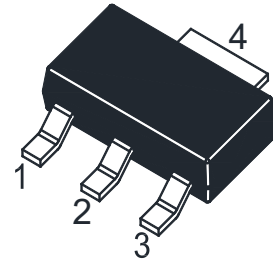


2SB660Q-HAF

PNP Silicon Epitaxial Planar Power Transistor

Features

- High Continuous Collector Current
- Low Saturation Voltage
- Halogen and Antimony Free(HAF), RoHS compliant



1.Base 2.Collector 3.Emitter 4.Collector
SOT-223 Plastic Package

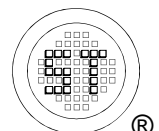
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	80	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	60	V
Emitter Base Voltage	$-V_{\text{EBO}}$	5	V
Collector Current	$-I_{\text{C}}$	3	A
Peak Collector Current, Pulsed	$-I_{\text{CM}}$	6	A
Power Dissipation	P_{tot}	2	W
Operating Junction and Storage Temperature Range	$T_{\text{j}}, T_{\text{stg}}$	- 55 to + 150	$^\circ\text{C}$

Thermal Resistance Ratings

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	62.5	$^\circ\text{C/W}$

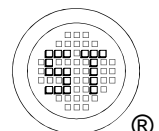
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate



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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 2\text{ V}$, $-I_C = 500\text{ mA}$ Current Gain Group at $-V_{CE} = 2\text{ V}$, $-I_C = 1\text{ A}$	R				
	S				
	h_{FE} h_{FE} h_{FE}	100 250 80	- - -	300 550 -	- - -
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	80	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	60	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 1\text{ A}$, $-I_B = 100\text{ mA}$ at $-I_C = 3\text{ A}$, $-I_B = 300\text{ mA}$	$-V_{CE(sat)}$	-	-	300	mV
		-	-	400	
Base Emitter Saturation Voltage at $-I_C = 1\text{ A}$, $-I_B = 100\text{ mA}$	$-V_{BE(sat)}$	-	-	1.25	V
Base Emitter Turn-On Voltage at $-V_{CE} = 2\text{ V}$, $-I_C = 1\text{ A}$	$-V_{BE(on)}$	-	-	1	V
Transition Frequency at $-V_{CE} = 5\text{ V}$, $-I_C = 100\text{ mA}$, $f = 100\text{ MHz}$	f_T	75	-	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	45	-	pF



