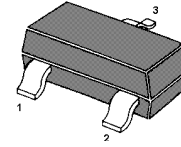


PNP General-Purpose Transistors

Features

- 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.
- AEC-Q101 qualified
- High reliability
- Halogen and Antimony Free(HAF), RoHS compliant



1.Base 2.Emitter 3.Collector

SOT-23 Plastic Package

Applications

- General-purpose switching, AF driver and amplification

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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
Power Dissipation		P_{tot}	300	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	417	$^\circ\text{C/W}$

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

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 1\text{ V}$, $-I_C = 100\text{ mA}$	-16A h_{FE}	100	-	250	-
	-25A h_{FE}	160	-	400	-
	-40A h_{FE}	250	-	600	-
at $-V_{CE} = 1\text{ V}$, $-I_C = 500\text{ mA}$	h_{FE}	40	-	-	-
Collector Base Cutoff Current at $-V_{CB} = 20\text{ V}$	$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC807A $-V_{(BR)CBO}$	50	-	-	V
	BC808A	30	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC807A $-V_{(BR)CEO}$	45	-	-	V
	BC808A	25	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	-	0.7	V
Base Emitter On Voltage at $-I_C = 500\text{ mA}$, $-V_{CE} = 1\text{ V}$	$-V_{BE(on)}$	-	-	1.2	V
Transition Frequency at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$, $f = 50\text{ MHz}$	f_T	80	-	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	9	-	pF

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

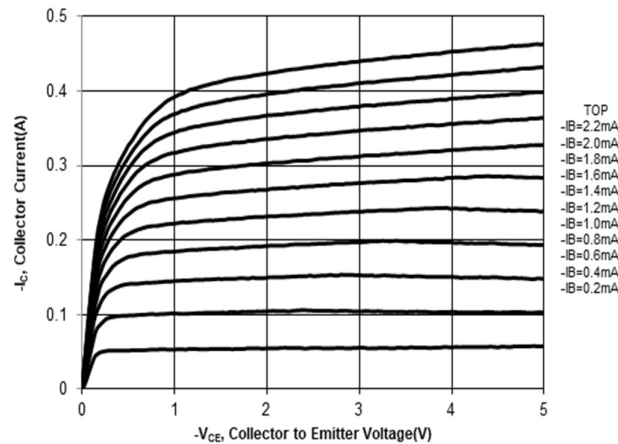


Fig. 2 Output Characteristics Curve

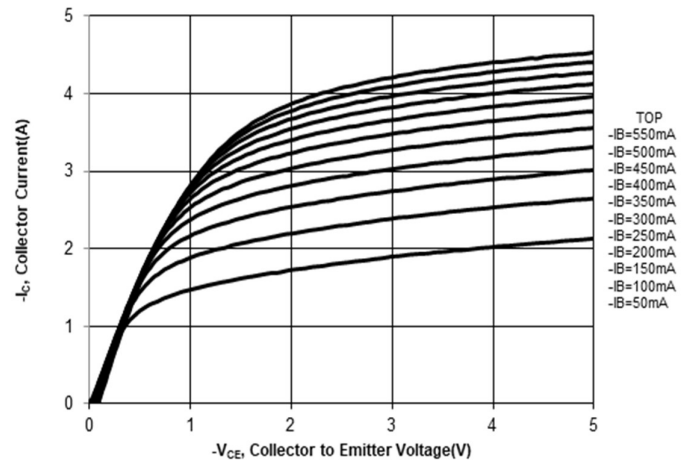


Fig. 3 Collector Current vs. Base to Emitter Voltage

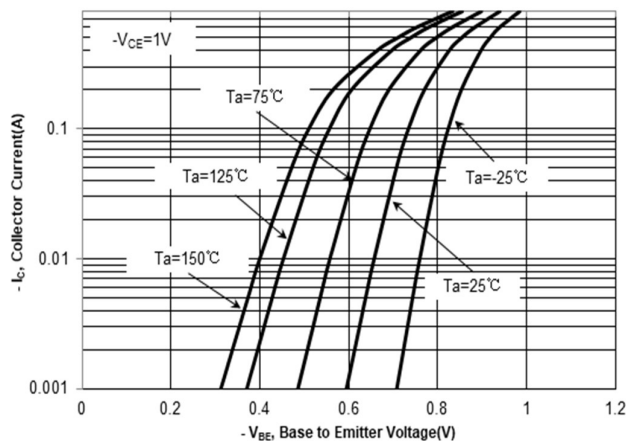
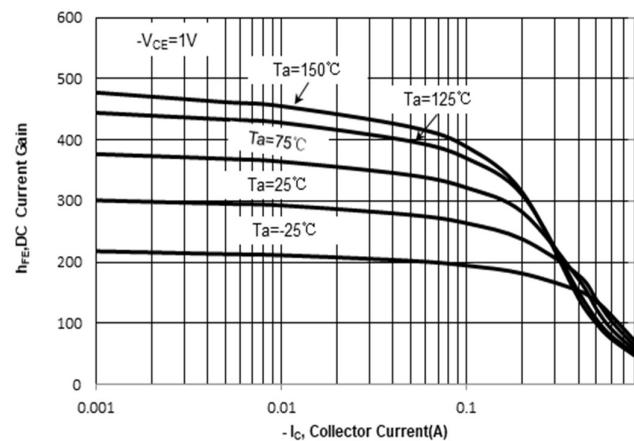


