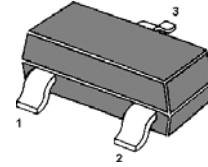


PNP Silicon Epitaxial Planar Transistor

Features

- Halogen and Antimony Free(HAF), RoHS compliant
- AEC-Q101 Qualified
- For switching and amplifier

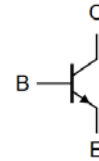


1.Base 2. Emitter 3. Collector



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 ABC856 ABC857, ABC860 ABC858, ABC859	V_{CBO}	-80 -50 -30	V
Collector Emitter Voltage ABC856 ABC857, ABC860 ABC858, ABC859	V_{CEO}	-65 -45 -30	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Peak Collector Current	I_{CM}	-200	mA
Power Dissipation	P_D	200	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}	625	$^{\circ}\text{C/W}$

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.	Max.	Unit
DC Current Gain at -V _{CE} = 5 V, -I _C = 2 mA Current Gain Group A B C	h _{FE}	125 220 420	250 475 800	- - -
Collector Base Cutoff Current at -V _{CB} = 30 V	I _{CBO}	-	-15	nA
Collector Base Breakdown Voltage at -I _C = 10 μA ABC856 ABC857, ABC860 ABC858, ABC859	V _{(BR)CBO}	-80 -50 -30	- - -	V
Collector Emitter Breakdown Voltage at -I _C = 10 μA ABC856 ABC857, ABC860 ABC858, ABC859	V _{(BR)CES}	-80 -50 -30	- - -	V
Collector Emitter Base Breakdown Voltage at -I _C = 10 mA ABC856 ABC857, ABC860 ABC858, ABC859	V _{(BR)CEO}	-65 -45 -30	- - -	V
Emitter Base Breakdown Voltage at -I _E = 1 μA	V _{(BR)EBO}	-5	-	V
Collector Emitter Saturation Voltage at -I _C = 10 mA, -I _B = 0.5 mA at -I _C = 100 mA, -I _B = 5 mA	V _{CE(sat)}	- -	-0.3 -0.65	V
Base Emitter On Voltage at -I _C = 2 mA, -V _{CE} = 5 V at -I _C = 10 mA, -V _{CE} = 5 V	V _{BE(on)}	-0.6 -	-0.75 -0.82	V
Transition Frequency at -V _{CE} = 5 V, -I _C = 10 mA, f = 100 MHz	f _T	100	-	MHz
Collector Output Capacitance at -V _{CB} = 10 V, f = 1 MHz	C _{ob}	-	6	pF