2SB660Q-HAF

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

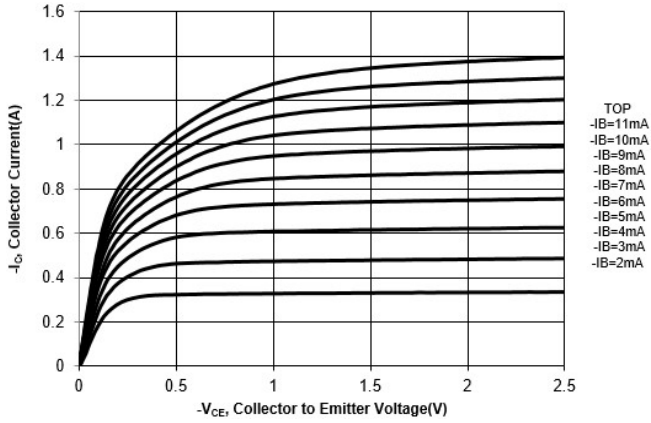


Fig. 2 Collector Current vs. Base to Emitter Voltage

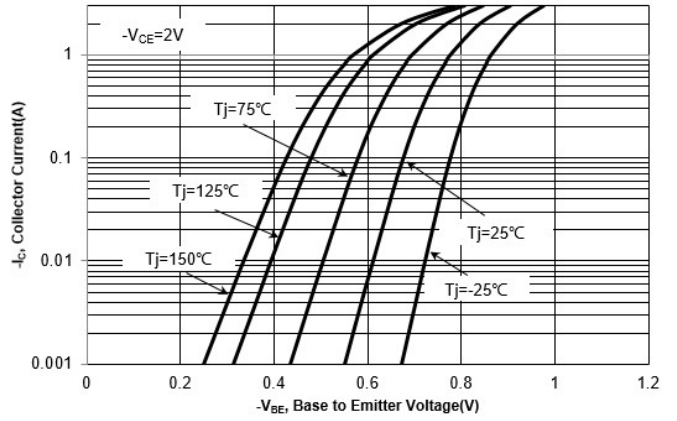


Fig. 3 DC Current Gain vs. Collector Current

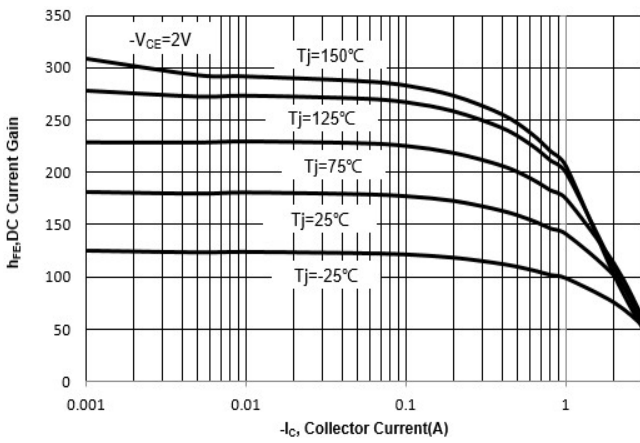
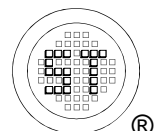
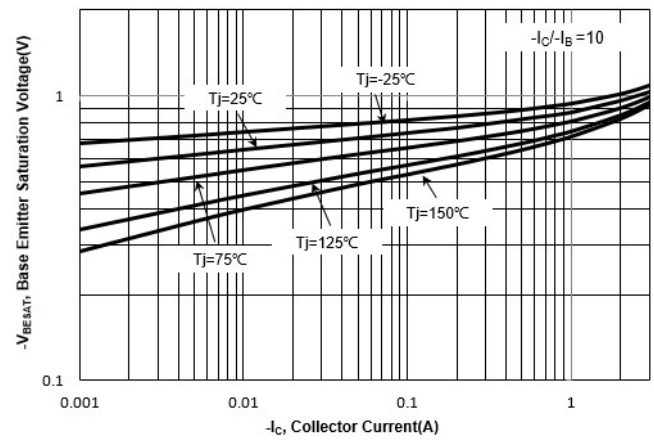


