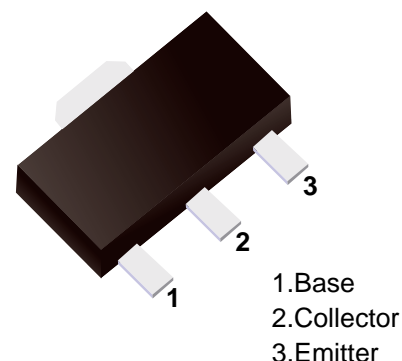


## PNP Transistors

### ■ Features

- Low  $V_{CE(sat)}$
- Compliments to 2SD1664



■ Simplified outline(SOT-89)

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-32	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current (DC) Single pulse, $P_w=100\text{ms}$	$I_c$	-1	A
		-2	A
Collector Power Dissipation	$P_c$ *	0.5	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* When mounted on a 40x40x0.7mm ceramic board.

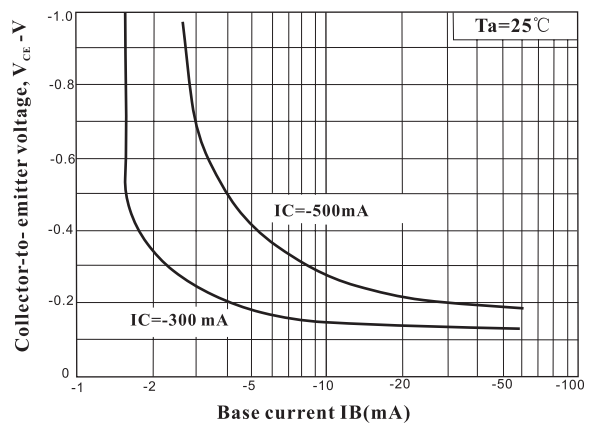
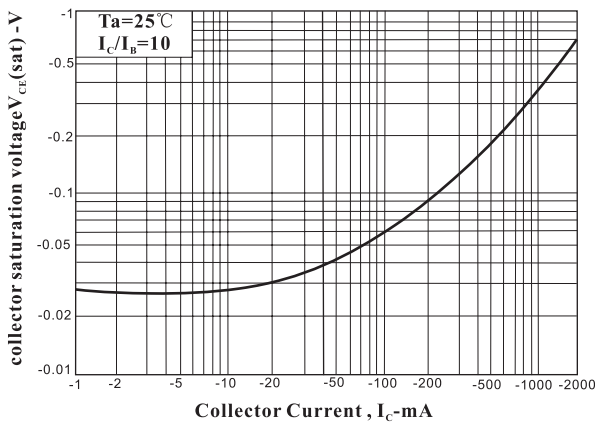
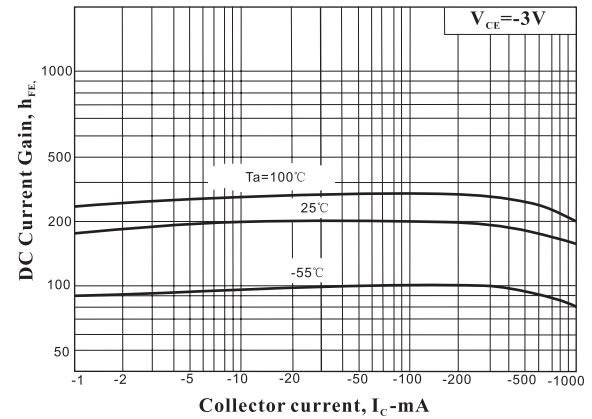
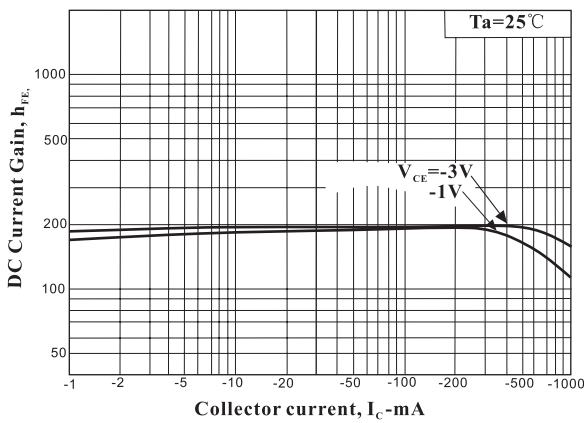
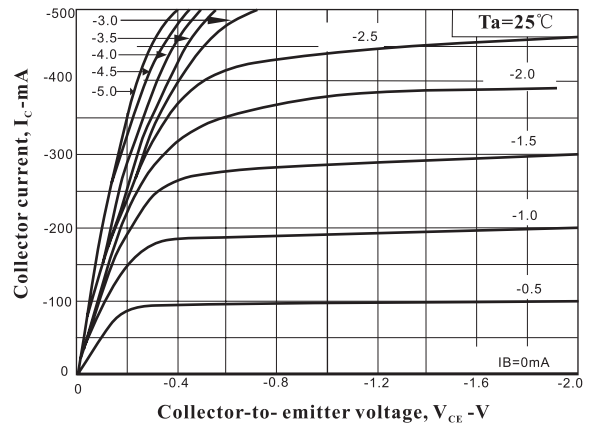
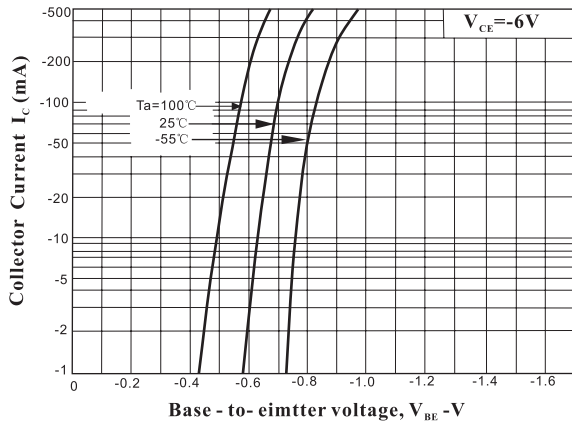
### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_c = -50\mu\text{A}, I_E = 0$	-40			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_c = -1\text{ mA}, I_B = 0$	-32			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = -50\mu\text{A}, I_c = 0$	-5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -20\text{ V}, I_E = 0$			-0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{ V}, I_c = 0$			-0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -500\text{ mA}, I_B = -50\text{ mA}$		-0.2	-0.5	V
DC current gain	$h_{FE}$	$V_{CE} = -3\text{ V}, I_c = -0.1\text{ A}$	82		390	
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0\text{ mA}, f = 1\text{ MHz}$		20	30	$\text{pF}$
Transition frequency	$f_T$	$V_{CE} = -5\text{ V}, I_E = 50\text{ mA}, f = 30\text{ MHz}$		150		$\text{MHz}$

