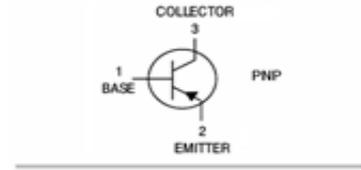


### Features

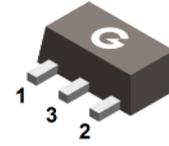
- Epitaxial planar die construction
- Complimentary to 2SD1664
- Ultra-small surface mount package
- RoHS compliant with Halogen-free

HF



### Mechanical Data

- Case: SOT-89
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-89

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SB1132-P	SOT-89	1000 pcs / Tape & Reel	BAP
2SB1132-Q	SOT-89	1000 pcs / Tape & Reel	BAQ
2SB1132-R	SOT-89	1000 pcs / Tape & Reel	BAR

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V <sub>CBO</sub>	-40	V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	-32	V
Emitter-Base Breakdown Voltage	V <sub>EBO</sub>	-5	V
Collector Current (Continuous)	I <sub>C</sub>	-1	A
Collector Current (Peak)	I <sub>CM</sub>	-2	A

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T <sub>A</sub> = 25°C) <sup>*1</sup>	P <sub>D</sub>	500	mW
Thermal Resistance Junction-to-Air <sup>*1</sup>	R <sub>θJA</sub>	250	°C/W
Power Dissipation (T <sub>A</sub> = 25°C) <sup>*2</sup>	P <sub>D</sub>	2	W
Thermal Resistance Junction-to-Air <sup>*2</sup>	R <sub>θJA</sub>	62.5	°C/W
Thermal Resistance Junction-to-Case	R <sub>θJC</sub>	18	°C/W
Operating junction Temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

Notes:

1. The data tested by surface mounted on a minimum recommended FR-4 board
2. The data tested by surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper

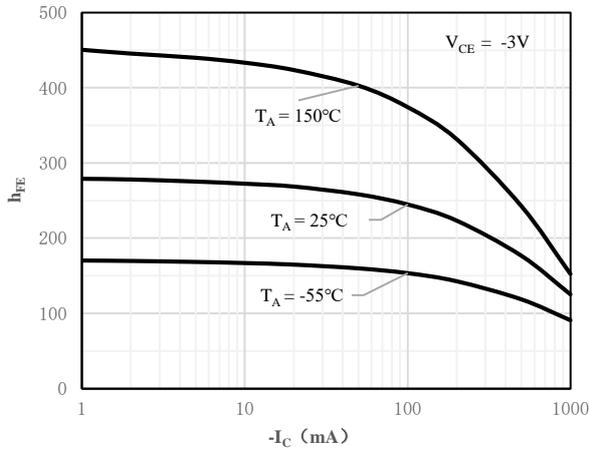
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -50\mu\text{A}, I_E = 0$	-40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-32	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -50\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -20\text{V}, I_E = 0$	-	-	-0.5	$\mu\text{A}$
Collector Cut-off Current	$I_{EBO}$	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-0.5	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -3\text{V}, I_C = -100\text{mA}$	82	-	390	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-0.2	-0.5	V
Transition Frequency	$f_T$	$I_C = -50\text{mA}, V_{CE} = -5\text{V}$ $f = 30\text{MHz}$	-	150	-	MHz
Collector Output Capacitance	$C_{OBO}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	12	30	pF

