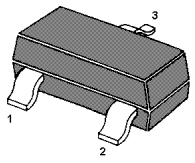
BC807 / BC808-AH

PNP Silicon Epitaxial Planar Transistors

Features

- AEC-Q101 Qualified
- These transistors are subdivided into three groups -16, -25 and -40, according to their current gain. As complementary types the NPN transistors BC817 and BC818 are recommended.
- Halogen and Antimony Free(HAF), RoHS compliant



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Applications

- For switching, AF driver and amplifier applications

Absolute Maximum Ratings (T_a = 25℃)

Parameter		Symbol	Value	Unit
Collector Base Voltage	BC807 BC808	$-V_{CBO}$	50 30	V
Collector Emitter Voltage	BC807 BC808	$-V_{CEO}$	45 25	V
Emitter Base Voltage		$-V_{EBO}$	5	V
Collector Current		$-I_C$	500	mA
Total Power Dissipation [1)]		P_{tot}	300	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1)]	$R_{\theta JA}$	417	℃/W

[1)] Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

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Electrical Characteristics at T_a = 25℃

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $-V_{CE}$ = 1 V, $-I_C$ = 100 mA	-16	h_{FE}	100	-	250	-
	-25	h_{FE}	160	-	400	-
	-40	h_{FE}	250	-	600	-
at $-V_{CE}$ = 1 V, $-I_C$ = 500 mA		h_{FE}	40	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 20 V		$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C$ = 10 µA	BC807 BC808	$-V_{(BR)CBO}$	50 30	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA	BC807 BC808	$-V_{(BR)CEO}$	45 25	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 µA		$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CE(sat)}$	-	-	0.7	V
Base Emitter On Voltage at $-I_C$ = 500 mA, $-V_{CE}$ = 1 V		$-V_{BE(on)}$	-	-	1.2	V
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 50 MHz		f_T	80	-	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz		C_{ob}	-	9	-	pF

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

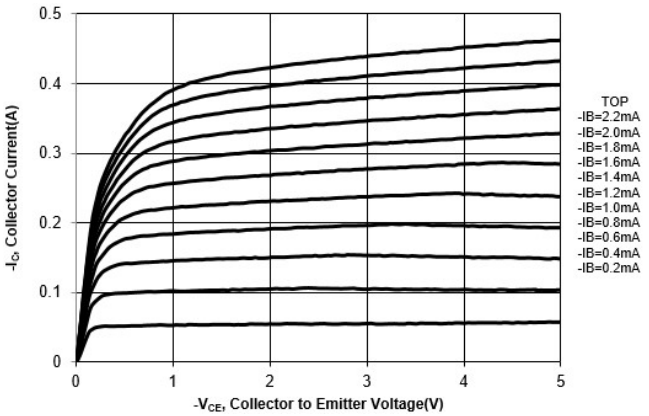


Fig. 2 Collector Current vs. Base to Emitter

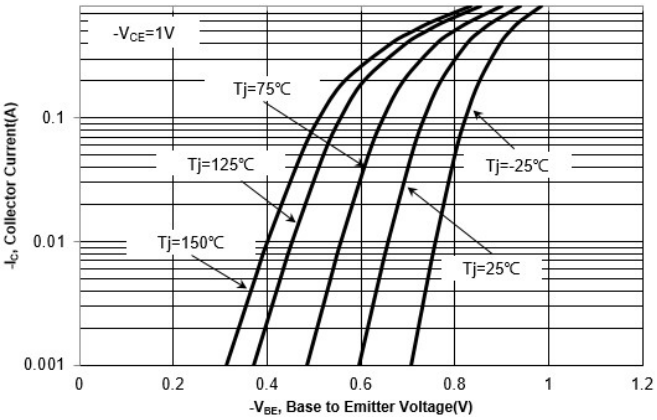


Fig. 3 DC Current Gain vs. Collector Current

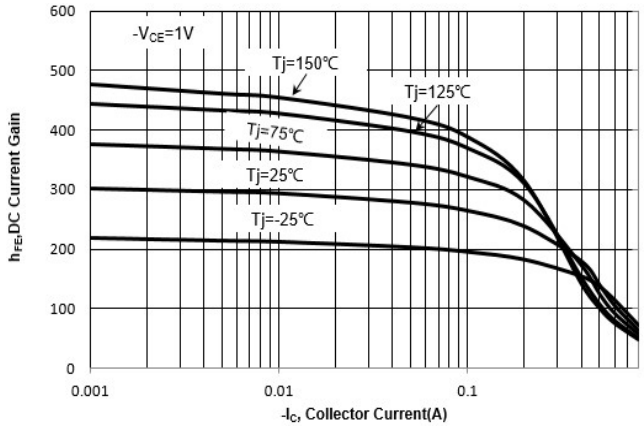
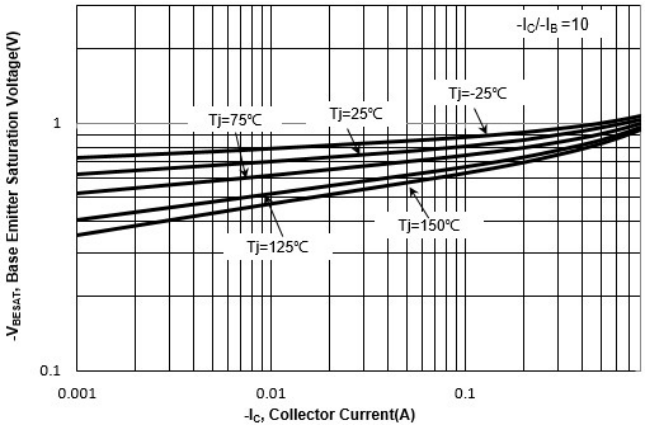