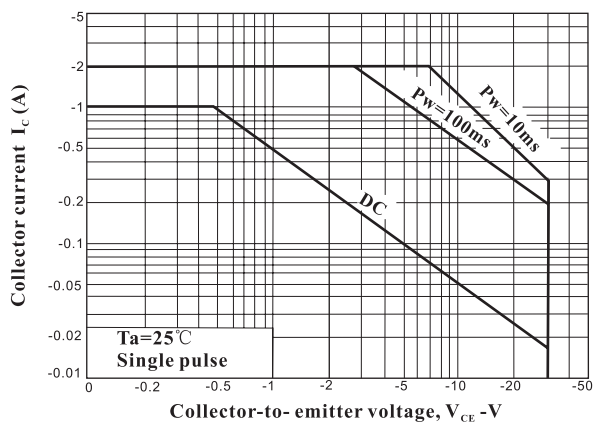
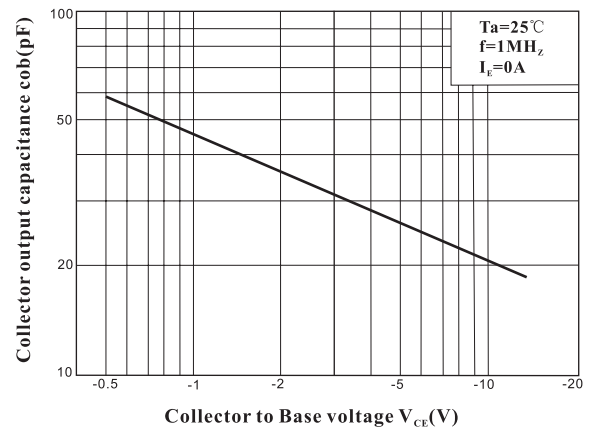
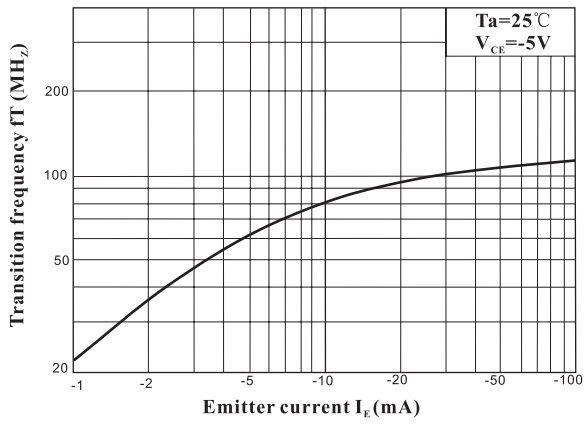
### ■ $h_{FE}$ Classification

