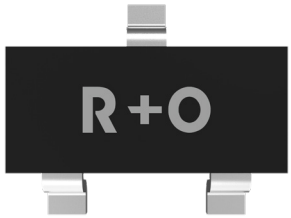
- Power dissipation of 300mW
- High stability and high reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Collector-Base Voltage
VCBO -50/-30V
Collector Current
-0.5 /-0.8Ampere

Mechanical Data

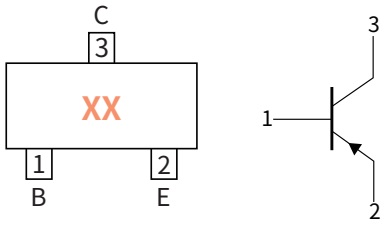
- Case: SOT-23
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

SOT-23



Function Diagram

XX = Device Code
5A=BC807-16,5B=BC807-25,5C=BC807-40
5E=BC808-16,5F=BC808-25,5G=BC808-40



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	CONDLITIONS	VALUE
Collector-Base Voltage	V_{CBO}	V	BC807-16/25/40	-50
			BC808-16/25/40	-30
Collector-Emitter Voltage	V_{CEO}		BC807-16/25/40	-45
			BC808-16/25/40	-25
Emitter-Base Voltage	V_{EBO}		—	-5.0
Collector Current	I_C	A	BC807-16/25/40	-0.5
			BC808-16/25/40	-0.8
Collector Power Dissipation	P_C	mW	—	300
Storage temperature	T_{stg}	°C	—	-55 ~+150
Junction temperature	T_j	°C	—	-55 ~+150
Typical Thermal Resistance	$R_{\theta J\text{-}A}$	°C /W	—	417

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition		Min	Typ	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	I_C=-10μA, I_E=0	BC807-16/25/40	-50	—	—
				BC808-16/25/40	-30	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		I_C=-10mA, I_B=0	BC807-16/25/40	-45	—	—
				BC808-16/25/40	-25	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		I_E=-10μA, I_C=0		-5.0	—	—
Collector-Base cut-off current	I_{CBO}	nA	V_{CB}=-50V, I_E=0	BC807-16/25/40	—	—	-100
			V_{CB}=-30V, I_E=0	BC808-16/25/40	—	—	
Emitter-Base cut-off current	I_{EBO}		V_{EB}=-4.0V, I_C=0		—	—	-100
DC Current Gain	$h_{FE(1)}$	—	I_C=-100mA,V_{CE}=-1.0V	BC807-16/BC808-16	100	—	250
	$h_{FE(2)}$			BC807-25/BC808-25	160	—	400
	$h_{FE(3)}$			BC807-40/BC808-40	250	—	600
DC Current Gain	h_{FE}	—	I_C=-500mA,V_{CE}=-1.0V		40	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	I_C=-500mA,I_B=-50mA		—	—	-0.7
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		I_C=-500mA ,I_B=-50mA		—	—	-1.2
Base-Emitter On Voltage	$V_{BE(on)}$	V	I_C=-300mA,V_{CE}=-1.0V		—	—	-1.2
Output Capacitance	C_{ob}	pF	V_{CB}=-10V,I_E=0,f=1MHz		—	12	—

Classification Of h_{FE}

RANK	BC807-16/BC808-16	BC807-25/BC808-25	BC807-40/BC808-40
Range	100-250	160-400	250-600

Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	f_T	I_C=-10mA, V_{CE}=-5.0V	MHz	100	—

