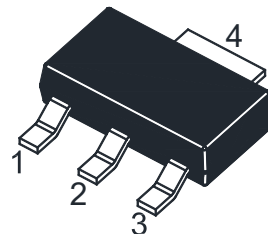


TIP32CQ

PNP 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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	100	V
Collector Emitter Voltage	$-V_{CEO}$	100	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	3	A
Total Power Dissipation	P_{tot}	1	W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	125	°C/W

¹⁾ Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 4\text{ V}$, $-I_C = 1\text{ A}$ at $-V_{CE} = 4\text{ V}$, $-I_C = 3\text{ A}$	h_{FE} h_{FE}	25 10	- -	- 100	- -
Collector Base Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CBO}$	100	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 30\text{ mA}$	$-V_{(BR)CEO}$	100	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 3\text{ mA}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Base Cutoff Current at $-V_{CB} = 100\text{ V}$	$-I_{CBO}$	-	-	200	μA
Collector Emitter Cutoff Current at $-V_{CE} = 60\text{ V}$	$-I_{CEO}$	-	-	300	μA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	1	mA
Collector Emitter Saturation Voltage at $-I_C = 3\text{ A}$, $-I_B = 375\text{ mA}$	$-V_{CE(sat)}$	-	-	1.2	V
Base Emitter On Voltage at $-V_{CE} = 4\text{ V}$, $-I_C = 3\text{ A}$	$-V_{BE(on)}$	-	-	1.8	V
Transition Frequency at $-V_{CE} = 10\text{ V}$, $-I_C = 500\text{ mA}$, $f = 1\text{ MHz}$	f_T	3	-	-	MHz

