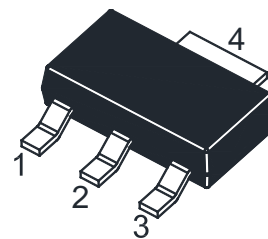


# BCP51Q-HAF

## PNP Silicon Epitaxial Planar Power Transistor

### Features

- High collector current
- Low collector-emitter 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	$-V_{CB0}$	45	V
Collector Emitter Voltage	$-V_{CEO}$	45	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Peak Collector Current, Pulsed	$-I_{CM}$	1.5	A
Base Current	$-I_B$	100	mA
Total Power Dissipation	$P_{tot}$	2	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

### Thermal Characteristics

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

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

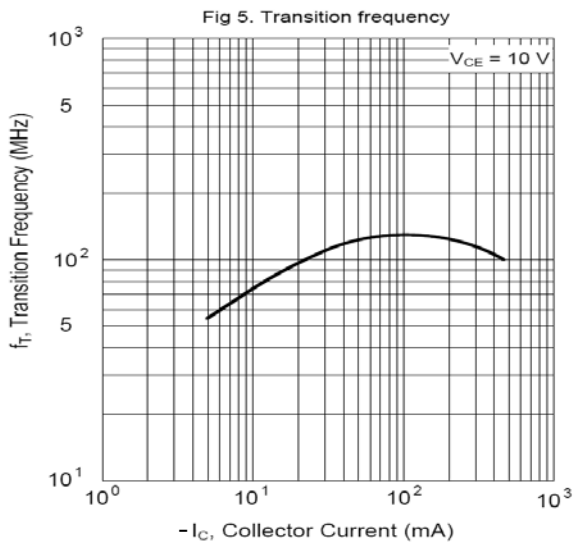
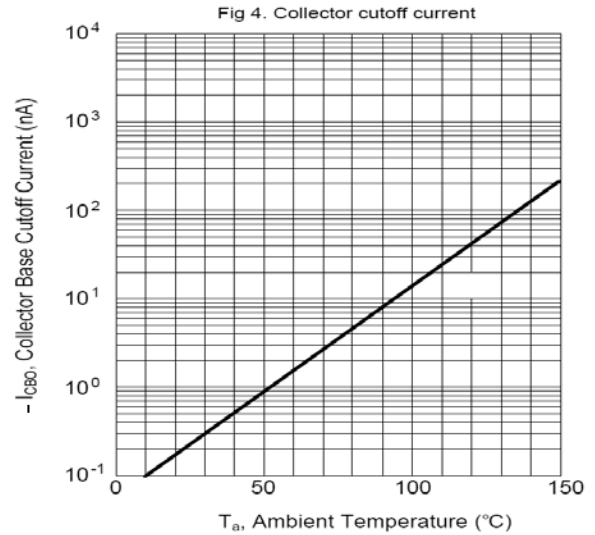
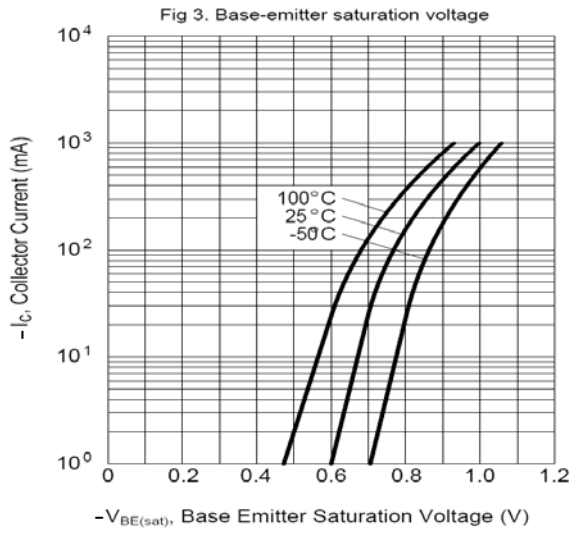
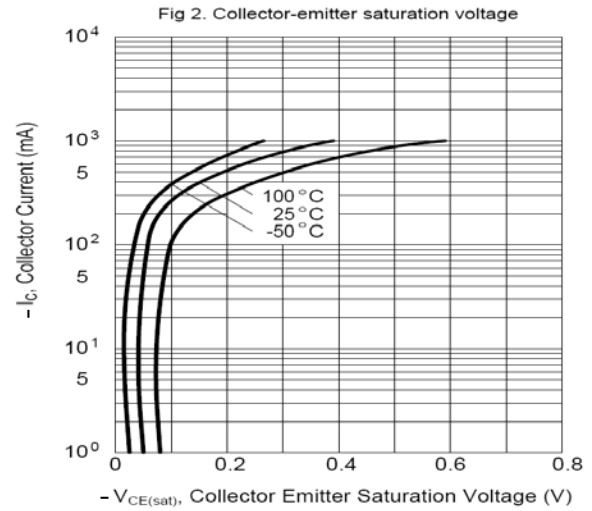
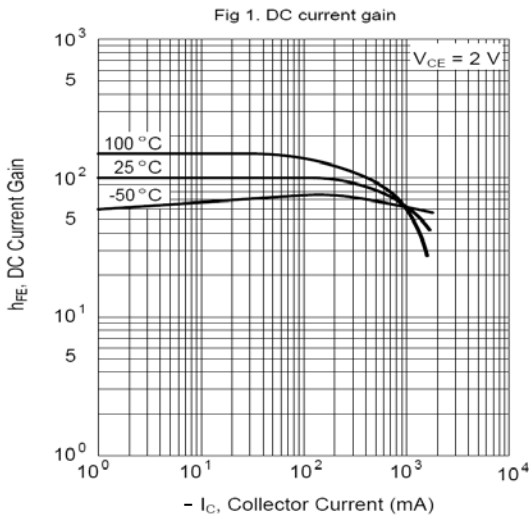
# BCP51Q-HAF

