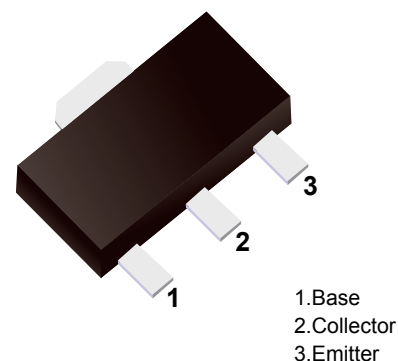


NPN Transistors

■ Features

- Low $V_{CE(sat)}$
- Compliments to 2SB1132



■ 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) $P_w=20\text{ms, duty}=1/2$	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	$^\circ\text{C}$

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

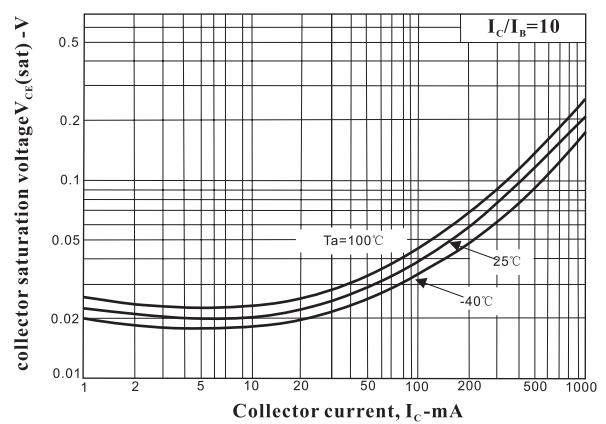
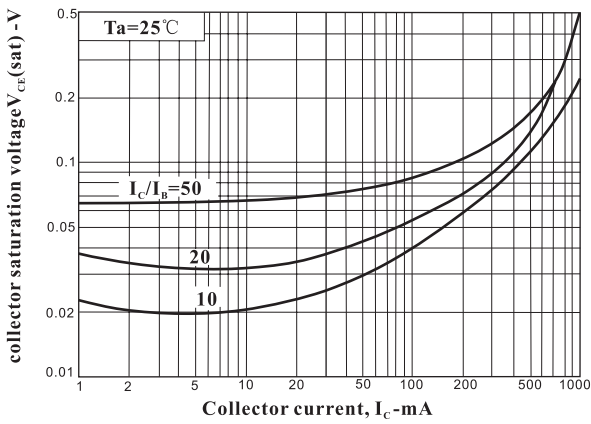
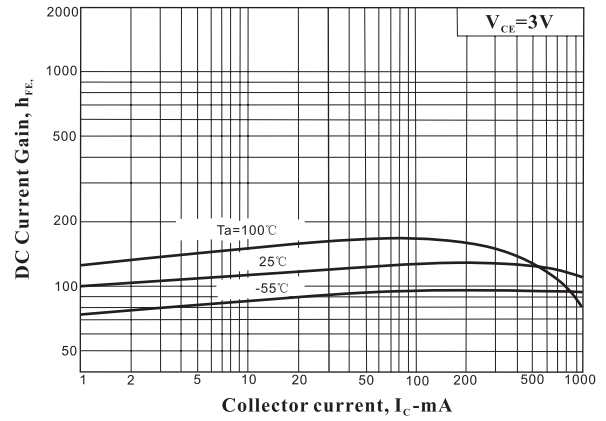
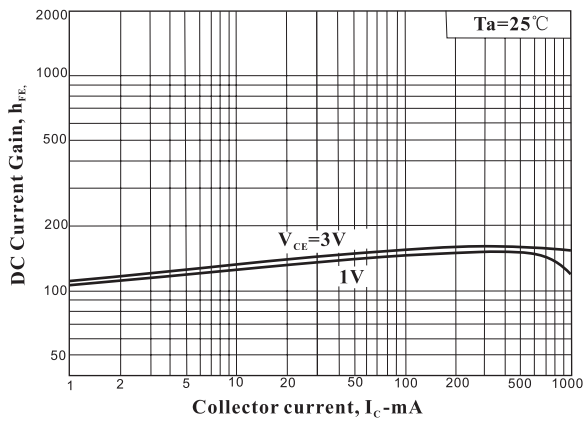
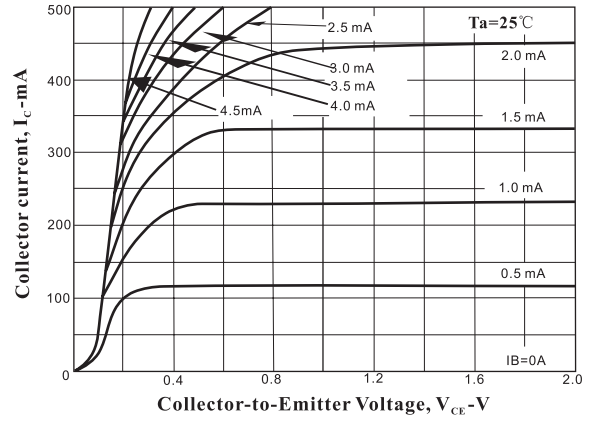
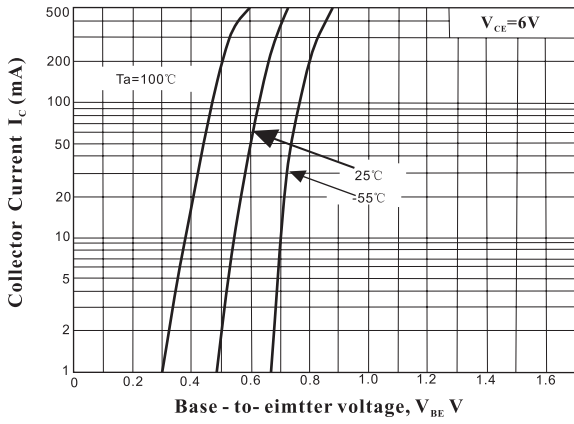
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