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

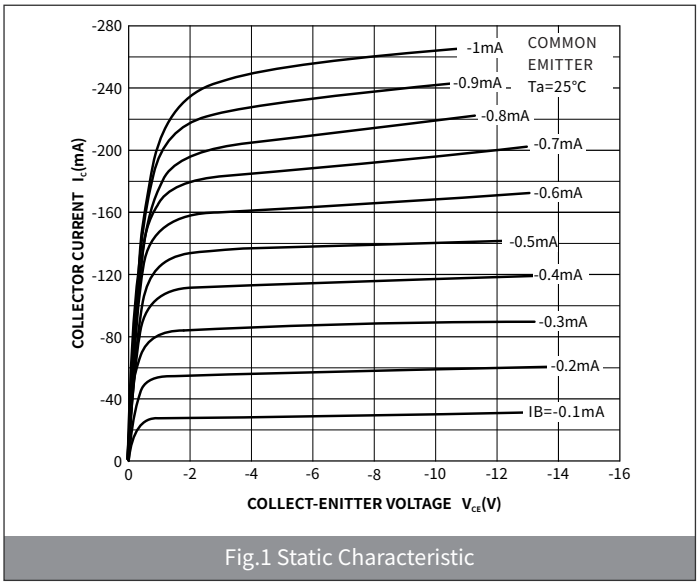


Fig.1 Static Characteristic

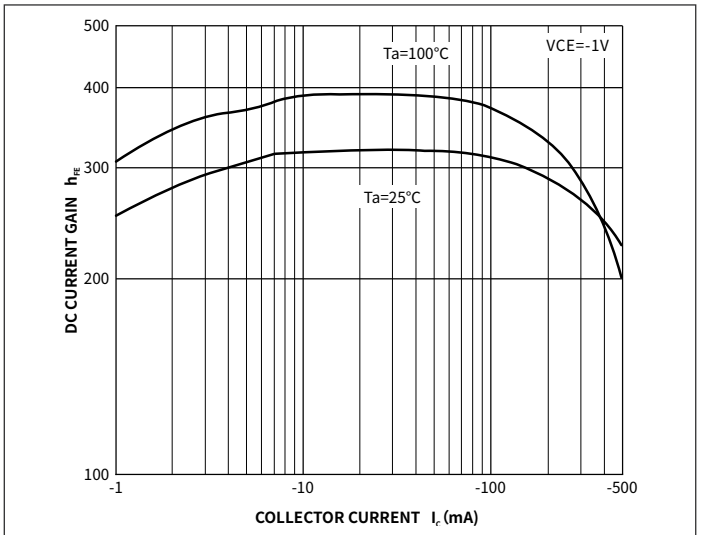


Fig.2 DC Current Gain

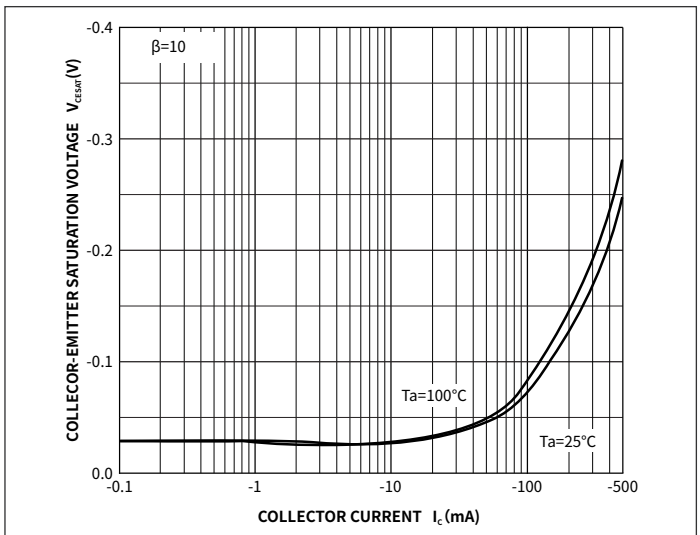


Fig.3 Collector-Emitter Saturation Voltage

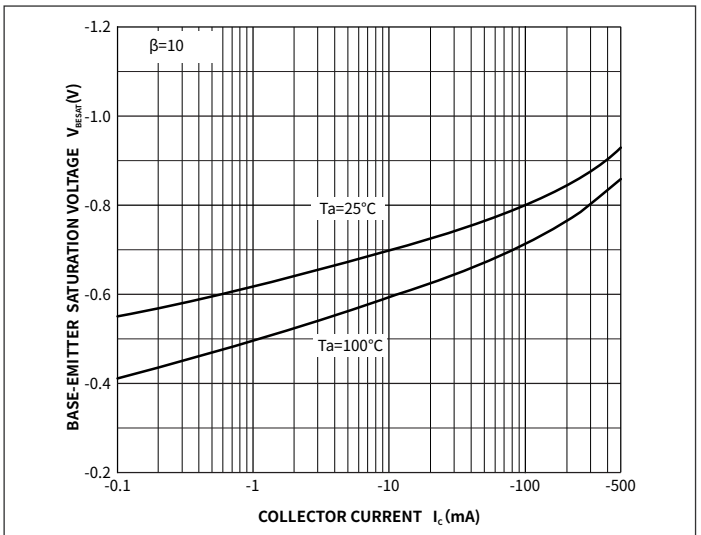


Fig.4 Base-Emitter Saturation Voltage

