

SOT-89

Pin Definition:

1. Base
2. Collector
3. Emitter

PRODUCT SUMMARY

BV_{CBO}	-30V
BV_{CEO}	-20V
I_C	-5A
V_{CE(SAT)}	-0.35V @ I _C / I _B = -4A / -100mA

Features

- Low V_{CE(SAT)} -0.35 @ I_C / I_B = -4A / -100mA (Typ.)
- Excellent DC current gain characteristics

Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

Ordering Information

Part No.	Package	Packing
TSB1386CY RM	SOT-89	1Kpcs / 7" Reel

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

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	-30	V
Collector-Emitter Voltage	V _{CEO}	-20	V
Emitter-Base Voltage	V _{EBO}	-6	V
Collector Current	I _C	-5	A
		-10 (note1)	
Collector Power Dissipation	P _D	0.5	W
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}	-30	--	--	V
Collector-Emitter Breakdown Voltage	I _C = -1mA, I _B = 0	BV _{CEO}	-20	--	--	V
Emitter-Base Breakdown Voltage	I _E = -50uA, I _C = 0	BV _{EBO}	-6	--	--	V
Collector Cutoff Current	V _{CB} = -20V, I _E = 0	I _{CBO}	--	--	-0.5	uA
Emitter Cutoff Current	V _{EB} = -5V, I _C = 0	I _{EBO}	--	--	-0.5	uA
Collector-Emitter Saturation Voltage	I _C / I _B = -4A / -100mA	V _{CE(SAT)}	--	-0.35	-0.6	V
Base-Emitter Saturation Voltage	I _C / I _B = -3A / -60mA	V _{BE(SAT)}	--	-1.2	-1.5	V
DC Current Transfer Ratio	V _{CE} = -2V, I _C = -500mA	h _{FE}	180	--	390	
Transition Frequency	V _{CE} = -6V, I _E = -50mA, f=30MHz	f _T	--	120	--	MHz
Output Capacitance	V _{CB} = -5V, I _E = 0, f=1MHz	Cob	--	60	--	pF

