

**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**

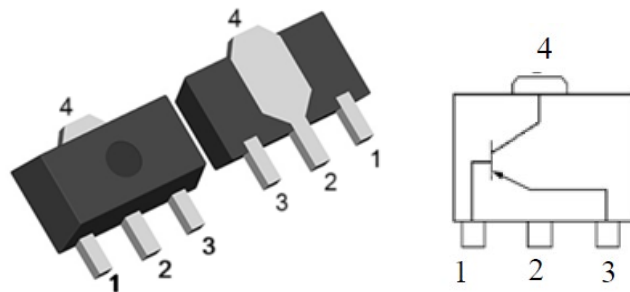
Package Type	Part Number
SOT-89	2SB1188-Q
	2SB1188-R
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

**h<sub>FE</sub> 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 °C
$T_{stg}$ , Storage Temperature	-55 ~ +150 °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	$V_{(BR)CBO}$	$I_C = -100\ \mu\text{A},$ $I_E = 0$	-40	-	-	V	
Emitter Base Breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\ \mu\text{A},$ $I_C = 0$	-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	$f_T$	$V_{CE} = 10\text{ V},$ $I_E = 50\text{ mA}$ $f = 100\text{ MHz}$	200	-	-	MHz	



### TYPICAL CHARACTERISTICS

Fig 1. Grounded Emitter Output Characteristics

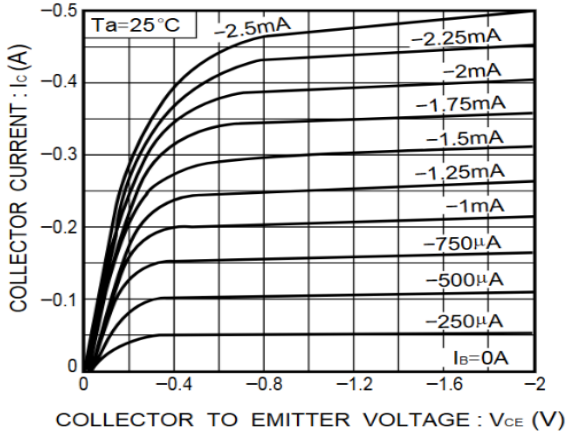


Fig 3. Grounded Emitter Propagation Characteristics

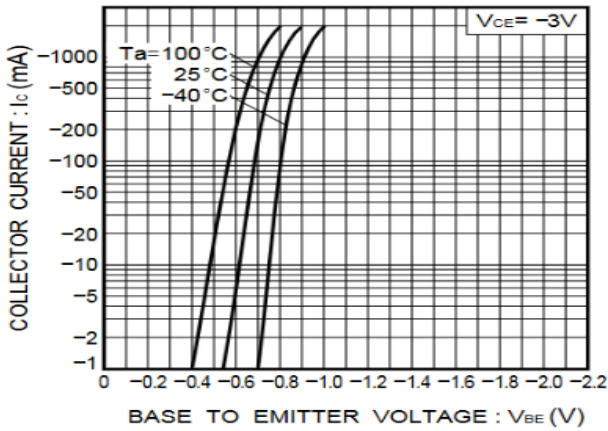


Fig 5. Gain Bandwidth Product vs. Emitter current

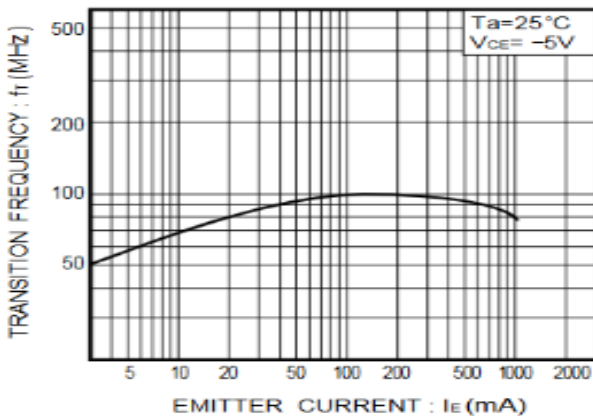


Fig 2. DC Current Gain vs. Collector Current

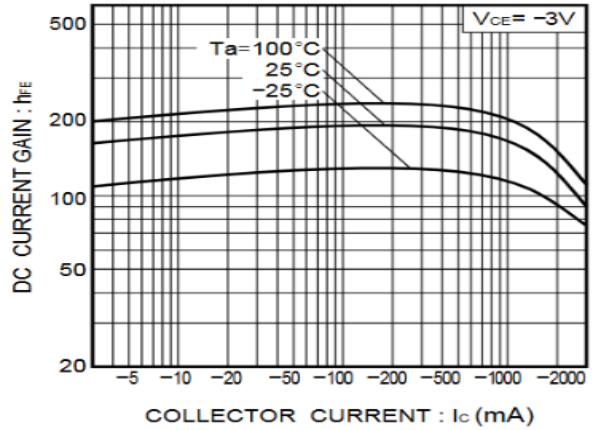


Fig 4. Collector Emitter Saturation Voltage vs. Collector current

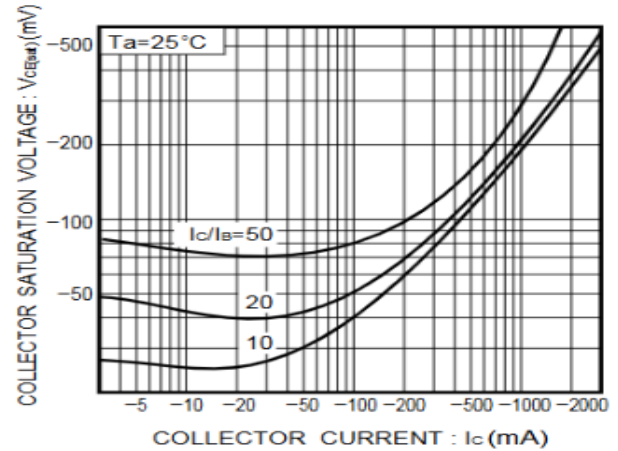
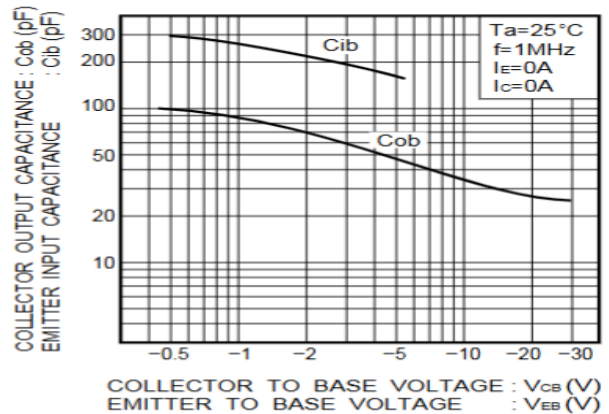


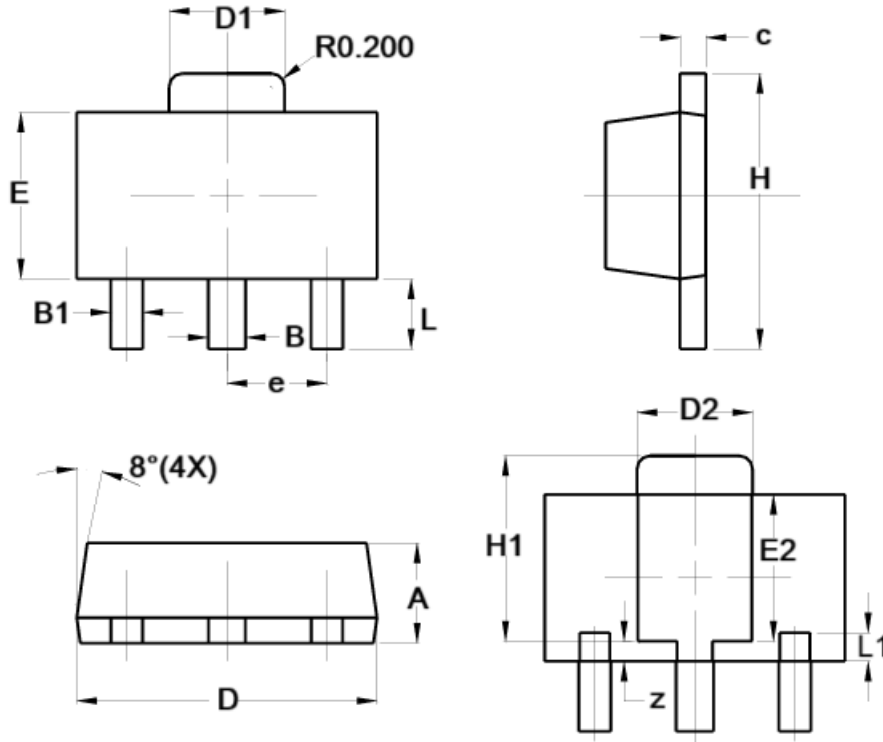
Fig 6. Collector Output Capacitance





**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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