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $-V_{CE} = 2\text{ V}$ , $-I_C = 5\text{ mA}$	$h_{FE}$	25	-	-	-
at $-V_{CE} = 2\text{ V}$ , $-I_C = 150\text{ mA}$	$h_{FE}$	40	-	250	-
at $-V_{CE} = 2\text{ V}$ , $-I_C = 500\text{ mA}$	$h_{FE}$	25	-	-	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 100\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	45	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	-	0.5	V
Base Emitter Turn-on Voltage at $-V_{CE} = 2\text{ V}$ , $-I_C = 500\text{ mA}$	$-V_{BE(on)}$	-	-	1	V
Transition Frequency at $-V_{CE} = 10\text{ V}$ , $-I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	125	-	MHz

# BCP51Q-HAF

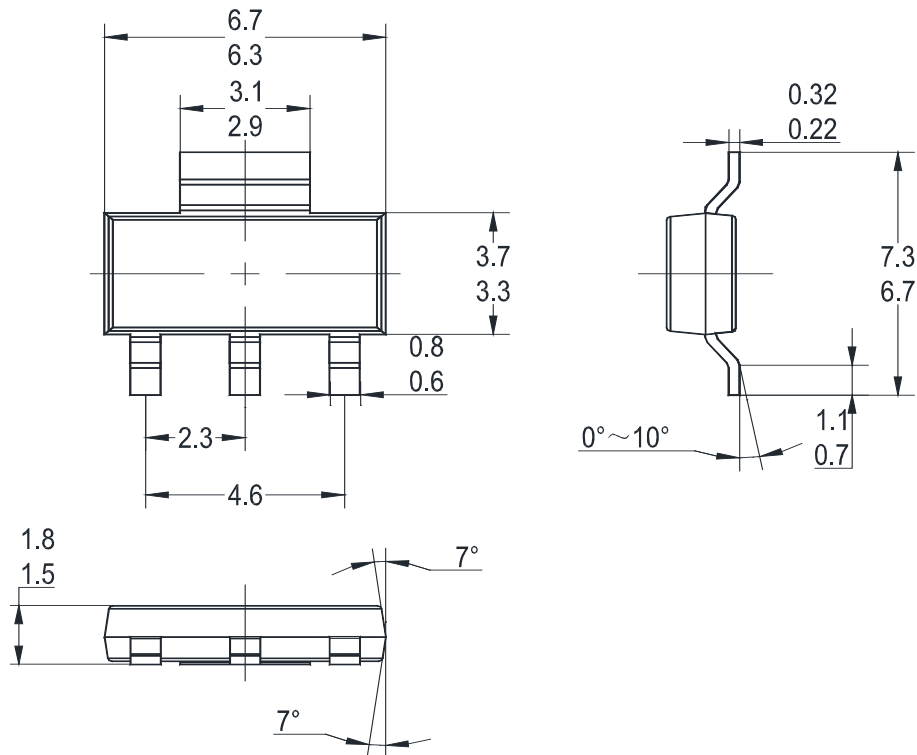
## Electrical Characteristics Curves



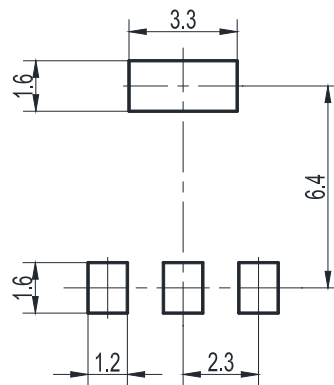
# BCP51Q-HAF

## Package Outline (Dimensions in mm)

SOT-223



## 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

" BCP51Q " = Part No.

" \*\*\*\*\* " = Date Code Marking

Font type: Arial