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}	$I_E = 50 \mu\text{A}$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 20 \text{V}, I_E = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4 \text{V}, I_C = 0$			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 500 \text{mA}, I_B = 50 \text{mA}$		0.15	0.4	V
DC current gain	h_{FE}	$V_{CE} = 3 \text{V}, I_c = 100 \text{mA}$	82		390	
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		15		pF
Transition frequency	f_T	$V_{CE} = 5 \text{V}, I_c = -50 \text{mA}, f = 100 \text{MHz}$		150		MHz

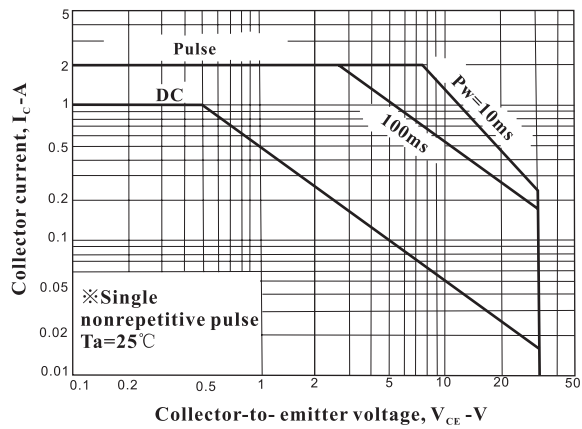
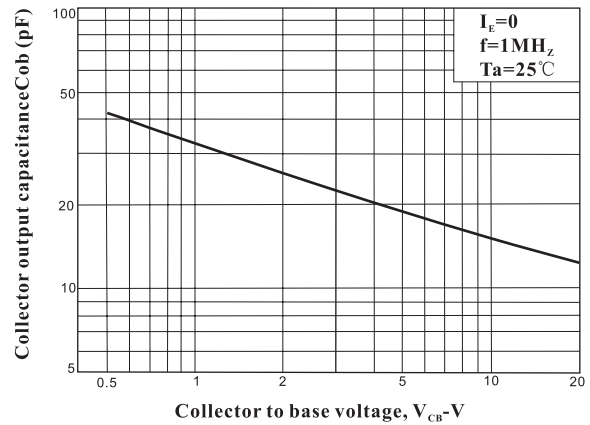
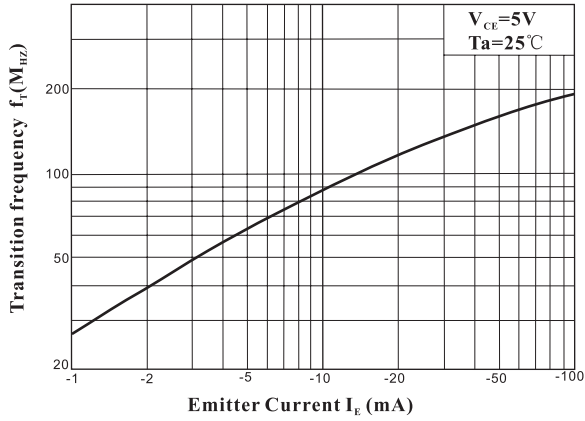
■ hFE Classification

