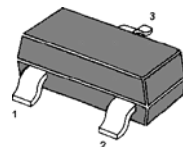


PNP Silicon Epitaxial Planar Transistors

Features

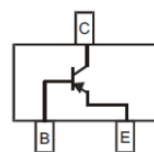
- These transistors are subdivided into three groups -16, -25 and -40, according to their current gain.
- As complementary types the PNP transistors ABC817 and ABC818 are recommended.
- Halogen and Antimony Free(HAF), RoHS compliant
- AEC-Q101 Qualified
- For switching, AF driver and amplifier applications



1.Base 2. Emitter 3. Collector



RoHS
COMPLIANT



Mechanical Data

- SOT-23 Plastic Package
- Mounting position: Any

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

Parameter	Symbol	Value	Unit
Collector Base Voltage ABC807 ABC808	V_{CBO}	-50 -30	V
Collector Emitter Voltage ABC807 ABC808	V_{CEO}	-45 -25	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Power Dissipation	P_D	300	mW
Operating Junction Temperature Range	T_J	- 55 to + 150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction to Ambient ¹⁾	R_{thJA}	417	$^{\circ}\text{C/W}$

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

Electrical Characteristics (T _A =25°C unless otherwise noted)						
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	-
		h _{FE}	40	-	-	-
at -V _{CE} = 1 V, -I _C = 500 mA						
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	ABC807 ABC808	V _{(BR)CBO}	-50 -30	-	-	V
Collector Emitter Breakdown Voltage at -I _C = 10 mA	ABC807 ABC808	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