Type	2SB1132-P	2SB1132-Q	2SB1132-R
Range	82-180	120-270	180-390
Marking	BAP*	BAQ*	BAR*

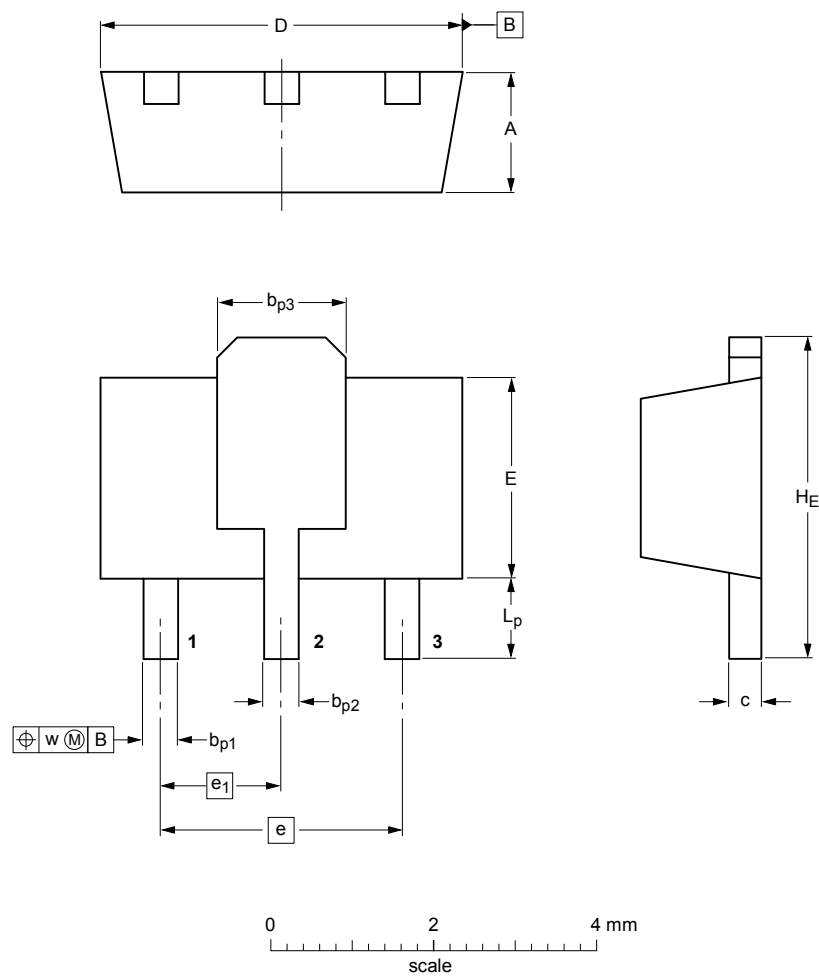
## ■ Typical Characteristics



## ■ Typical Characteristics



■ SOT-89



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	$b_{p1}$	$b_{p2}$	$b_{p3}$	c	D	E	e	$e_1$	$H_E$	$L_p$	w
mm	1.6	0.48	0.53	1.8	0.44	4.6	2.6	3.0	1.5	4.25	1.2	0.13
	1.4	0.35	0.40	1.4	0.23	4.4	2.4			3.75	0.8	