

SOT-223

Pin Definition:

1. Base
2. Collector
3. Emitter

PRODUCT SUMMARY

BV_{CBO}	-40V
BV_{CEO}	-30V
I_C	-3A
V_{CE(SAT)}	-0.2V @ I _C / I _B = -2A / -100mA

Features

- Low V_{CE(SAT)} -0.2 @ I_C / I_B = -2A / -100mA (Typ.)
- Complementary part with TSD882S

Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

Ordering Information

Part No.	Package	Packing
TSB1424ACW RPG	SOT-223	2.5Kpcs / 13" Reel

Note: "G" denote for Halogen Free Product

Absolute Maximum Rating (Ta = 25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-30	V
Emitter-Base Voltage	V _{EBO}	-6	V
Collector Current	I _C	-3	A
		-5 (note1)	
Collector Power Dissipation	P _D	0.6	W
		2 (note 2)	
Operating Junction Temperature	T _J	+150	°C
Operating Junction and Storage Temperature Range	T _{STG}	- 55 to +150	°C

Note: 1. Single pulse, Pw=10ms, Duty≤50%

2. When mounted on a 40 x 50 x 0.7mm ceramic board.

Electrical Specifications (Ta = 25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	I _C = -50uA, I _E = 0	BV _{CBO}	-40	--	--	V
Collector-Emitter Breakdown Voltage	I _C = -10mA, I _B = 0	BV _{CEO}	-30	--	--	V
Emitter-Base Breakdown Voltage	I _E = -50uA, I _C = 0	BV _{EBO}	-6	--	--	V
Collector Cutoff Current	V _{CB} = -30V, I _E = 0	I _{CBO}	--	--	-0.1	uA
Emitter Cutoff Current	V _{EB} = -5V, I _C = 0	I _{EBO}	--	--	-0.1	uA
Collector-Emitter Saturation Voltage	I _C / I _B = -2A / -100mA	V _{CE(SAT)}	--	-0.2	-0.5	V
DC Current Transfer Ratio	V _{CE} = -2V, I _C = 100mA	h _{FE}	120	--	390	
Transition Frequency	V _{CE} = -2V, I _E = 0.5A, f = 100MHz	f _T	--	200	--	MHz
Output Capacitance	V _{CB} = -10V, I _E = 0, f = 1MHz	Cob	--	28	--	pF

hFE values are classified as follows:

Rank	Q	R
hFE	120~270	180~390

Electrical Characteristics Curve ($T_a = 25^\circ\text{C}$, unless otherwise noted)

