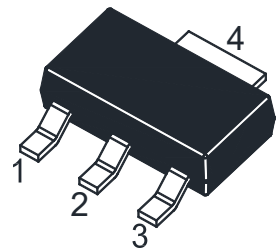


FZT655Q-HAF

NPN Silicon Epitaxial Planar Power Transistor

Features

- Halogen and Antimony Free(HAF),
RoHS compliant



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

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

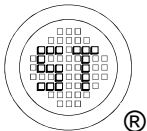
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	150	V
Collector Emitter Voltage	V_{CEO}	150	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	1	A
Peak Collector Current, Pulsed	I_{CM}	2	A
Total Power Dissipation	P_D	2 ¹⁾	W
Total Power Dissipation	P_D	3 ²⁾	W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5 ¹⁾ 41.7 ²⁾	$^{\circ}\text{C/W}$

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

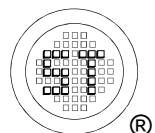
²⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 2-inch square copper plate in still air.



FZT655Q-HAF

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 500\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ A}$	h_{FE} h_{FE} h_{FE}	50 50 20	- - -	- 300 -	-
Collector Base Cutoff Current at $V_{CB} = 125\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5.6\text{ V}$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	150	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	150	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	7	-	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 200\text{ mA}$	$V_{CE(sat)}$	- -	- -	500 500	mV
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.1	V
Base Emitter On Voltage at $I_C = 500\text{ mA}$, $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	-	-	1	V
Transition Frequency at $V_{CE} = 20\text{ V}$, $I_C = 10\text{ mA}$, $f = 20\text{ MHz}$	f_T	30	-	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	20	pF



