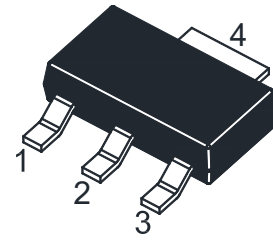


BCP56Q

NPN Silicon Epitaxial Planar Transistor



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

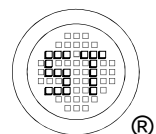
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	80	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Peak Collector Current	I_{CM}	1.5	A
Peak Base Current	I_{BM}	0.2	A
Total Power Dissipation	P_{tot}	1.33	W
Thermal Resistance Junction Ambient ¹⁾	$R_{\theta JA}$	94	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

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

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 $V_{CE} = 2\text{ V}$, $I_C = 500\text{ mA}$	h_{FE}	25	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 150\text{ mA}$	h_{FE}	63	-	160	-
	h_{FE}	100	-	250	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	-	100	nA
Collector Emitter Saturation Voltage at $I_C = 0.5\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	500	mV
Base Emitter Voltage at $V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$	V_{BE}	-	-	1	V
Transition Frequency at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	130	-	MHz



Electrical Characteristics Curves

Fig 1. DC Current Gain vs. Collector Current

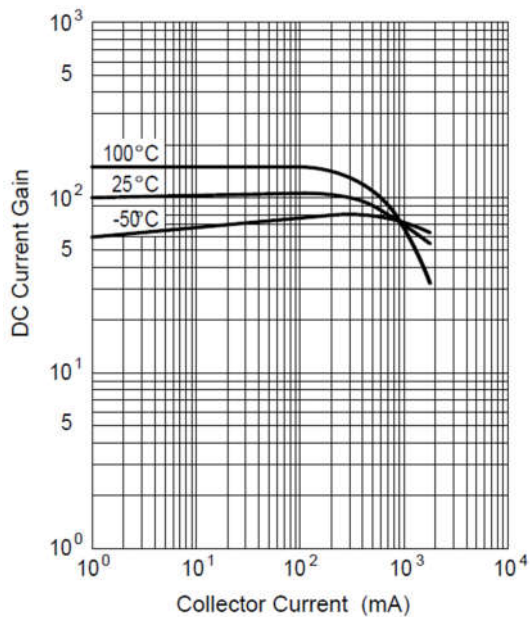


Fig 2. Collector Cutoff Current

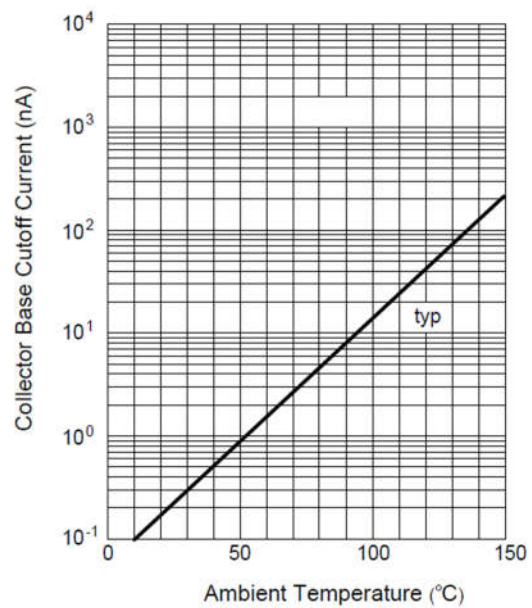


Fig 3. V_{BE(ON)} vs. Collector Current

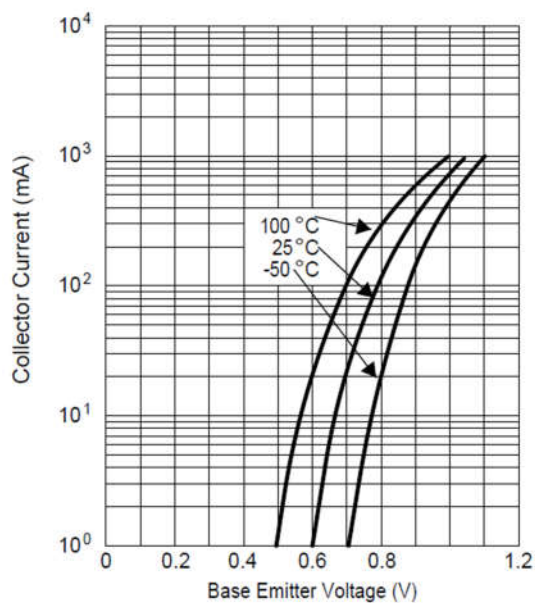
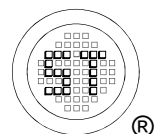
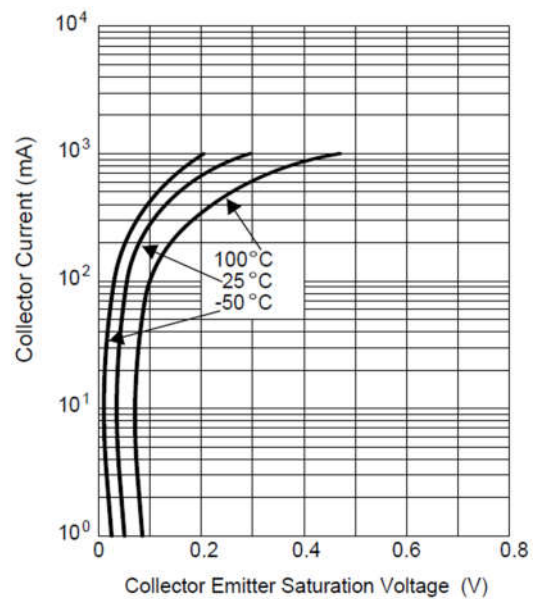


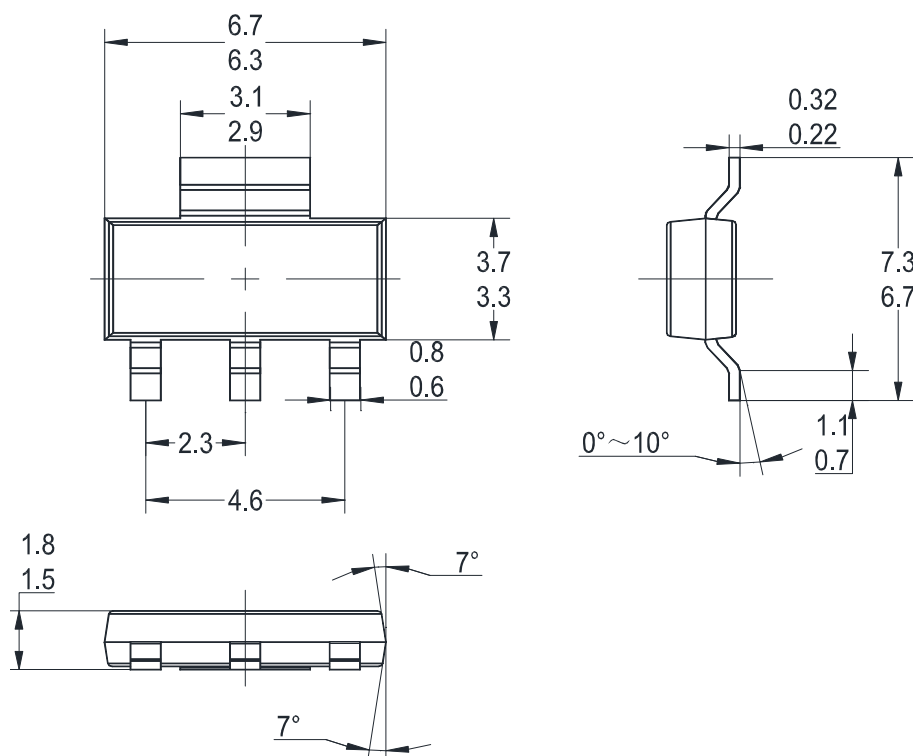
Fig 4. V_{CE(sat)} vs. Collector Current



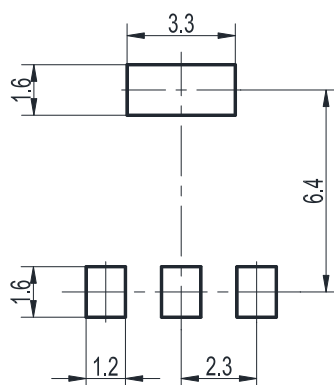
BCP56Q

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

" BCP56*Q " = Part No. (" * " = HFE grouping Code)

" ***** " = Date Code Marking

Font type: Arial

