

Low Frequency PNP Transistor

SOT-89


Pin assignment:

1. Base
2. Collector
3. Emitter

 $BV_{CEO} = -32V$
 $I_C = -1A$
 $V_{CE(SAT)} = -0.15V(\text{typ.}) @ I_C / I_B = -0.5A / -50mA$

Features

- ✧ Low $V_{CE(SAT)}$.
- ✧ Excellent DC current gain characteristics

Structure

- ✧ Epitaxial planar type.
- ✧ PNP silicon transistor

Ordering Information

Part No.	Packing	Package	Marking
TSB1132CY	Tape & Reel	SOT-89	BK

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

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	- 40V	V
Collector-Emitter Voltage	V_{CEO}	- 32V	V
Emitter-Base Voltage	V_{EBO}	- 5	V
Collector Current	I_C	DC	- 1
		Pulse	- 2.5 (note 1)
Collector Power Dissipation	P_D	SOT-89	0.6
			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, $P_w = 10mS$, Duty $\leq 50\%$

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

Electrical Characteristics

Ta = 25 °C unless otherwise noted

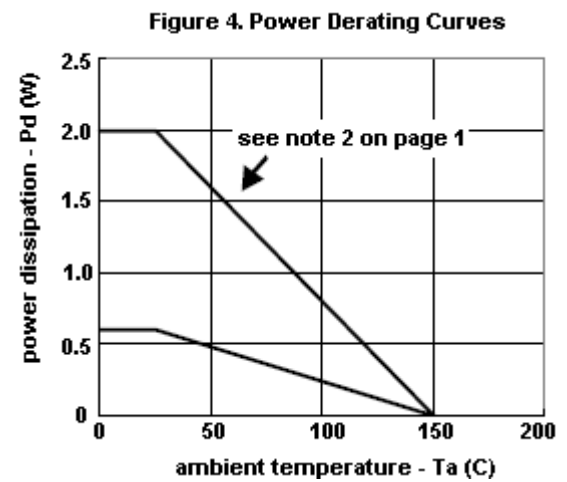
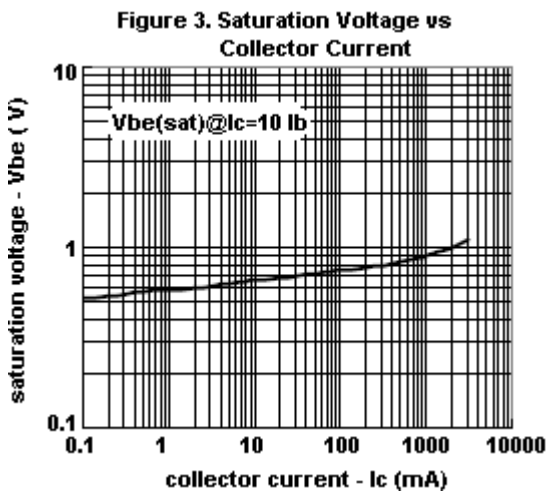
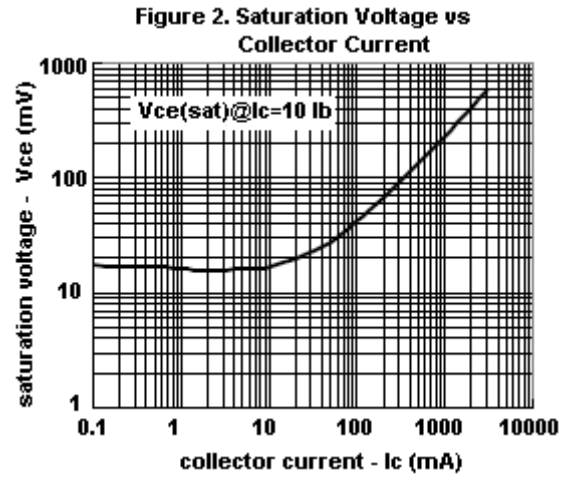
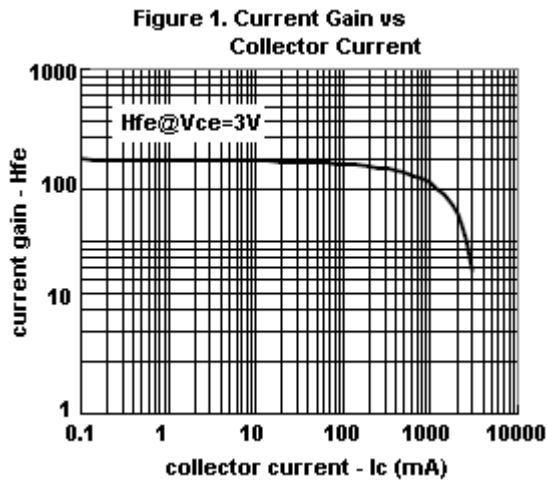
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Collector-Base Voltage	$I_C = -50\mu A, I_E = 0$	BV_{CBO}	- 40			V
Collector-Emitter Breakdown Voltage	$I_C = -1mA, I_B = 0$	BV_{CEO}	- 32			V
Emitter-Base Breakdown Voltage	$I_E = -50\mu A, I_C = 0$	BV_{EBO}	- 5			V
Collector Cutoff Current	$V_{CB} = -20V, I_E = 0$	I_{CBO}			- 0.5	μA
Emitter Cutoff Current	$V_{EB} = -4V, I_C = 0$	I_{EBO}			-0.5	μA
Collector-Emitter Saturation Voltage	$I_C / I_B = -500mA / -50mA$	$V_{CE(SAT)}$		- 0.15	- 0.5	V
DC Current Transfer Ratio	$V_{CE} = -3V, I_C = -0.1A$	h_{FE}	82		390	
Transition Frequency	$V_{CE} = -5V, I_C = -50mA,$ $f = 100MHz$	f_T		150		MHz
Output Capacitance	$V_{CB} = -10V, f = 1MHz$	C_{ob}		20	30	pF

 Note : pulse test: pulse width $\leq 380\mu S$, duty cycle $\leq 2\%$

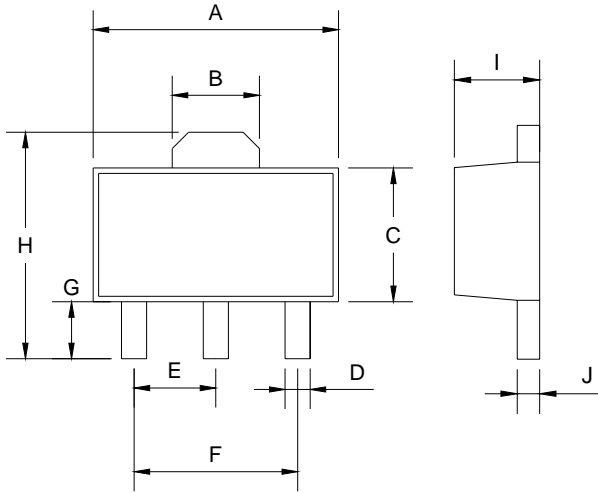
Classification Of h_{FE}

Rank	P	Q	R
Range	82 - 180	120 - 270	180 - 390

Electrical Characteristics Curve



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