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

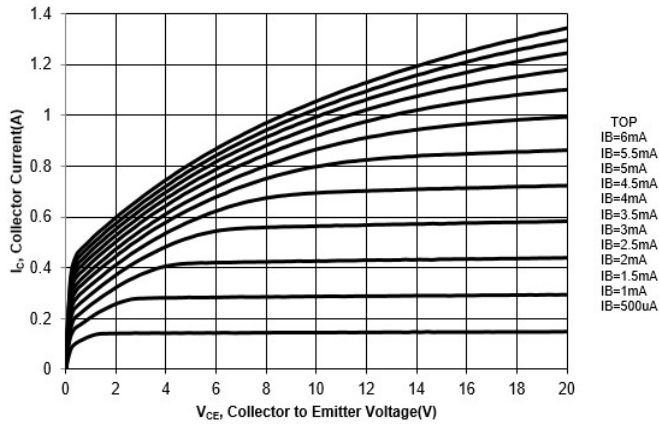


Fig. 2 Collector Current vs. Base to Emitter Voltage

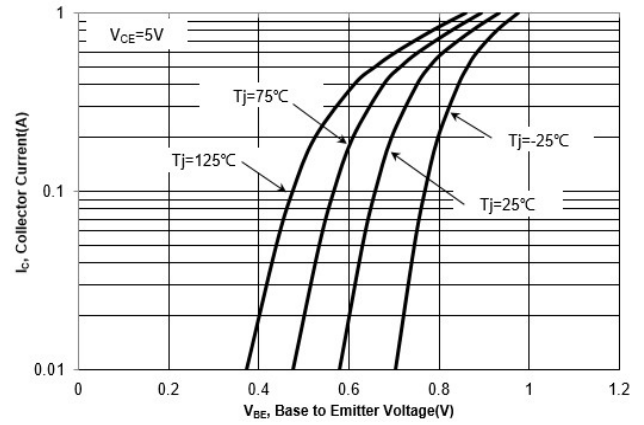


Fig. 3 h_{FE} , DC Current Gain vs. Collector Current

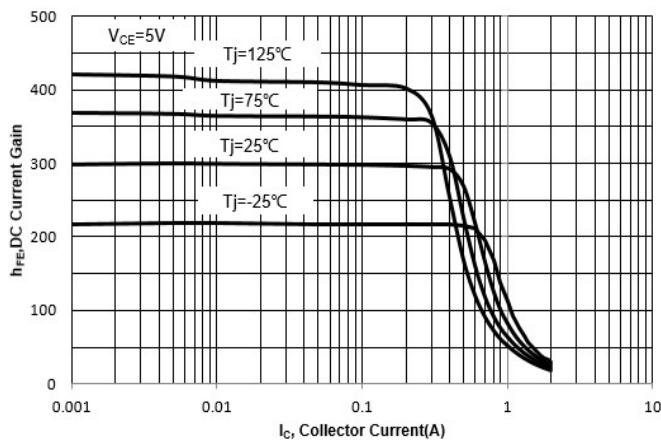
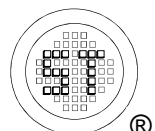
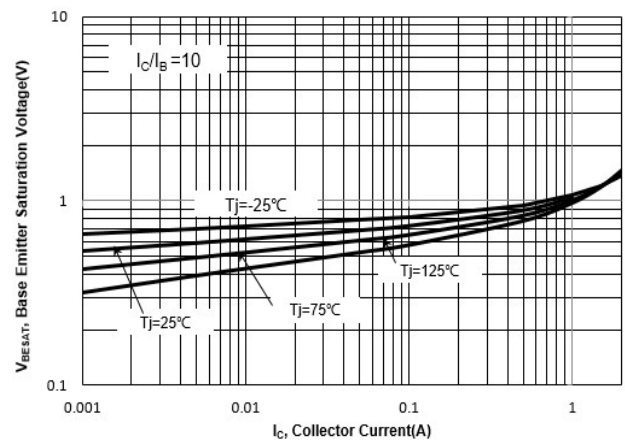


