



### SOT-89



#### Pin Definition:

1. Base
2. Collector
3. Emitter

### PRODUCT SUMMARY

$BV_{CBO}$	-40V
$BV_{CEO}$	-32V
$I_C$	-1A
$V_{CE(SAT)}$	-0.15V @ $I_C / I_B = -0.5A / -50mA$

### Features

- Low  $V_{CE(SAT)}$  -0.15 @  $I_C / I_B = -0.5A / -50mA$  (Typ.)
- Excellent DC current gain characteristics

### Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

### Ordering Information

Part No.	Package	Packing
TSB1132CY RM	SOT-89	1Kpcs / 7" Reel

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

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	$V_{CBO}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-32	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	DC	-1
		Pulse	-2.5 (note1)
Collector Power Dissipation	$P_D$		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, Pw=10ms, Duty≤50%

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

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

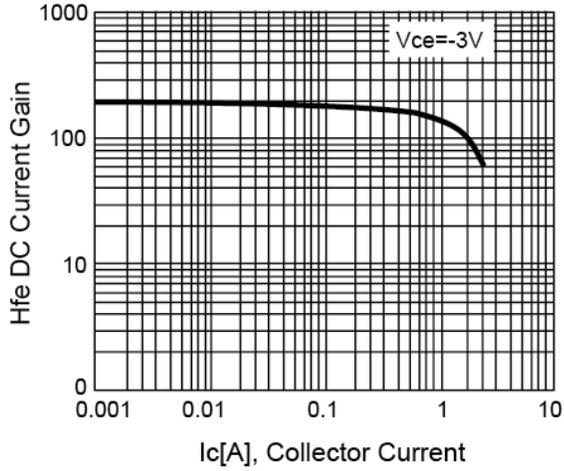
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$I_C = -50\mu A, I_E = 0$	$BV_{CBO}$	-40	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = -1mA, I_B = 0$	$BV_{CEO}$	-32	--	--	V
Emitter-Base Breakdown Voltage	$I_E = -50\mu A, I_C = 0$	$BV_{EBO}$	-5	--	--	V
Collector Cutoff Current	$V_{CB} = -20V, I_E = 0$	$I_{CBO}$	--	--	-0.5	uA
Emitter Cutoff Current	$V_{EB} = -4V, I_C = 0$	$I_{EBO}$	--	--	-0.5	uA
Collector-Emitter Saturation Voltage	$I_C / I_B = -0.5A / -50mA$	$V_{CE(SAT)}$	--	-0.15	-0.5	V
DC Current Transfer Ratio	$V_{CE} = -3V, I_C = 100mA$	$h_{FE}$	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

$h_{FE}$  values are classified as follows:

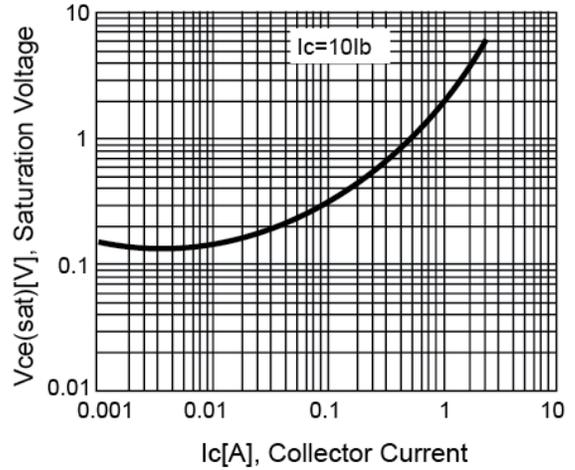
Rank	Q	R
$h_{FE}$	120~270	180~390

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

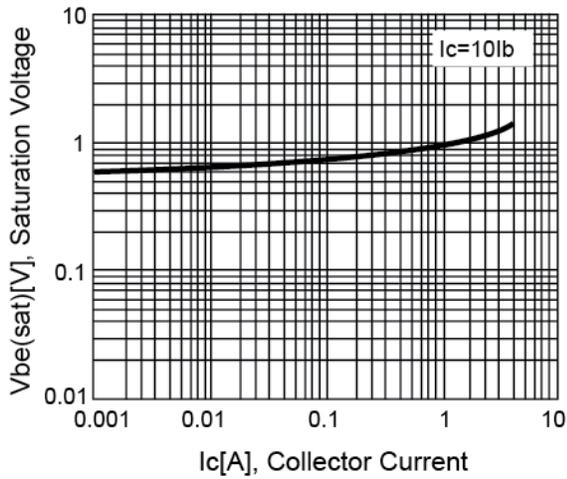
**Figure 1. DC Current Gain**



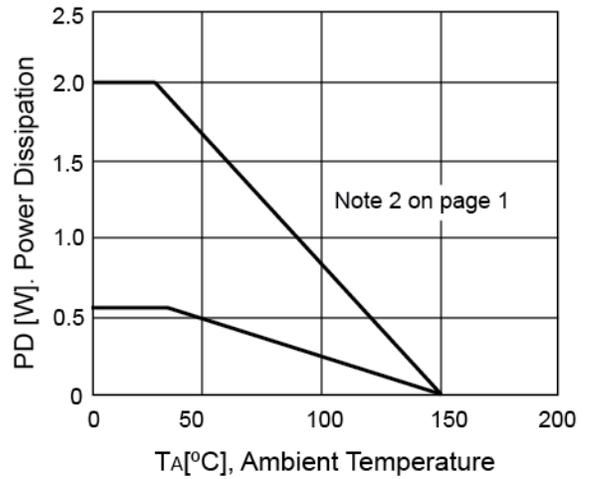
**Figure 2. Vce(sat) v.s. Ic**



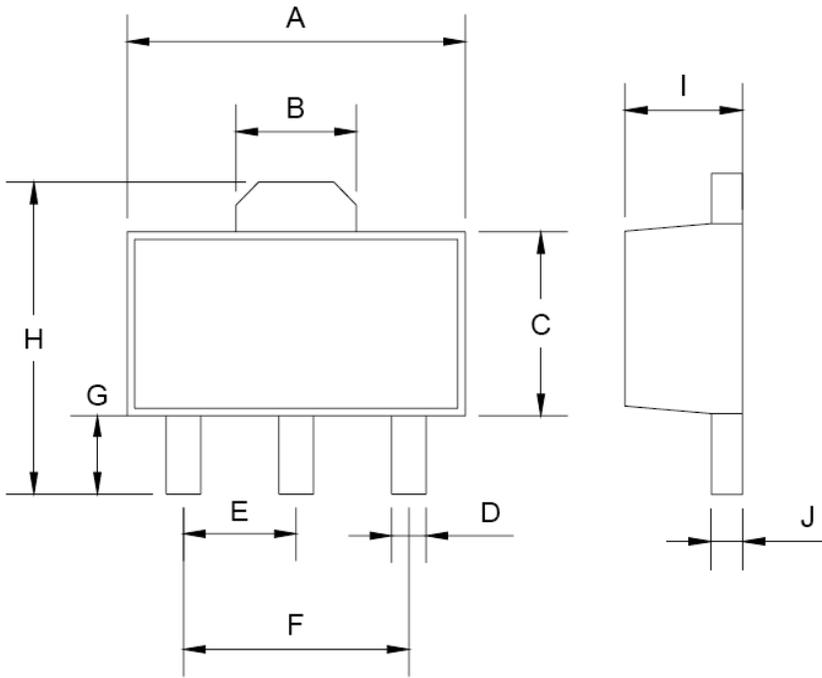
**Figure 3. Vbe(sat) v.s. Ic**



**Figure 4. Power Derating 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

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