Type	2SD1664-P	2SD1664-Q	2SD1664-R
Range	82-180	120-270	180-390
Marking	DAP*	DAQ*	DAR*

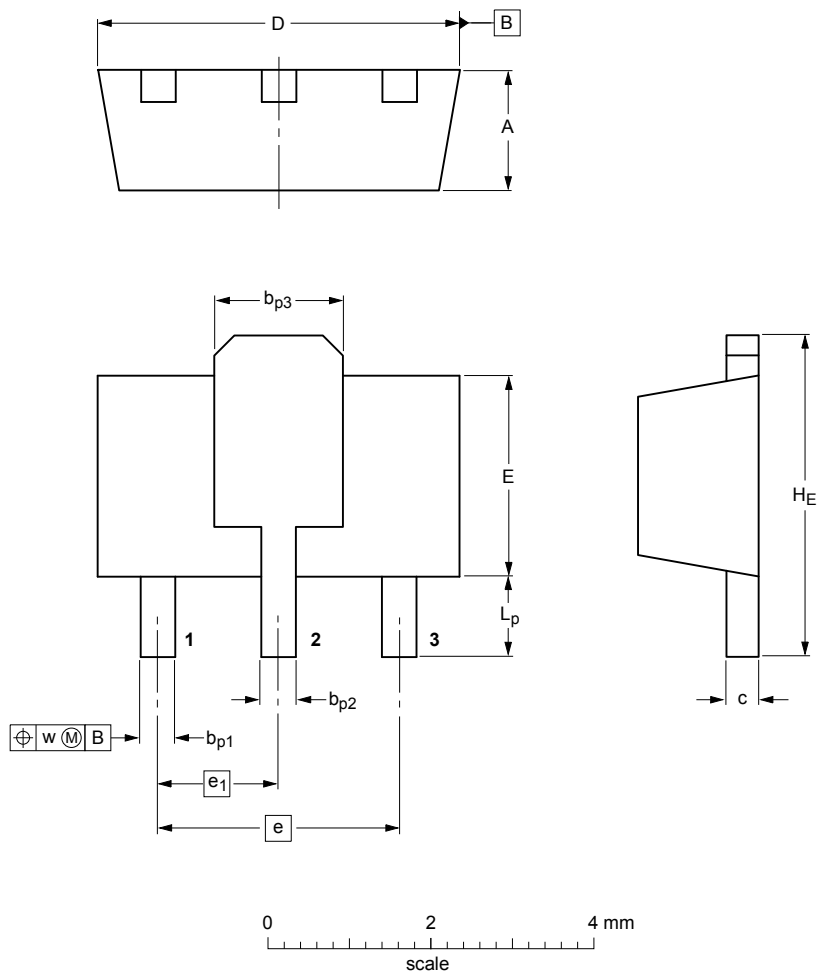
■ Typical Characteristics



■ 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					

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [SLKORMICRO manufacturer](#):

Other Similar products are found below :

[BC559C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [IMX9T110](#) [2N4401-A](#) [2N4403](#) [2N6728](#)
[2SA1419T-TD-H](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SC4618TLN](#) [CPH6501-](#)
[TL-E](#) [MCH4021-TL-E](#) [Jantx2N5416](#) [US6T6TR](#) [BAX18/A52R](#) [BC556/112](#) [IMZ2AT108](#) [MMST8098T146](#) [UMX21NTR](#) [MCH6102-TL-E](#)
[TTA1452B,S4X\(S](#) [2N3879](#) [NTE13](#) [NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [JANTX2N2920L](#) [JANTX2N3735](#) [JANSR2N2222AUB](#)
[CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#)
[MMDT3946FL3-7](#) [2N4240](#) [MSB30KH-13](#) [2N2221AUB](#) [2SD1815T-TL-E](#)