Typical Characteristics Curves

Fig. 1 Output Characteristics Curve

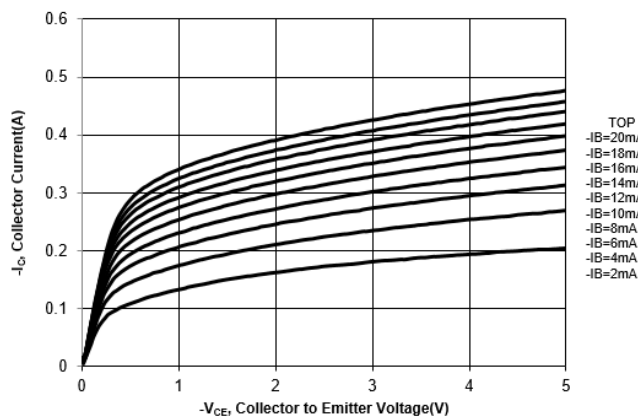


Fig. 2 Collector Current vs. Base to Emitter Voltage

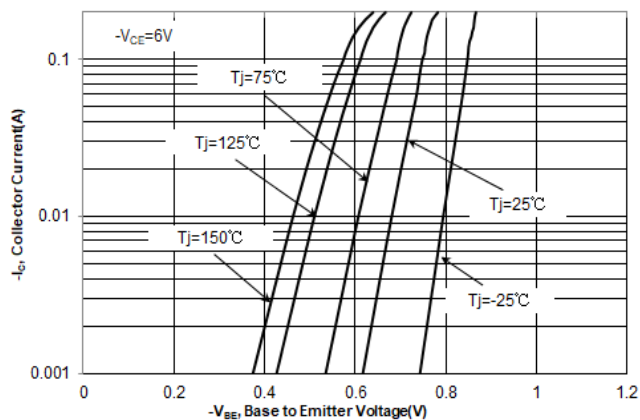


Fig. 3 DC Current Gain vs. Collector Current

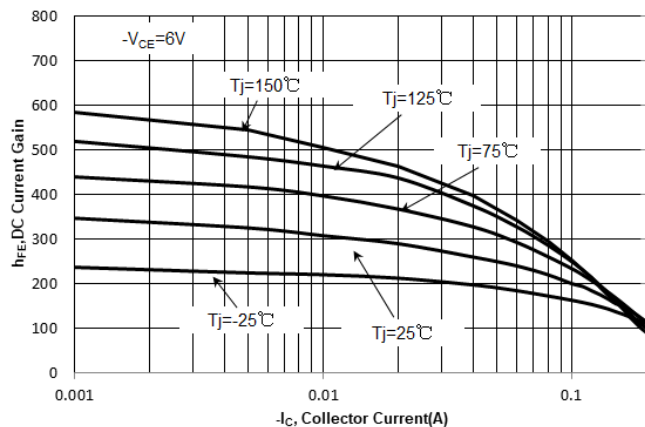


Fig. 4 $V_{BE(sat)}$ vs. Collector Current

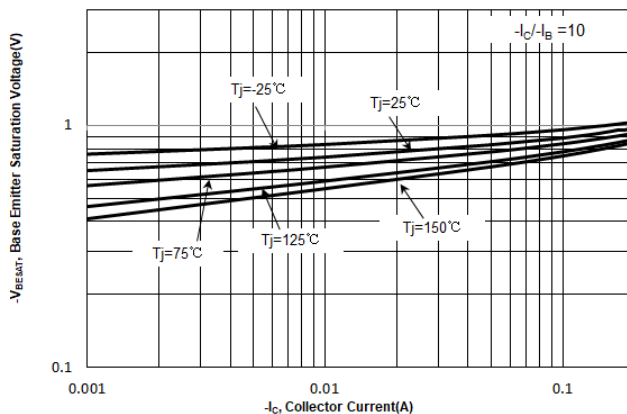


Fig. 5 $V_{CE(sat)}$ vs. Collector Current

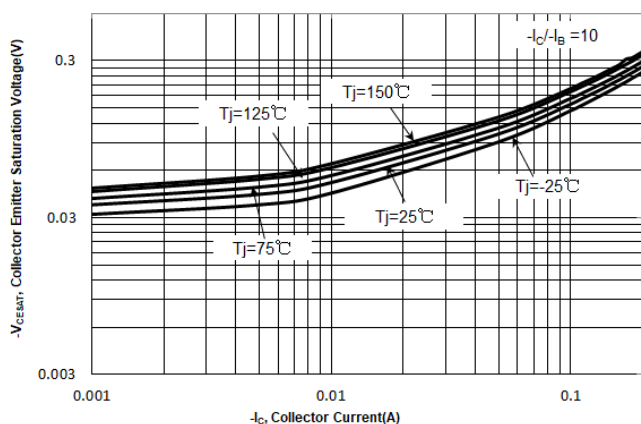


Fig. 6 Output Capacitance

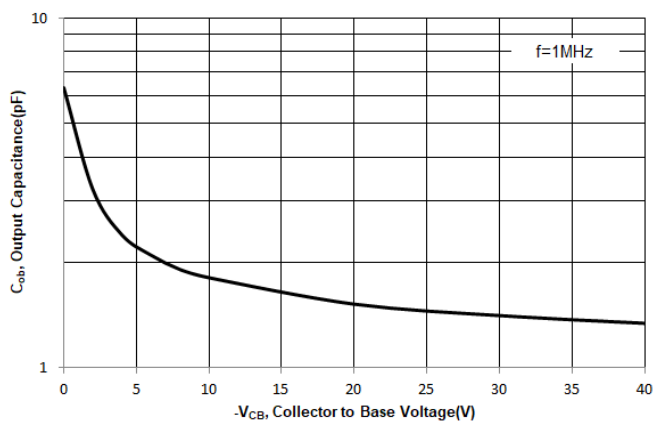
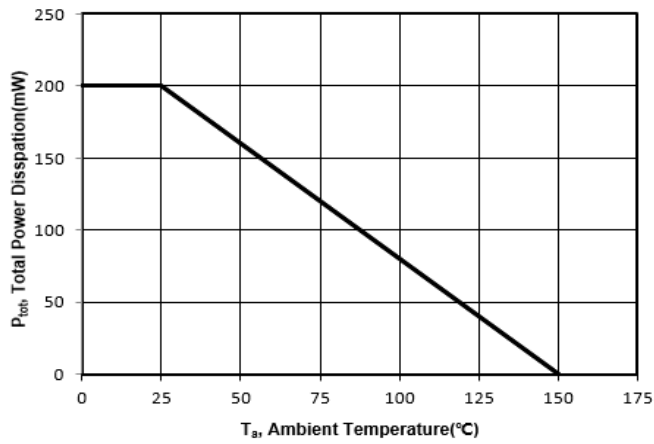
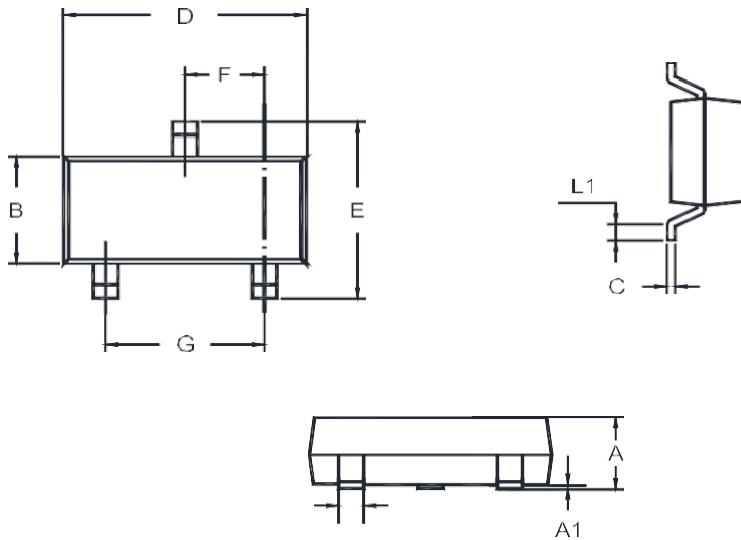


Fig. 7 Power Derating Curve



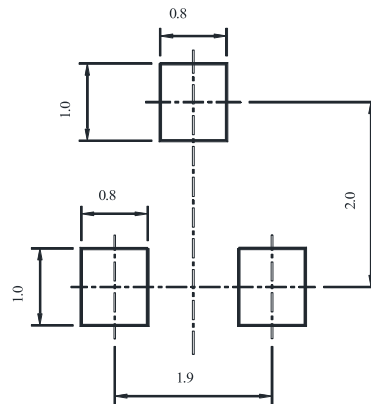
Package Outline Dimensions (Unit: millimeters)

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

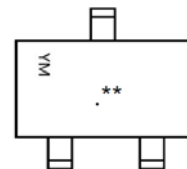
Type	Marking
ABC856A ~ ABC860A	3A
ABC856B ~ ABC860B	3B
ABC856C ~ ABC860C	3C

" ** " = 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

Disclaimers

These materials are intended as a reference to assist our customers in the selection of the Suzhou Good-Ark product best suited to the customer's application; they do not convey any license under any intellectual property rights, or any other rights, belonging to Suzhou Good-Ark Electronics Co., Ltd. or a third party.

Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, or infringement of any third-party's rights, originating in the use of any product data, diagrams, charts, programs, algorithms, or circuit application examples contained in these materials.

All information contained in these materials, including product data, diagrams, charts, programs and algorithms represents information on products at the time of publication of these materials, and are subject to change by Suzhou Good-Ark Electronics Co., Ltd. without notice due to product improvements or other reasons. It is therefore recommended that customers contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized Suzhou Good-Ark Electronics Co., Ltd. for the latest product information before purchasing a product listed herein. The information described here may contain technical inaccuracies or typographical errors. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability, or other loss rising from these inaccuracies or errors. Please also pay attention to information published by Suzhou Good-Ark Electronics Co., Ltd. by various means, including our website home page.

(<http://www.goodark.com>)

When using any or all of the information contained in these materials, including product data, diagrams, charts, programs, and algorithms, please be sure to evaluate all information as a total system before making a final decision on the applicability of the information and products. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability or other loss resulting from the information contained herein.

The prior written approval of Suzhou Good-Ark Electronics Co., Ltd. is necessary to reprint or reproduce in whole or in part these materials.

Please contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized distributor for further details on these materials or the products contained herein.