Fig. 4 V_{BESAT} vs. Collector Current



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Electrical Characteristics Curves

Fig. 5 V_{CESAT} vs. Collector Current

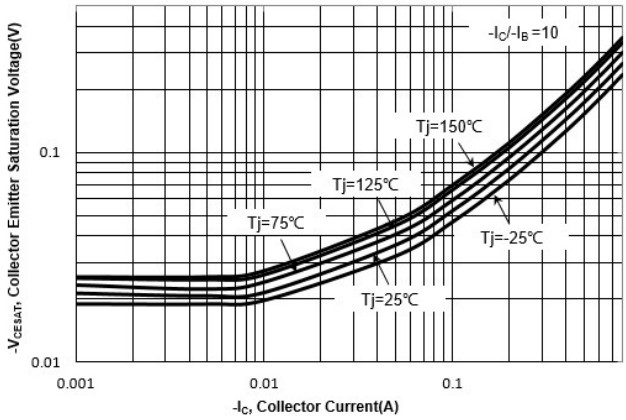


Fig. 6 Output Capacitance

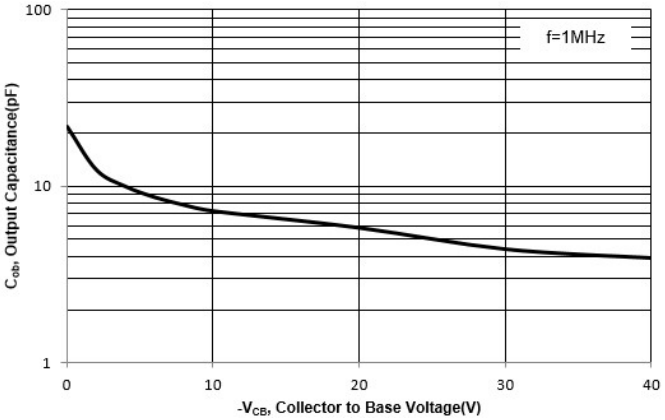
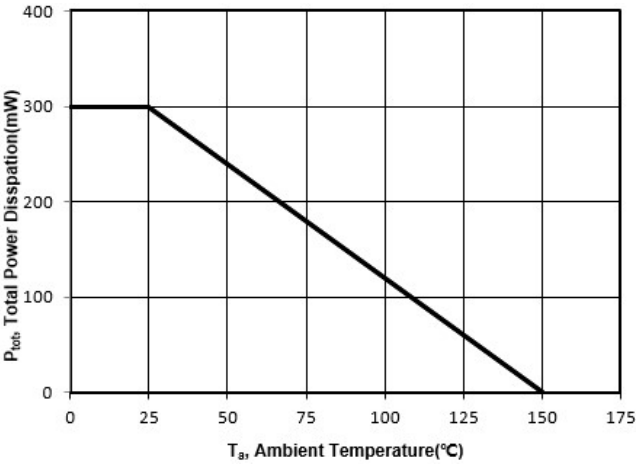
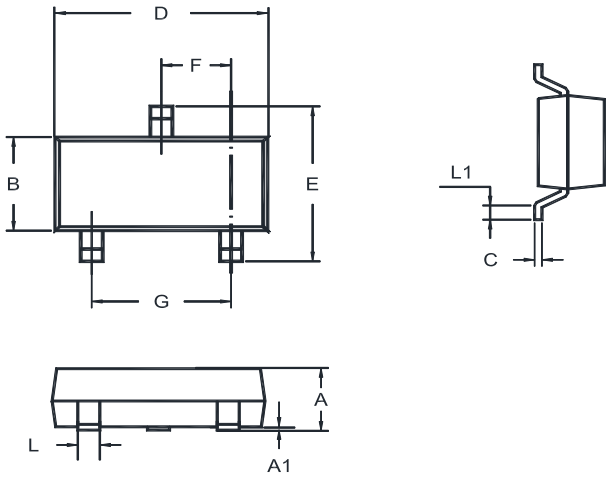


Fig 7. Power Derating Curve

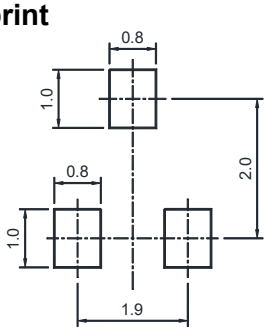


Package Outline (Dimensions in mm) SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20 0.89	0.100 0.013	1.40 1.20	0.19 0.08	3.04 2.80	2.6 2.2	1.02 0.89	2.04 1.78	0.51 0.37	0.2 MIN

Recommended Soldering Footprint

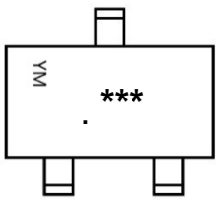


Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

Part No.	Marking Code
BC807-16&BC808-16	5CR
BC807-25&BC808-25	5CS
BC807-40&BC808-40	5CT



" • " = HAF (Halogen and Antimony Free)

" YM " = Date Code Marking

" Y " = Year

" M " = Month

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