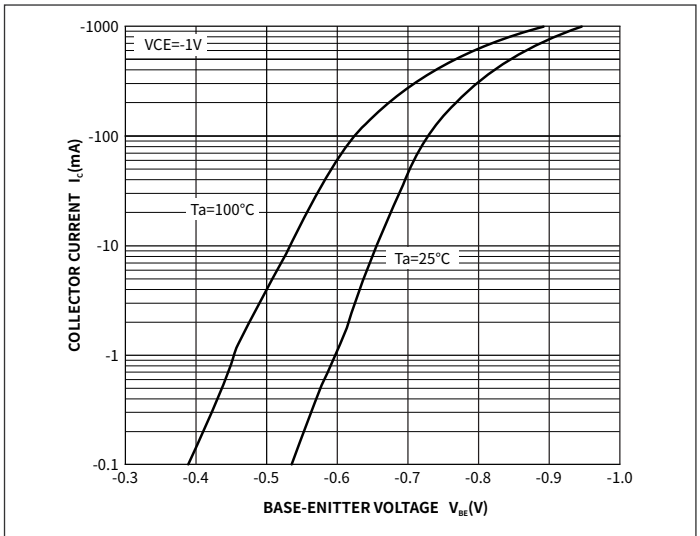


Fig.5 Base-Emitter On Voltage

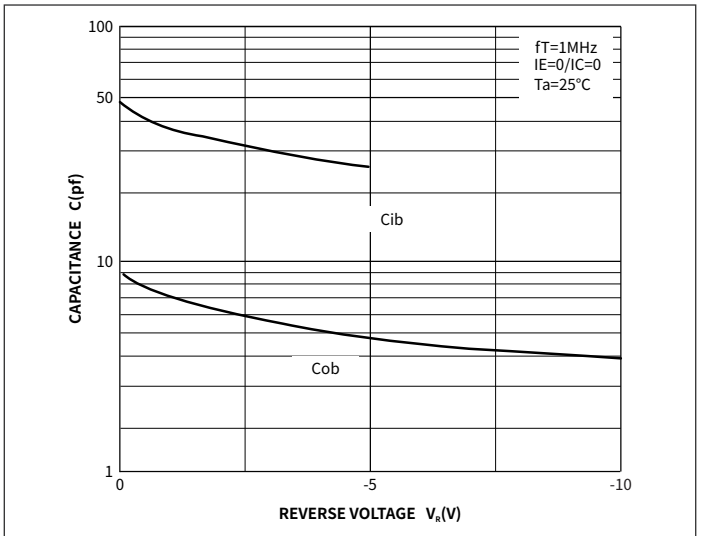
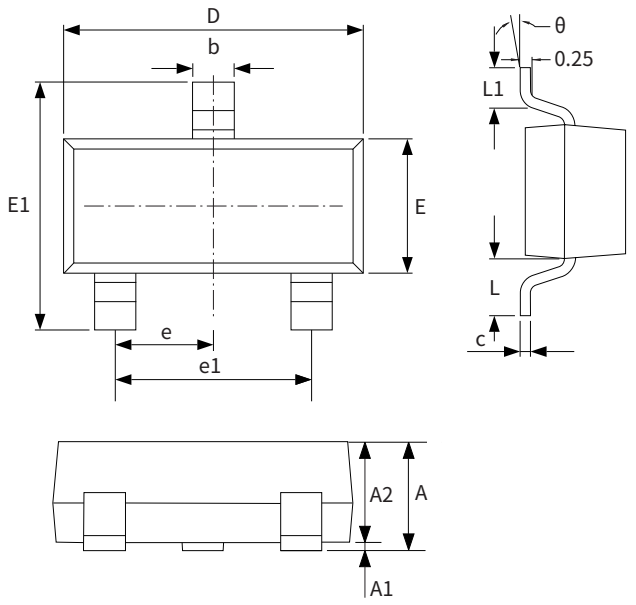


Fig.6 Cob/Cib-$V_{CB}V_{EB}$

Ordering Information

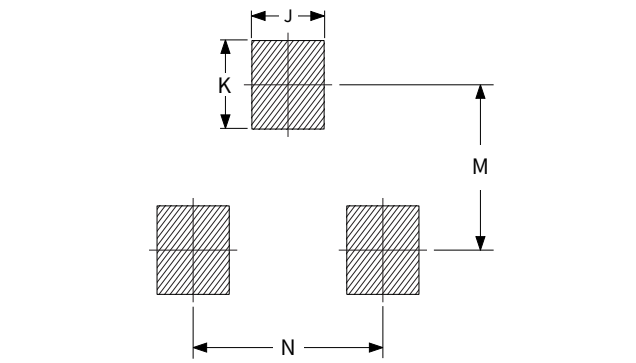
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7''

Package Outline Dimensions (SOT-23)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077