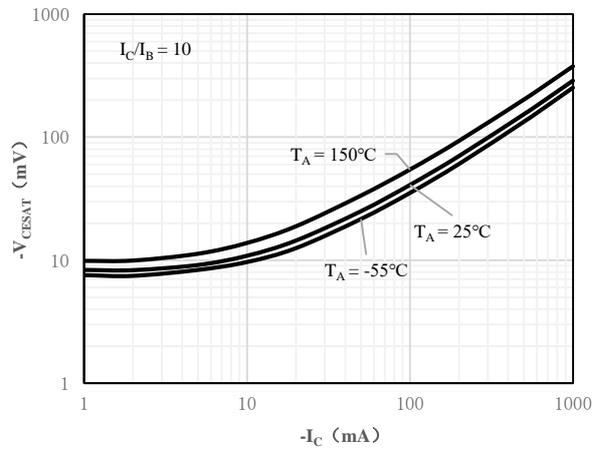
### Classification of $h_{FE}$

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BAP	BAQ	BAR

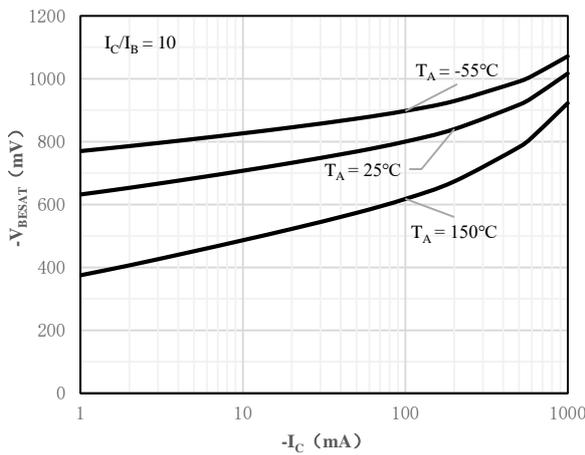
**Ratings and Characteristics Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