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

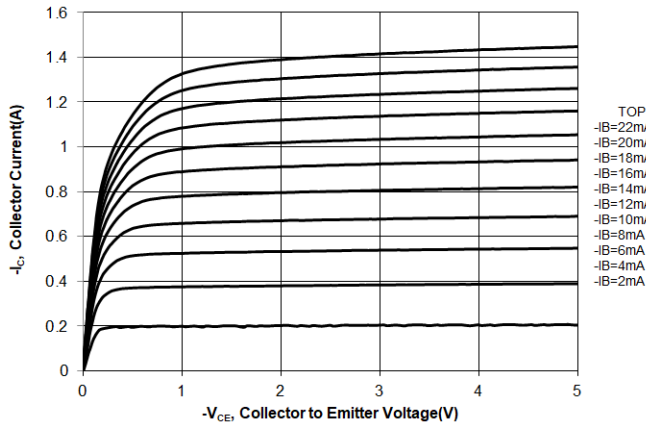


Fig. 2 Collector Current vs. Base to Emitter Voltage

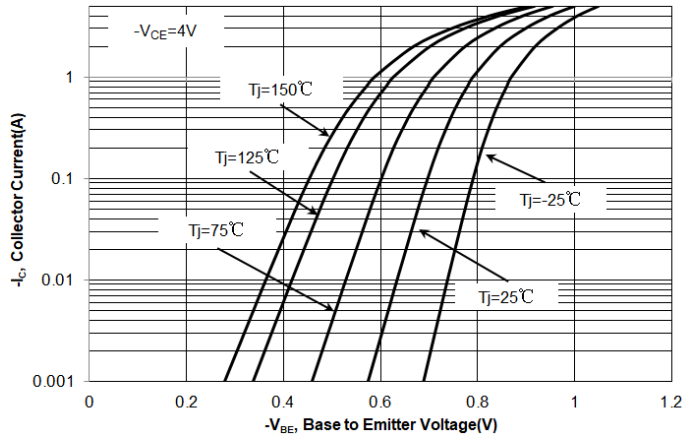


Fig. 3 DC Current Gain vs. Collector Current

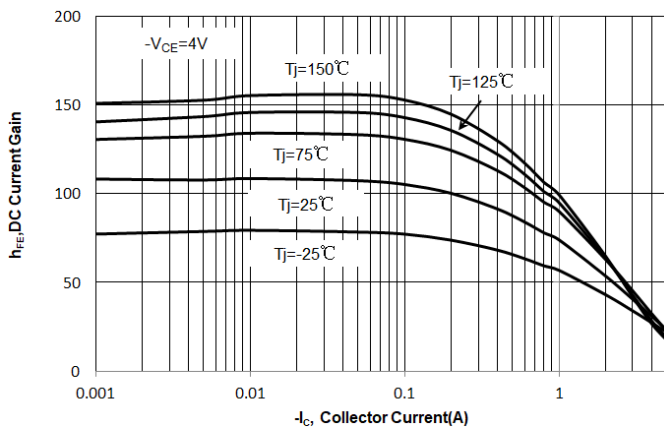


Fig. 4 V_{BESAT} vs. Collector Current

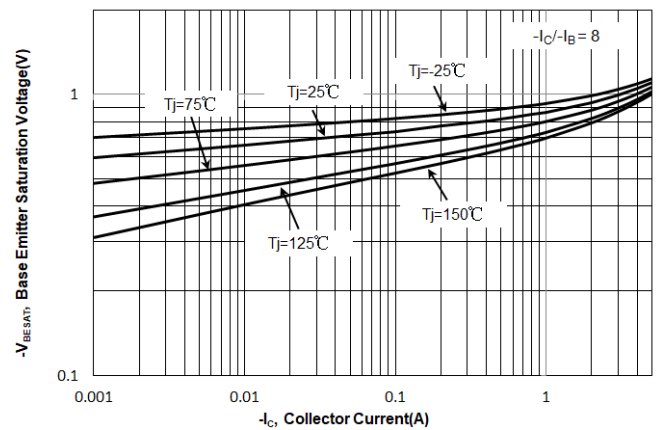


Fig. 5 V_{CESAT} vs. Collector Current

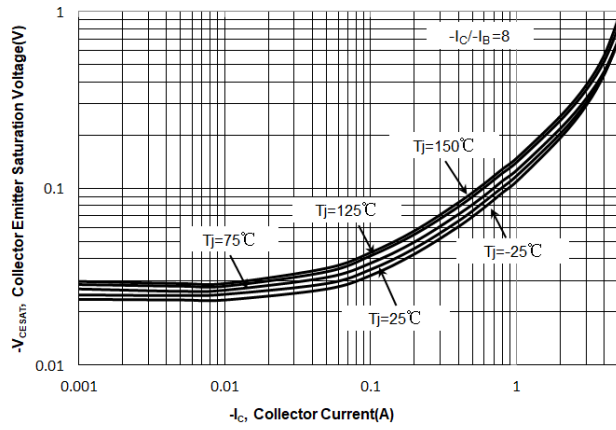


Fig. 6 Output Capacitance

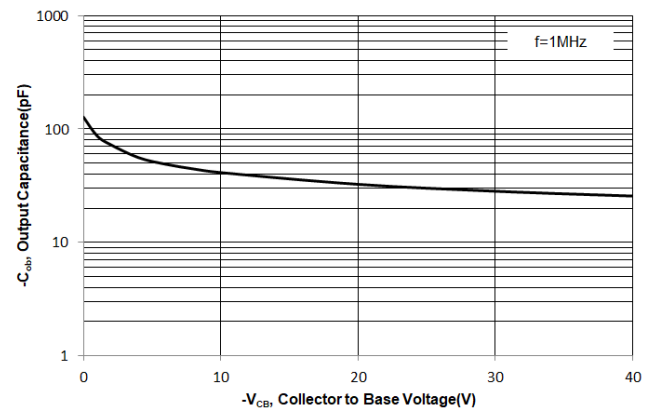
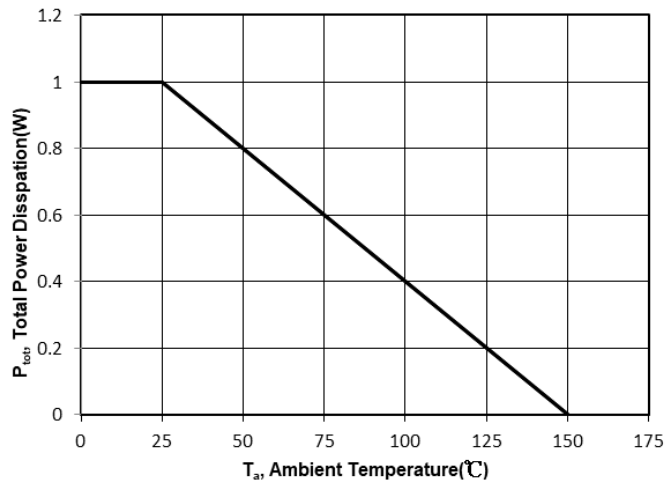
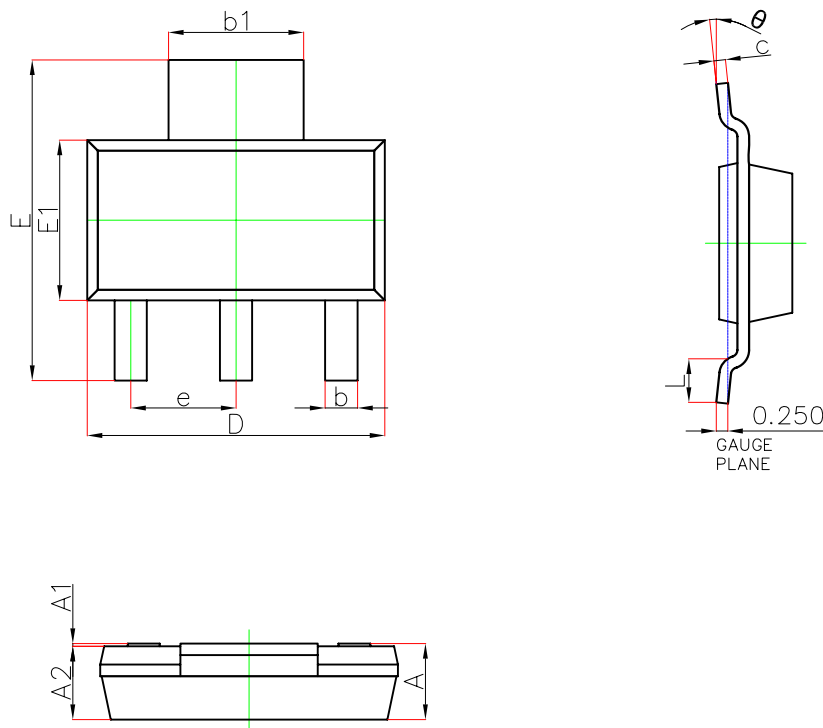


Fig. 7 Power Derating Curve



Package Outline

SOT-223



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	—	1.800	—	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
θ	0°	10°	0°	10°