

**DESCRIPTION**

The 2SB1188-Q & 2SB1188-R are available in the SOT-89 package.

APPLICATIONS

Switching and amplifying in various electrical and electronic circuits.

ORDERING INFORMATION

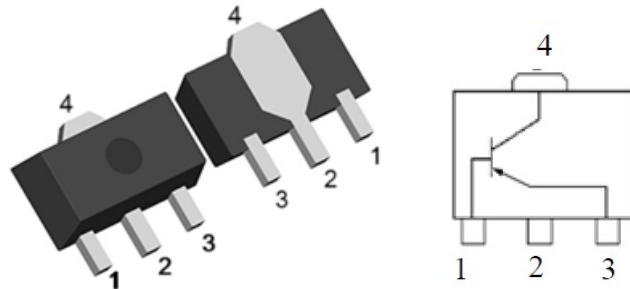
Package Type	Part Number
SOT-89	2SB1188-Q
	2SB1188-R
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

 h_{FE} CLASSIFICATION

Rank	Range
Q	120 ~ 270
R	180 ~ 390

FEATURE

- Low $V_{CE(sat)}$
 $V_{CE(sat)} = -0.5V$ (Typ) ($I_C/I_B = -2A/-0.2A$)
- Epitaxial planar type

PIN DESCRIPTION

SOT-89

PIN#	DESCRIPTION
1	Base
2,4	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^\circ C$, unless otherwise specified.

V_{CBO} , Collector to Base Voltage	-40 V
V_{CEO} , Collector to Emitter Voltage	-25 V
V_{EBO} , Emitter to Base Voltage	-6 V
I_C , Collector Current-Continuous	-1.5 A
P_{tot} , Total Power Dissipation ($T_A = 25^\circ C$)	1 W
T_J , Junction Temperature	150 $^\circ C$
T_{stg} , Storage Temperature	-55 ~ +150 $^\circ C$

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



ELECTRICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbols	Conditions		Min.	Typ.	Max.	Unit
Collector Emitter Breakdown voltage	$V_{(BR)CEO}$	$I_C = -2\text{ mA},$ $I_B = 0$		-25	-	-	V
Collector Base Breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\text{ }\mu\text{A},$ $I_E = 0$		-40	-	-	V
Emitter Base Breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\text{ }\mu\text{A},$ $I_C = 0$		-6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35\text{ V},$ $I_E = 0$		-	-	-100	nA
DC Current gain	h_{FE}	$V_{CE} = -1\text{ V},$ $I_C = -100\text{ mA}$	Q	120	-	270	-
			R	180	-	390	
Collector Saturation Voltage	$V_{CE(sat)}$	$I_C = -800\text{ mA},$ $I_B = -80\text{ mA},$		-	-	-0.5	V
Gain band width product	f_r	$V_{CE} = 10\text{ V},$ $I_E = 50\text{ mA}$ $f = 100\text{ MHz}$		200	-	-	MHz