Typical Characteristics Curves

Fig. 1 Output Characteristics Curve

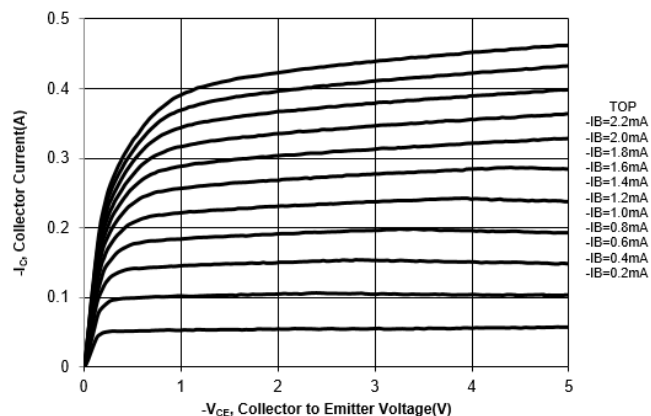


Fig. 2 Collector Current vs. Base to Emitter

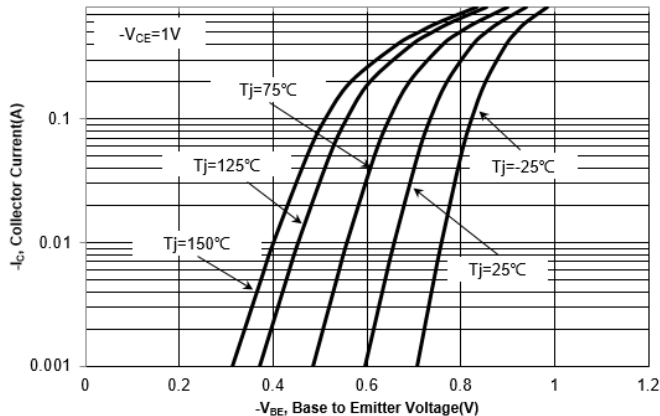


Fig. 3 DC Current Gain vs. Collector Current

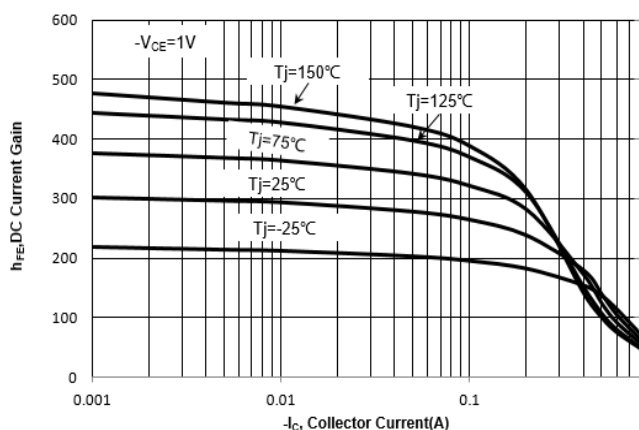


Fig. 4 V_{BESAT} vs. Collector Current

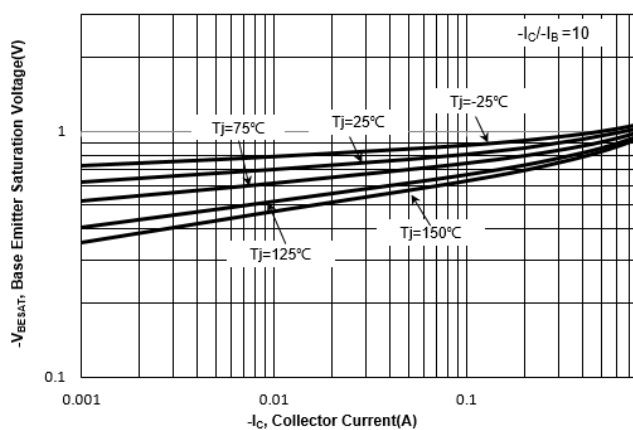


Fig. 5 V_{CESAT} vs. Collector Current

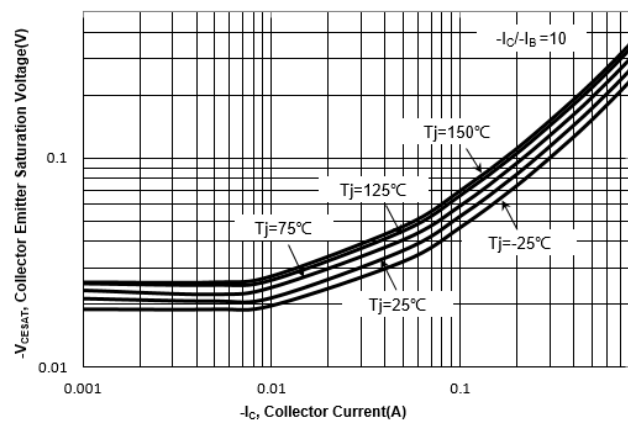


Fig. 6 Output Capacitance

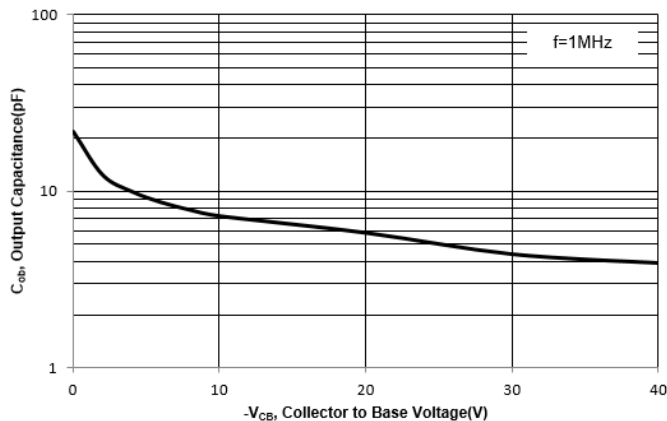
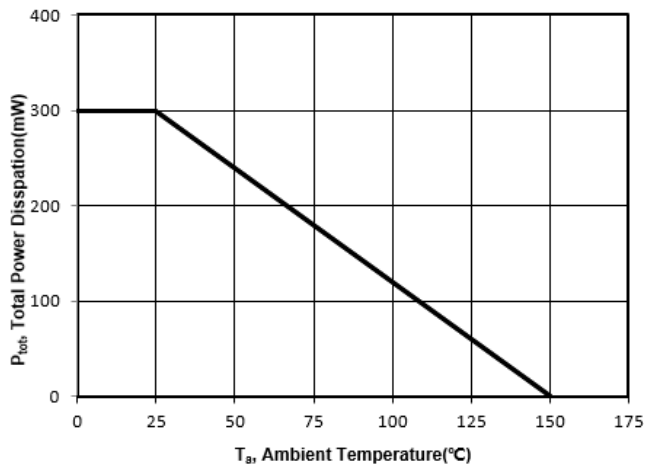
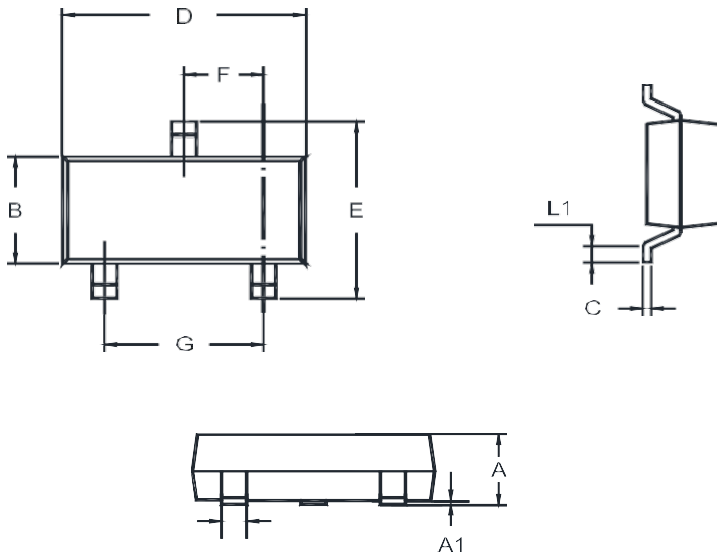


Fig 7. Power Derating Curve



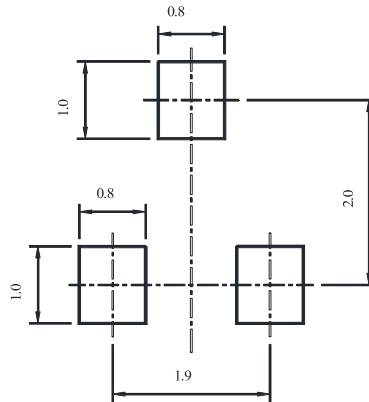
Package Outline Dimensions (Unit: millimeters)

SOT-23



SYMBOL	MILLIMETER		
	MIN	TYP	MAX
A	0.89	/	1.2
A1	0.013	/	0.1
B	1.2	/	1.4
C	0.08	/	0.19
D	2.8	/	3.04
E	2.2	/	2.6
F	0.89	/	1.02
G	1.78	/	2.04
L	0.37	/	0.51
L1	/	/	0.2

Recommended Soldering Footprint (Unit: millimeters)



Packing Information

Package	Tape Width	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4±0.1	0.157±0.004	178	7	3000

Marking information

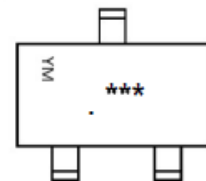
Type	Marking
ABC807-16 & ABC808-16	5CR
ABC807-25 & ABC808-25	5CS
ABC807-40 & ABC808-40	5CT

" *** " = Part No. (See table of Marking information)

" YM " = Date Code Marking

" • " = Automotive-grade material

Font type: Arial



Revision History

Version	Date	Major Changes
Rev.A	2025.01.19	Official Release

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