Note: Pulse test; Pw≤350us, Duty≤2%

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

Figure 1. DC Current Gain

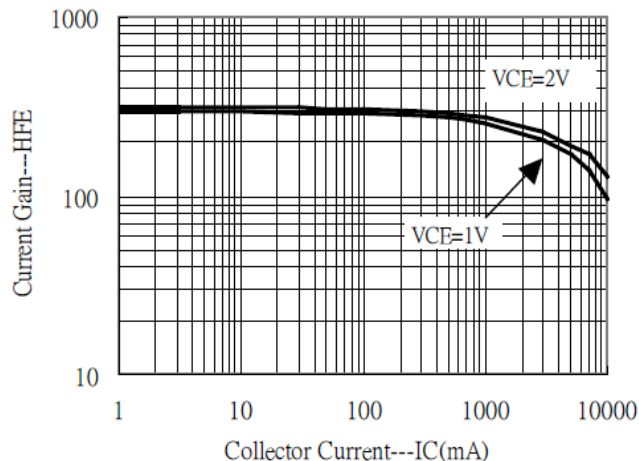


Figure 2. $V_{CE(SAT)}$ v.s. I_C

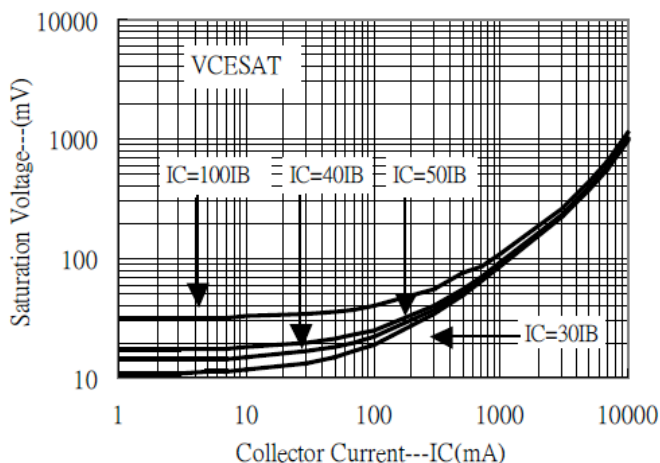


Figure 3. $V_{BE(SAT)}$ v.s. I_C

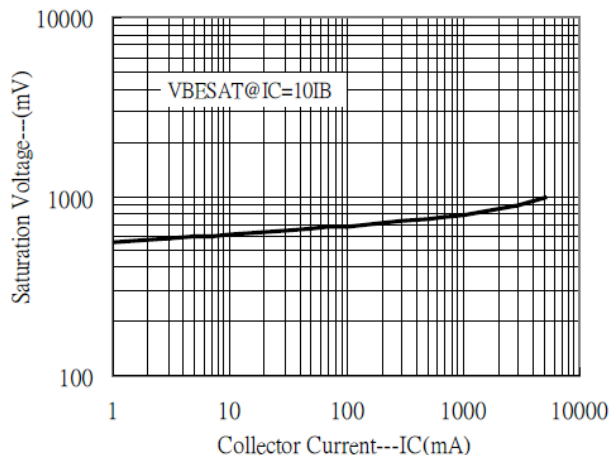


Figure 4. Output Characteristics

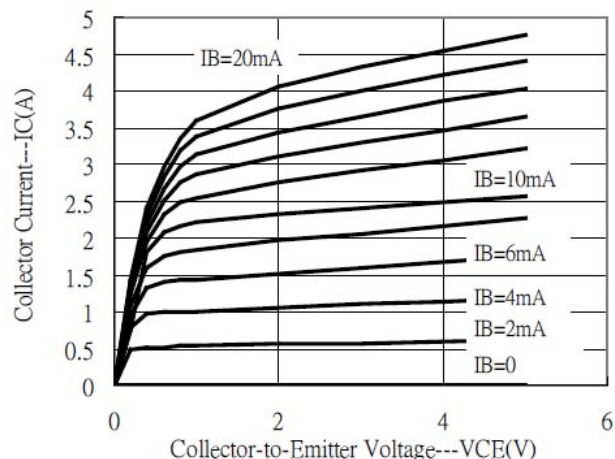


Figure 5. Output Characteristics

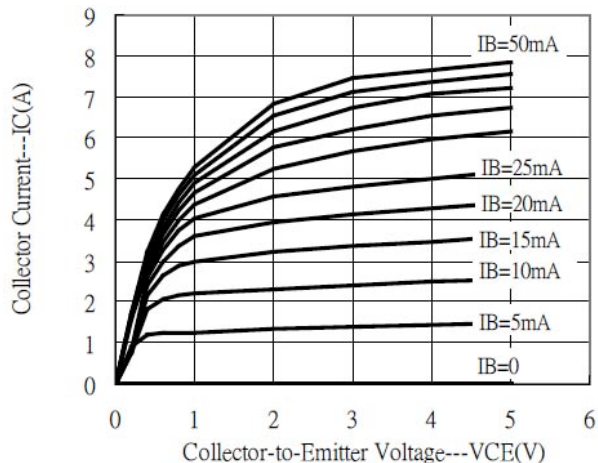
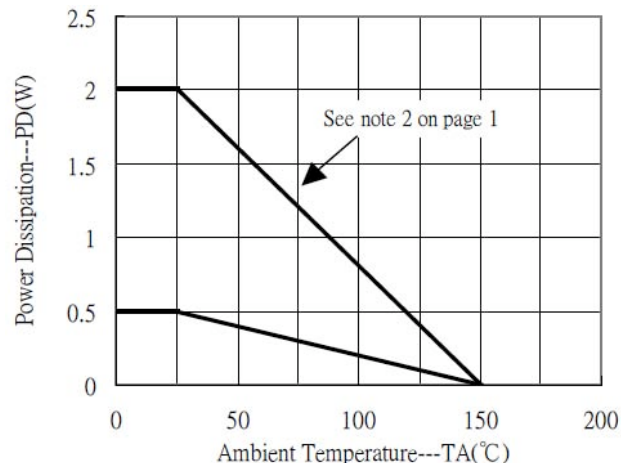
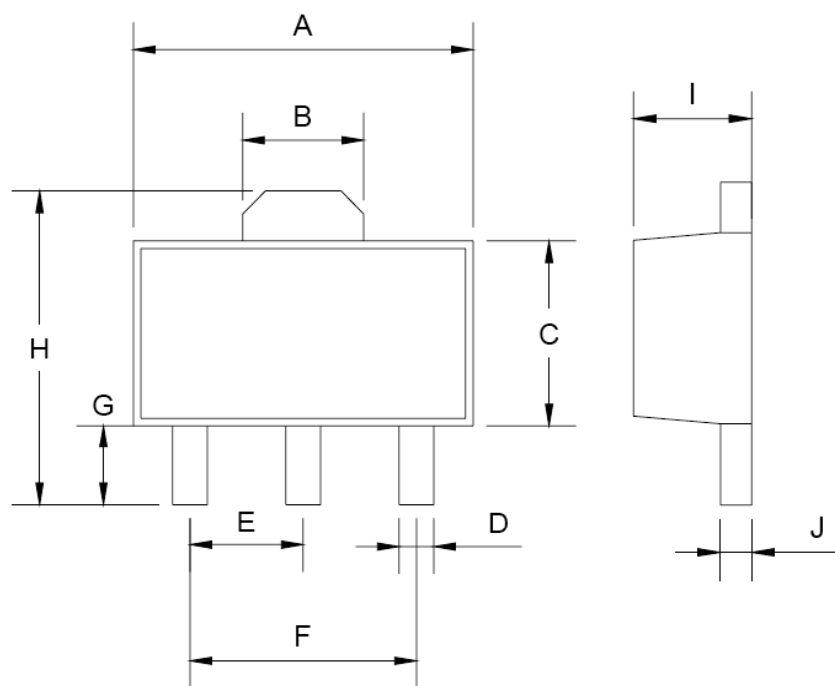


Figure 6. Collector Input Capacitance vs. V_{eb}

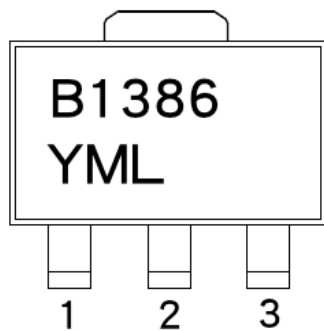


SOT-89 Mechanical Drawing



SOT-89 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.40	4.60	0.173	0.181
B	1.50	1.7	0.059	0.070
C	2.30	2.60	0.090	0.102
D	0.40	0.52	0.016	0.020
E	1.50	1.50	0.059	0.059
F	3.00	3.00	0.118	0.118
G	0.89	1.20	0.035	0.047
H	4.05	4.25	0.159	0.167
I	1.4	1.6	0.055	0.068
J	0.35	0.44	0.014	0.017

Marking Diagram



- Y** = Year Code
- M** = Month Code
(A=Jan, B=Feb, C=Mar, D=Apr, E=May, F=Jun, G=Jul, H=Aug, I=Sep, J=Oct, K=Nov, L=Dec)
- L** = Lot Code
- X** = hFE rank code

TSB1386

Low Frequency PNP Transistor

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