TYPICAL CHARACTERISTICS

Fig 1. Grounded Emitter Output Characteristics

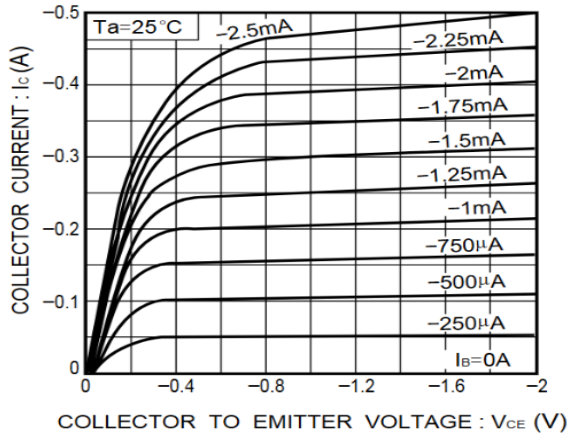


Fig 2. DC Current Gain vs. Collector Current

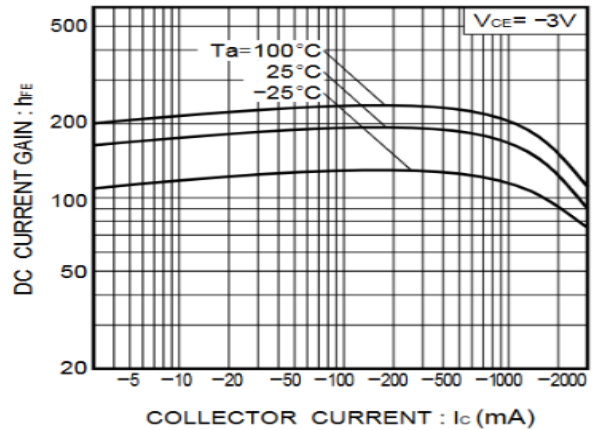


Fig 3. Grounded Emitter Propagation Characteristics

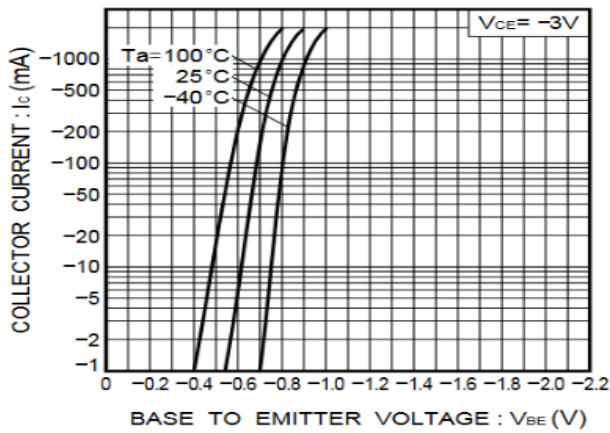


Fig 4. Collector Emitter Saturation Voltage vs. Collector current

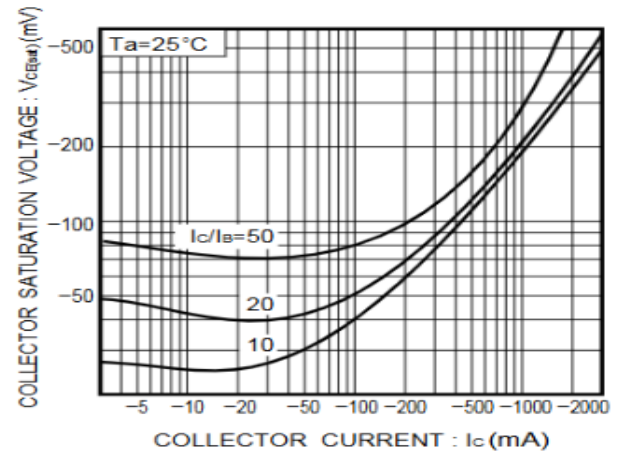


Fig 5. Gain Bandwidth Product vs. Emitter current

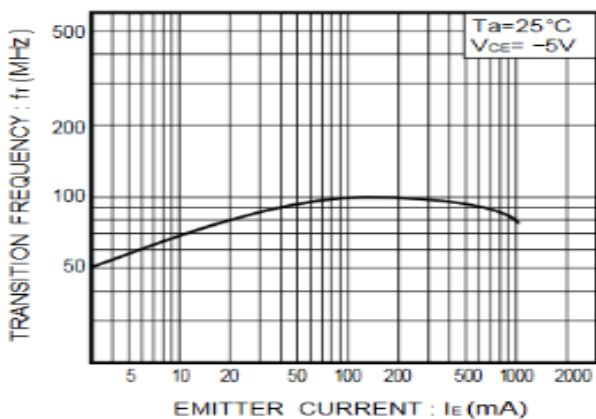
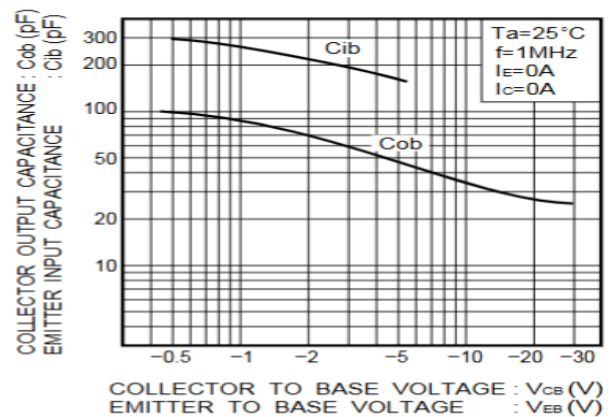


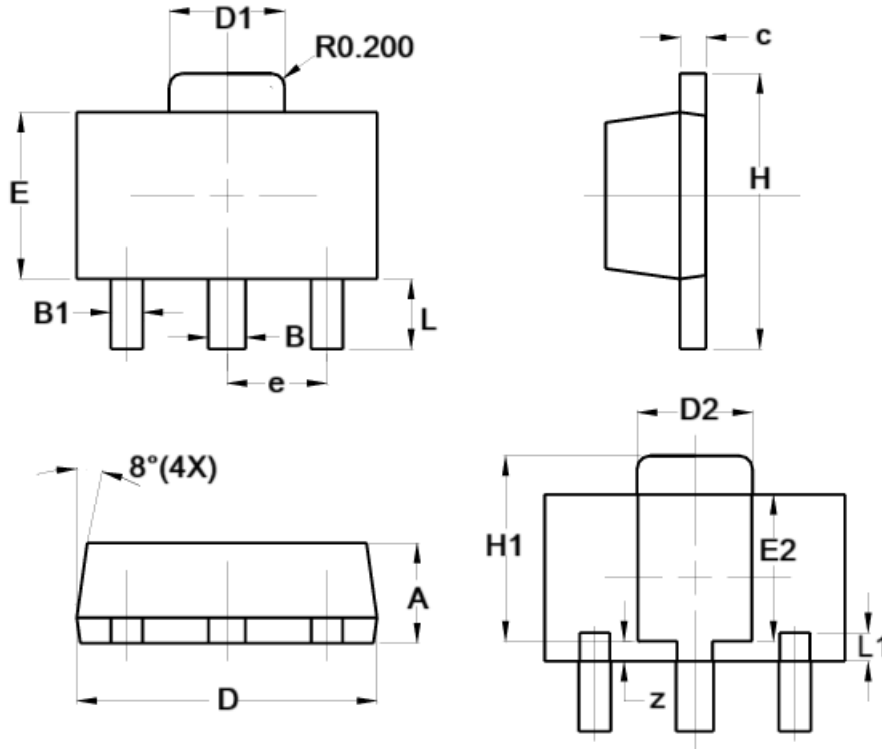
Fig 6. Collector Output Capacitance





PACKAGE INFORMATION

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400

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