

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 ($T_a = 25^\circ C$ 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	DC	-3
		Pulse	-5 (note1)
Collector Power Dissipation	P_D		0.6
			2 (note 2)
Operating Junction Temperature	T_J	+150	$^\circ C$
Operating Junction and Storage Temperature Range	T_{STG}	- 55 to +150	$^\circ C$

Note: 1. Single pulse, $P_w=10ms$, $Duty \leq 50\%$

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

Electrical Specifications ($T_a = 25^\circ C$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$I_C = -50\mu A, I_E = 0$	BV_{CBO}	-40	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	BV_{CEO}	-30	--	--	V
Emitter-Base Breakdown Voltage	$I_E = -50\mu A, I_C = 0$	BV_{EBO}	-6	--	--	V
Collector Cutoff Current	$V_{CB} = -30V, I_E = 0$	I_{CBO}	--	--	-0.1	μA
Emitter Cutoff Current	$V_{EB} = -5V, I_C = 0$	I_{EBO}	--	--	-0.1	μA
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	$V_{CB} = -10V, I_E = 0, f = 1MHz$	C_{ob}	--	28	--	pF

h_{FE} values are classified as follows:

Rank	Q	R
h_{FE}	120~270	180~390

Electrical Characteristics Curve (Ta = 25°C, unless otherwise noted)