Figure 1. DC Current Gain

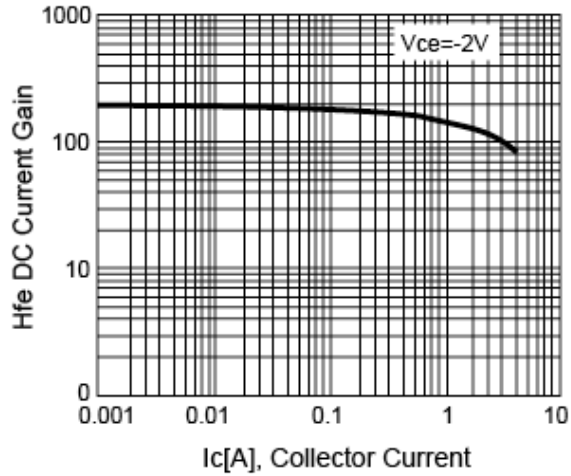


Figure 2. $V_{CE(SAT)}$ v.s. I_C

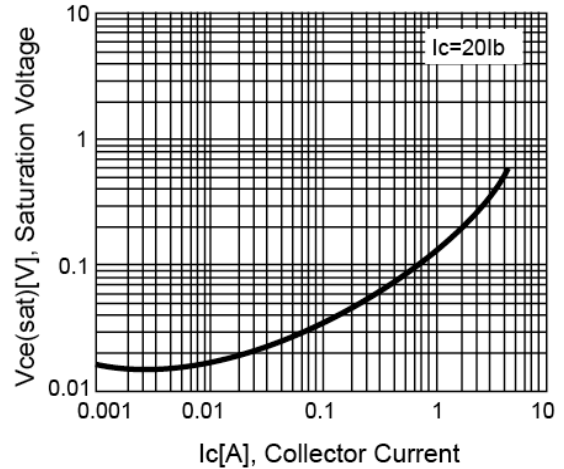


Figure 3. $V_{BE(SAT)}$ v.s. I_C

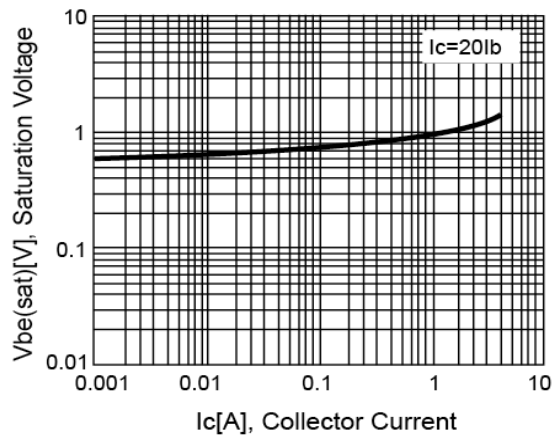


Figure 4. Transition Frequency v.s. I_E

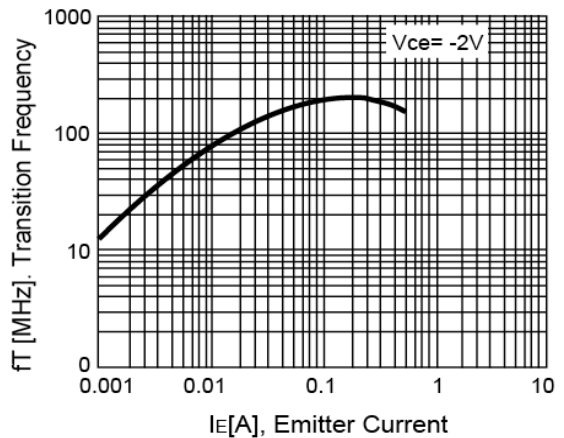


Figure 5. Collector Output Capacitance vs. V_{CB}

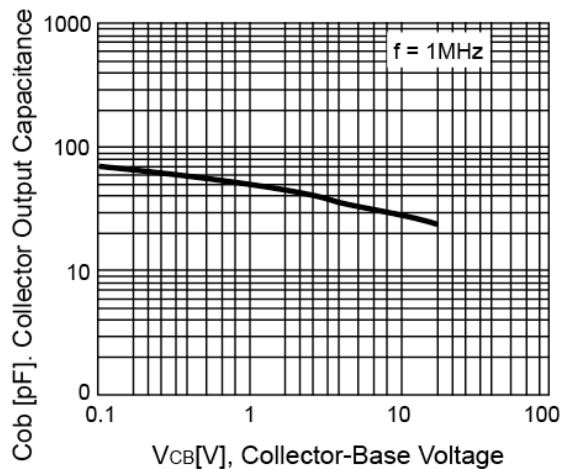
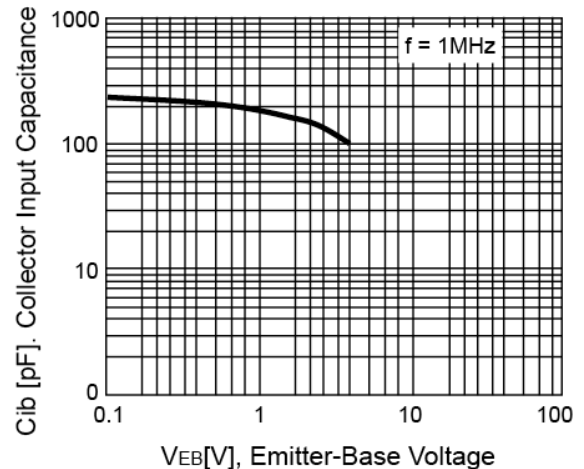
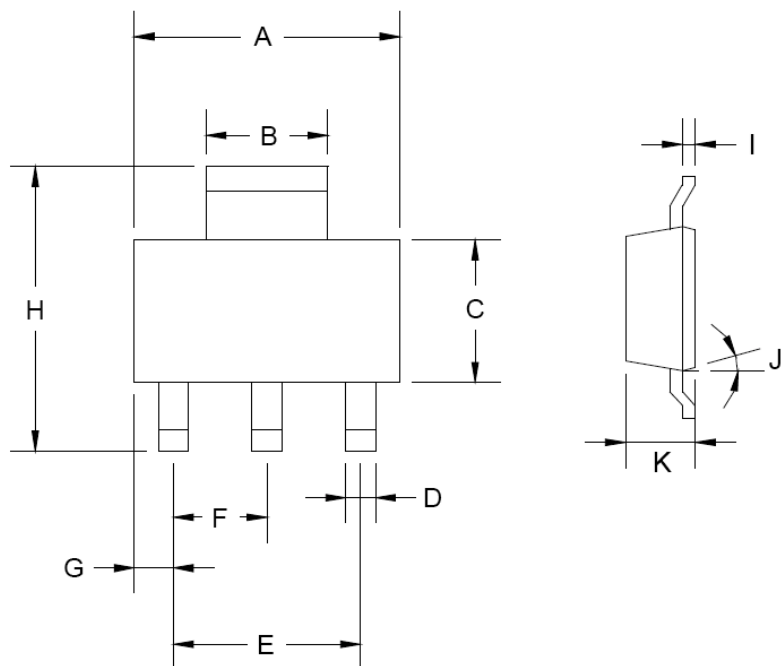


Figure 6. Collector Input Capacitance vs. V_{EB}



SOT-223 Mechanical Drawing



SOT-223 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.350	6.850	0.250	0.270
B	2.900	3.100	0.114	0.122
C	3.450	3.750	0.136	0.148
D	0.595	0.635	0.023	0.025
E	4.550	4.650	0.179	0.183
F	2.250	2.350	0.088	0.093
G	0.835	1.035	0.032	0.041
H	6.700	7.300	0.263	0.287
I	0.250	0.355	0.010	0.014
J	10°	16°	10°	16°
K	1.550	1.800	0.061	0.071

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