Fig. 4 V_{BESAT} vs. Collector Current



Electrical Characteristics Curves

Fig. 5 V_{CESAT} vs. Collector Current

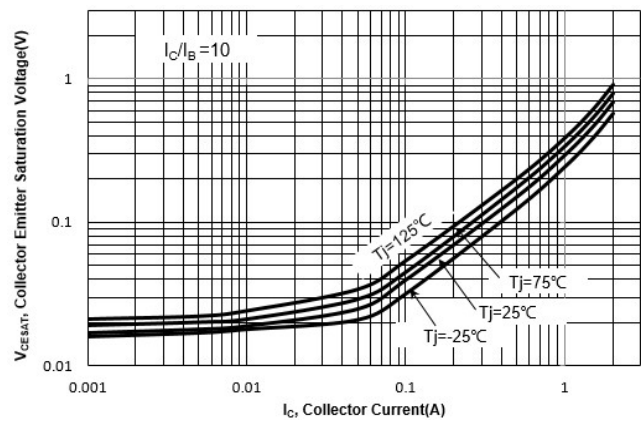


Fig. 6 Output Capacitance

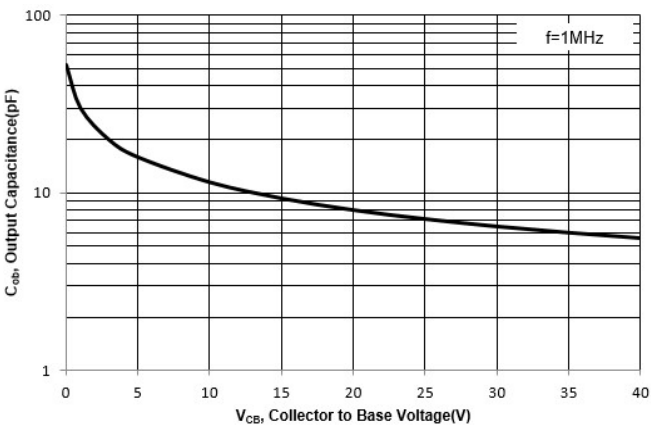
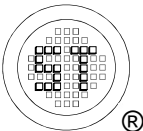
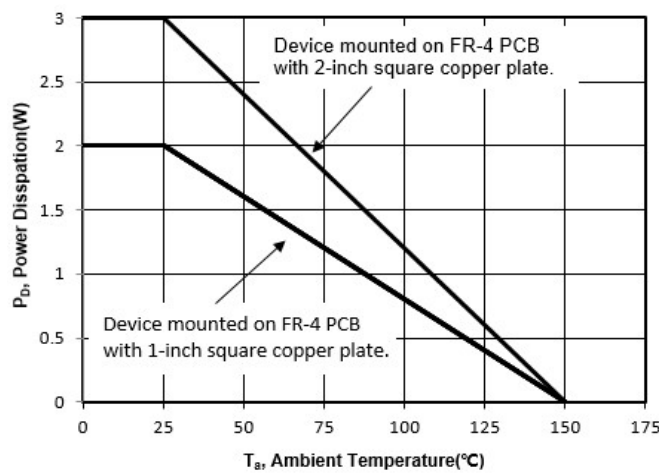


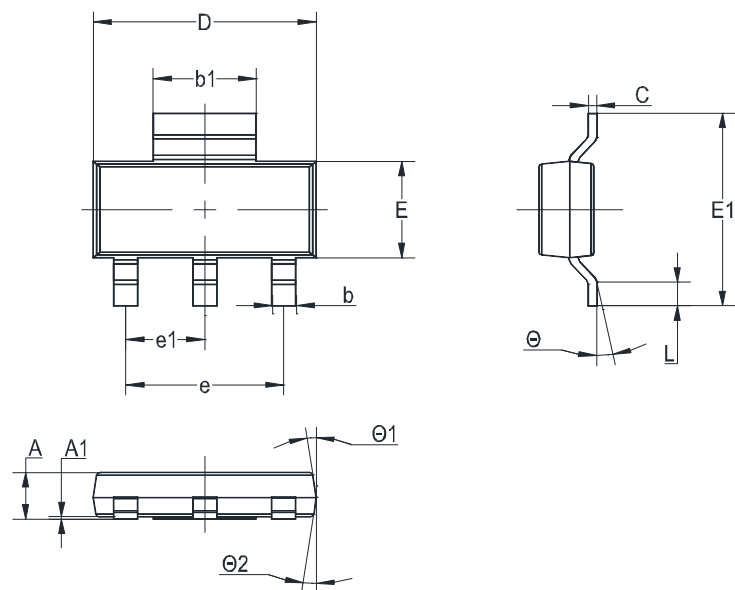
Fig. 7 Power Derating Curve



FZT655Q-HAF

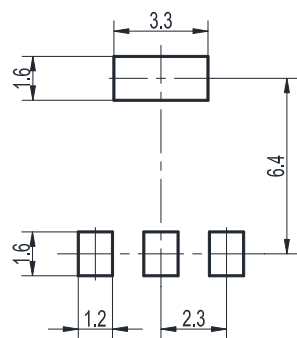
Package Outline (Dimensions in mm)

SOT-223



Unit	A	A1	b	b1	C	D	E	E1	e	e1	L	Θ	Θ1	Θ2
mm	1.8 1.5	0.1 MAX	0.8 0.6	3.1 2.9	0.32 0.22	6.7 6.3	3.7 3.3	7.3 6.7	4.6 TYP	2.3 TYP	1.1 0.7	10° 0°	7° 0°	7° 0°

Recommended Soldering Footprint



Packing information

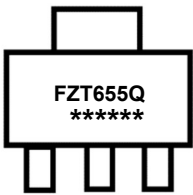
Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-223	12	8 ± 0.1	0.315 ± 0.004	330	13	3,000

Marking information

" FZT655Q " = Part No.

" ***** " = Date Code Marking

Font type: Arial



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