Figure 1. DC Current Gain

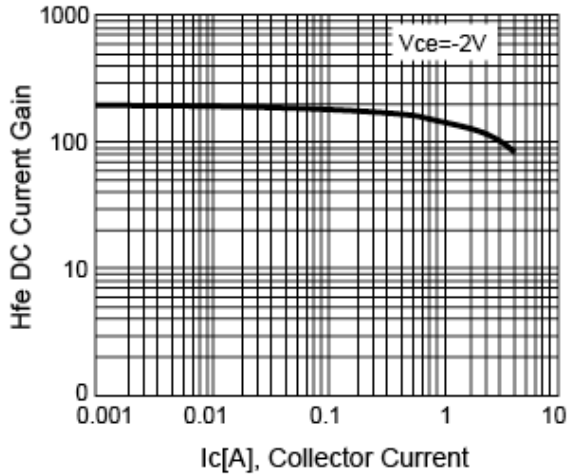


Figure 2. V_{CE(SAT)} v.s. Ic

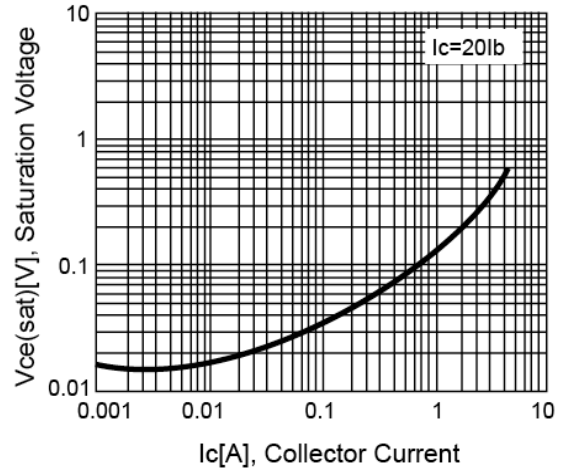


Figure 3. V_{BE(SAT)} v.s. Ic

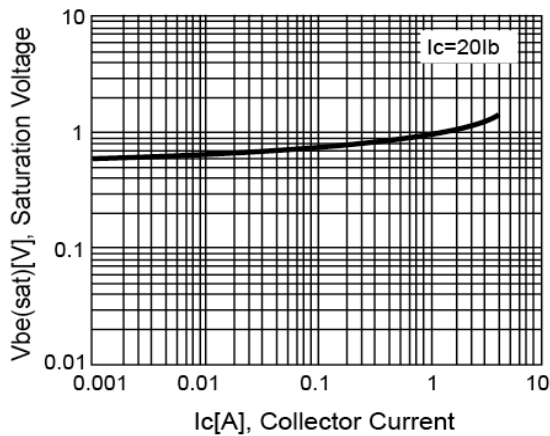


Figure 4. Transition Frequency v.s. I_E

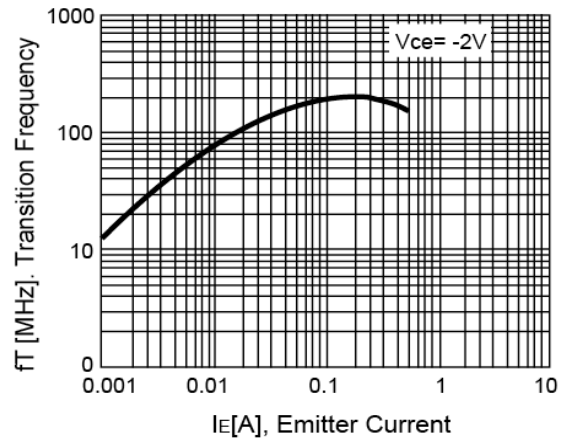


Figure 5. Collector Output Capacitance vs. V_{cb}

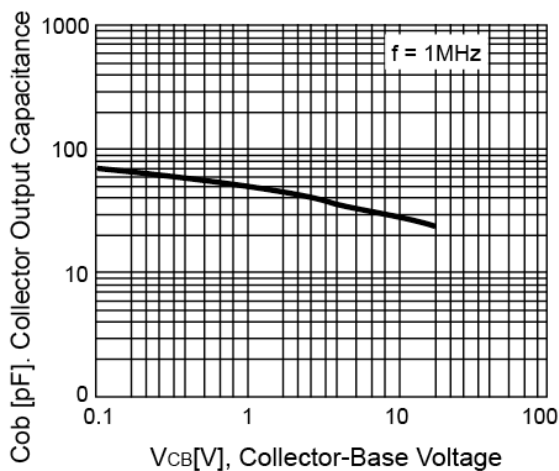
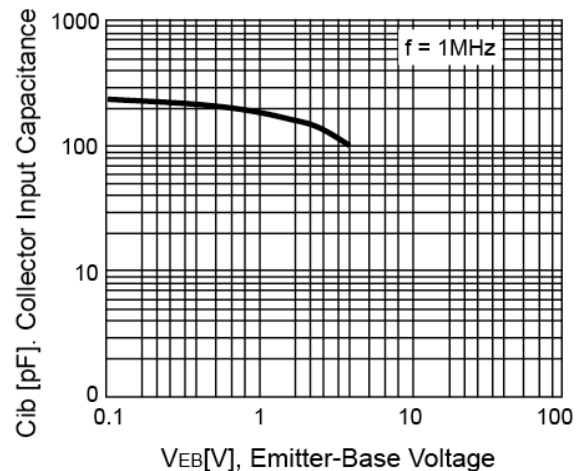
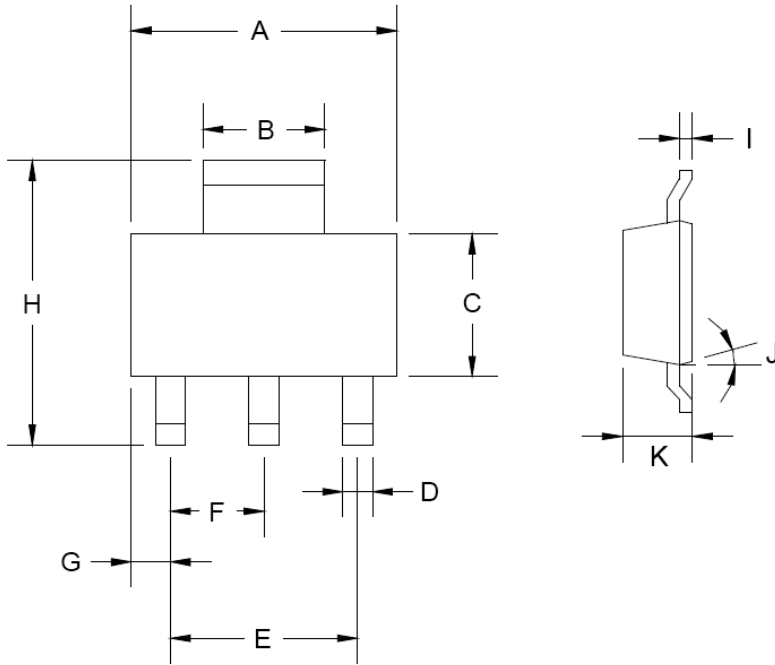


Figure 6. Collector Input Capacitance vs. V_{eb}



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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