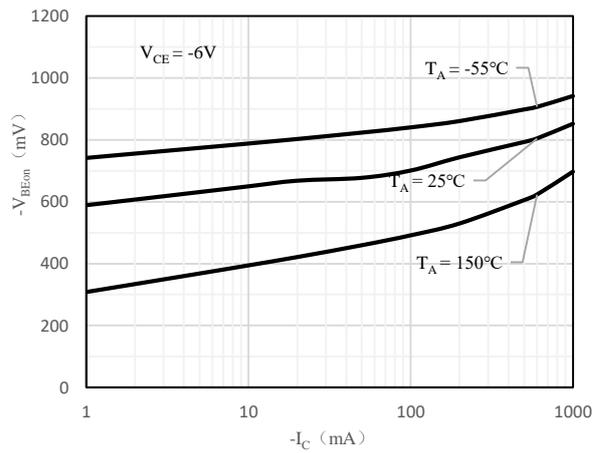
**Fig 1**  $h_{FE}$  vs.  $I_c$



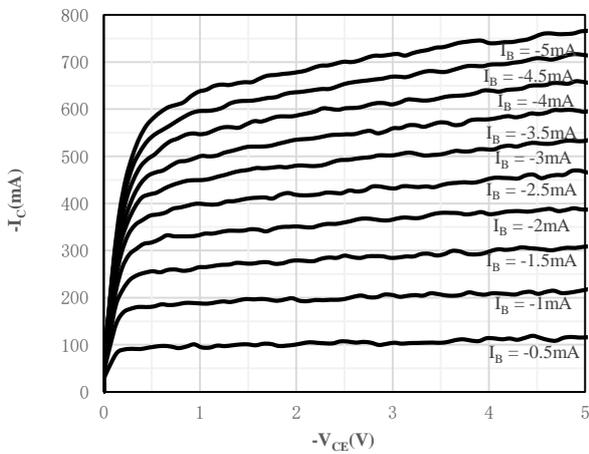
**Fig 2**  $V_{CE(sat)}$  vs.  $I_c$



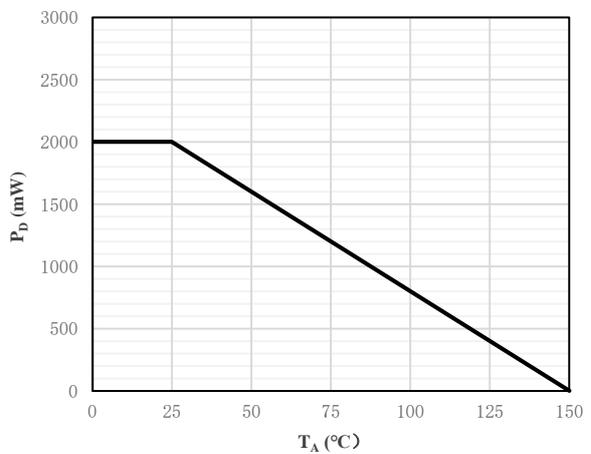
**Fig 3**  $V_{BE(sat)}$  vs.  $I_c$



**Fig 4**  $V_{BE(on)}$  vs.  $I_c$



**Fig 5**  $I_c$  vs.  $V_{CE}$



**Fig 6**  $P_D$  vs.  $T_A$

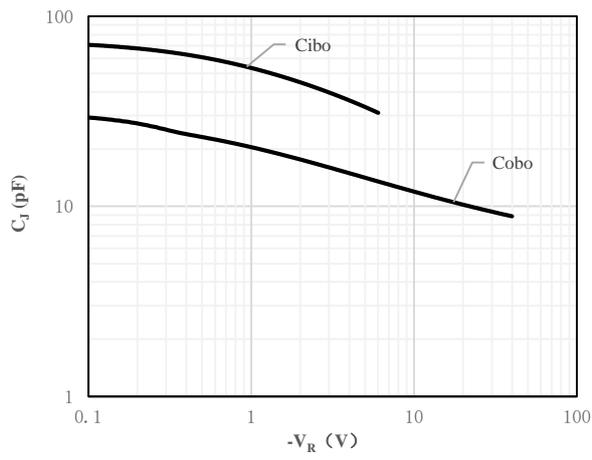
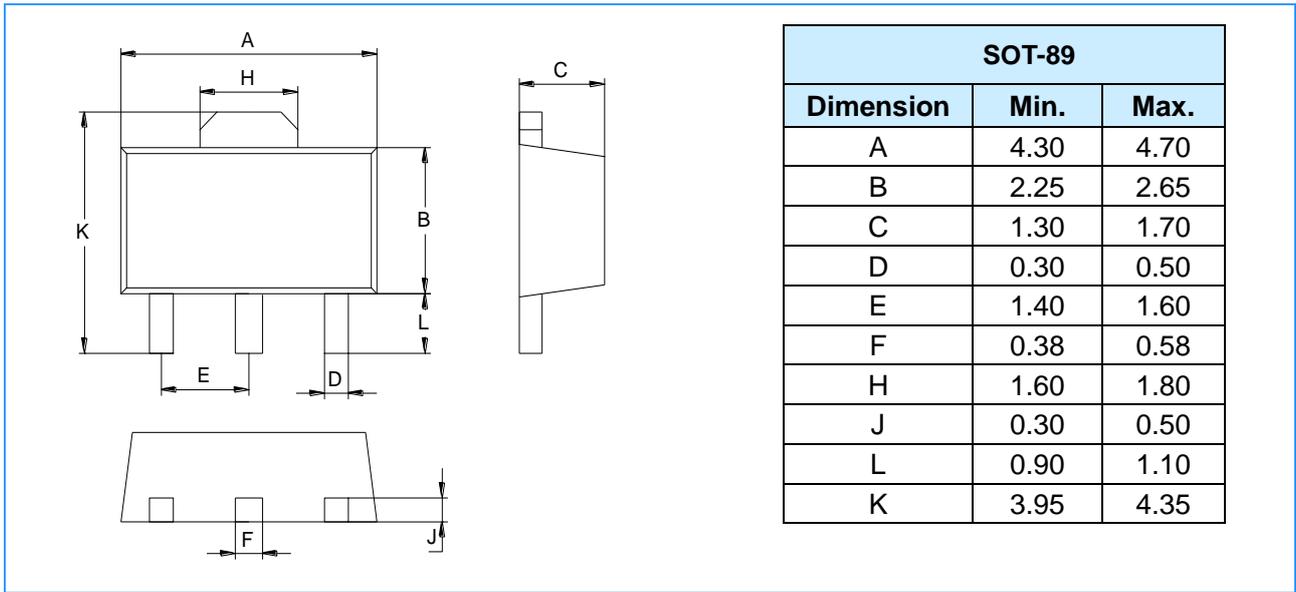


Fig 7  $C_j$  vs.  $V_R$

**Package Outline Dimensions** (Unit: mm)



**Mounting Pad Layout** (Unit: mm)