Fig. 4 V_{BESAT} vs. Collector Current



Electrical Characteristics Curves

Fig. 5 V_{CESAT} vs. Collector Current

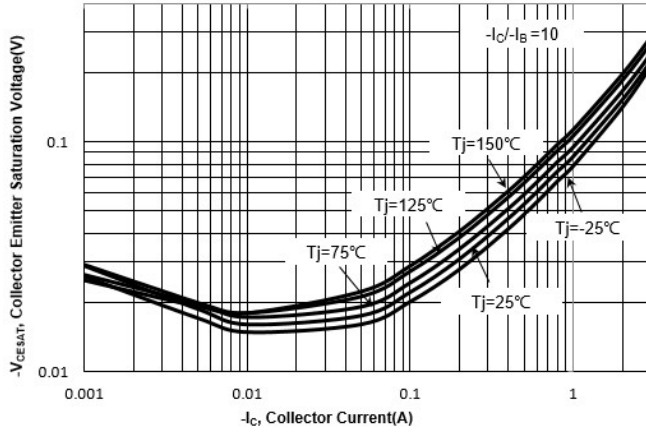


Fig. 6 Output Capacitance

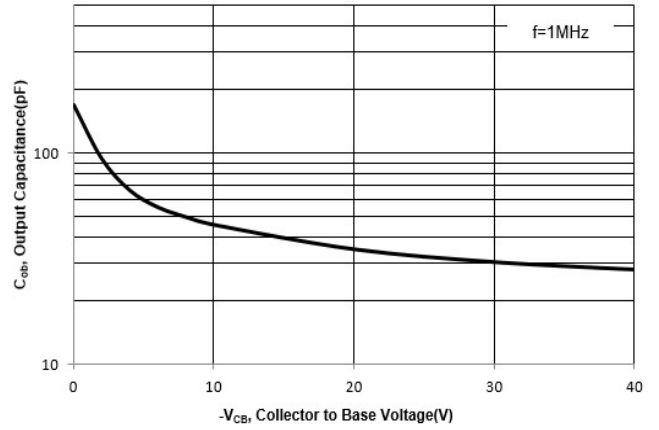
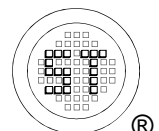
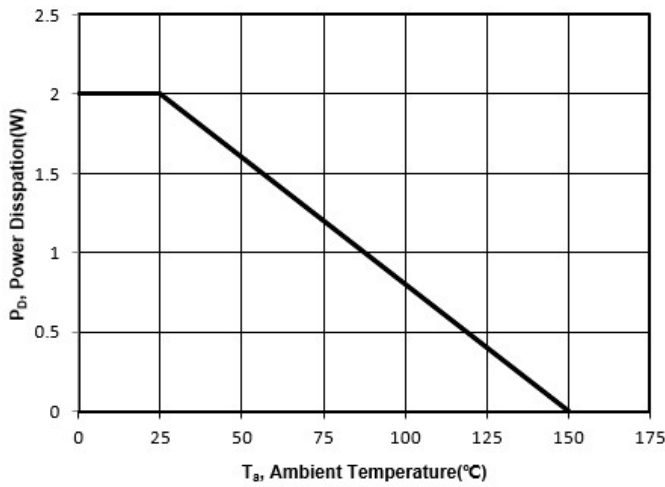


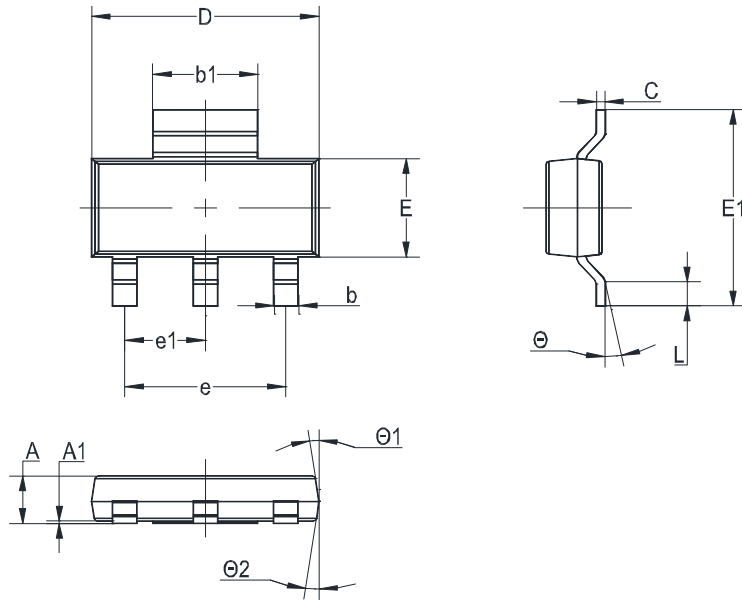
Fig. 7 Power Derating Curve



2SB660Q-HAF

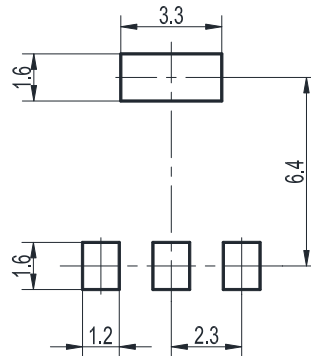
Package Outline (Dimensions in mm)

SOT-223



Unit	A	A1	b	b1	C	D	E	E1	e	e1	L	θ	θ_1	θ_2
mm	1.8	0.1	0.8	3.1	0.32	6.7	3.7	7.3	4.6	2.3	1.1	10°	7°	7°
	1.5	MAX	0.6	2.9	0.22	6.3	3.3	6.7	TYP	TYP	0.7	0°	0°	0°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-223	12	8 ± 0.1	0.315 ± 0.004	330	13	3,000

Marking information

" 2SB660*Q " = Part No. (" * " = HFE Current Gain Group)

" ***** " = Date Code Marking

Font type: Arial