Fig. 4 DC Current Gain vs. Collector Current



Electrical Characteristics Curves

Fig. 5 V_{BESAT} vs. Collector Current

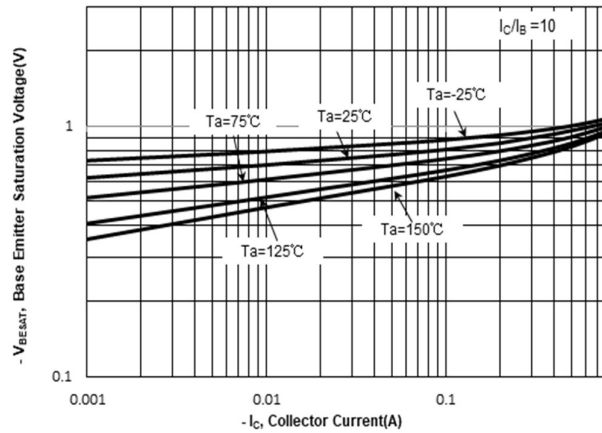


Fig. 6 V_{CESAT} vs. Collector Current

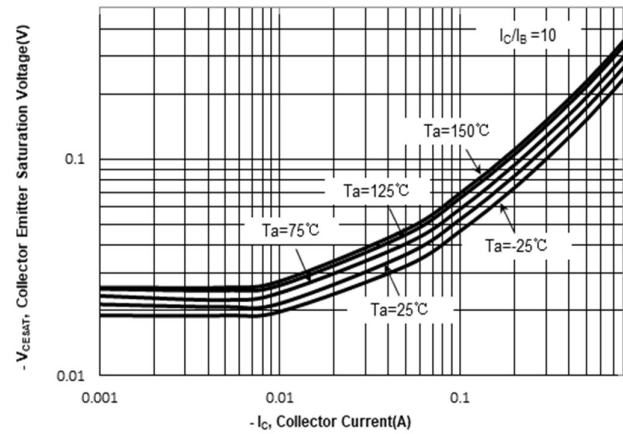


Fig. 7 Output Capacitance

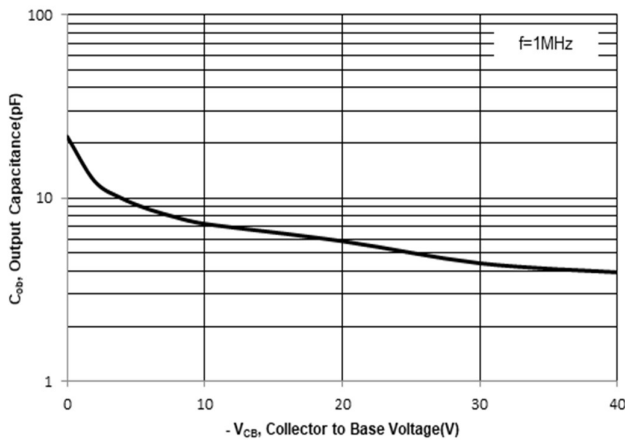
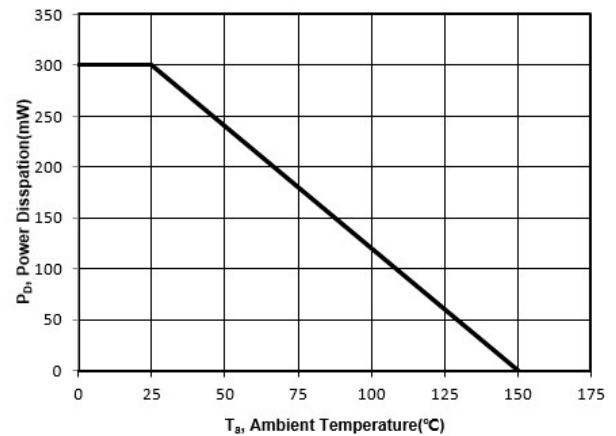
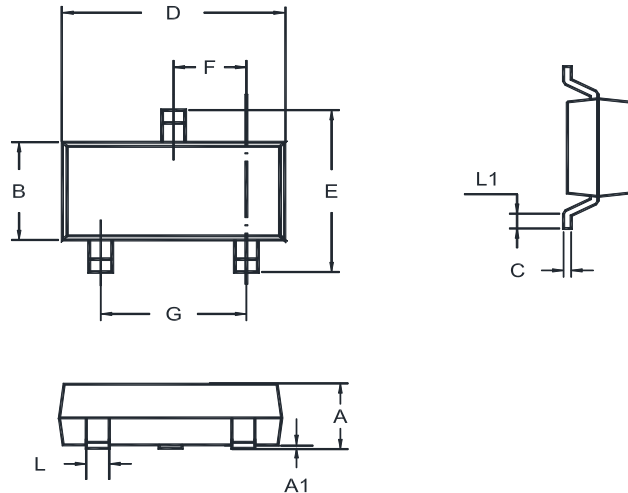


Fig. 8 Power Derating Curve



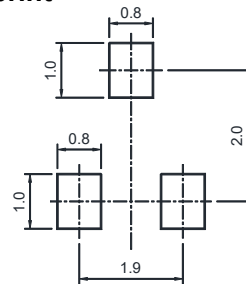
Package Outline (Dimensions in mm)

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

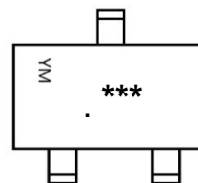


Packing information

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
BC807-16A & BC808-16A	5CR
BC807-25A & BC808-25A	5CS
BC807-40A & BC808-40A	5CT



" • " = HAF (Halogen and Antimony Free)

" YM " = Date Code Marking

" Y " = Year

" M " = Month

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