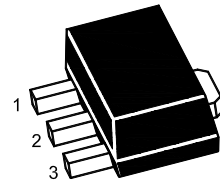


# ST 2SB1188U

## PNP Silicon Epitaxial Planar Transistor

Medium power transistor



1.Base 2.Collector 3.Emitter  
SOT-89 Plastic Package

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

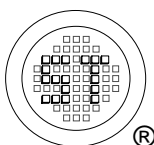
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	32	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current - DC	$-I_C$	2	A
Collector Current - Pulse <sup>1)</sup>	$-I_{CP}$	3 <sup>1)</sup>	A
Collector Power Dissipation	$P_C$	0.5 2 <sup>2)</sup>	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{Stg}$	- 55 to + 150	$^\circ\text{C}$

<sup>1)</sup> Single pulse,  $P_W = 100\text{ ms}$ .

<sup>2)</sup> When mounted on a 40 X 40 X 0.7 mm ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $-V_{CE} = 3\text{ V}$ , $-I_C = 500\text{ mA}$	Current Gain Group P	$h_{FE}$	82	-	180	-
	Q	$h_{FE}$	120	-	270	-
	R	$h_{FE}$	180	-	390	-
Collector Cutoff Current at $-V_{CB} = 20\text{ V}$	$-I_{CBO}$	-	-	1	$\mu\text{A}$	
Emitter Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	1	$\mu\text{A}$	
Collector Base Breakdown Voltage at $-I_C = 50\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	-	V	
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	32	-	-	V	
Emitter Base Breakdown Voltage at $-I_E = 50\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V	
Collector Emitter Saturation Voltage at $-I_C = 2\text{ A}$ , $-I_B = 200\text{ mA}$	$-V_{CE(sat)}$	-	-	0.8	V	
Transition Frequency at $-V_{CE} = 5\text{ V}$ , $I_E = 0.5\text{ A}$ , $f = 100\text{ MHz}$	$f_T$	-	100	-	MHz	
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$	$C_{ob}$	-	50	-	pF	



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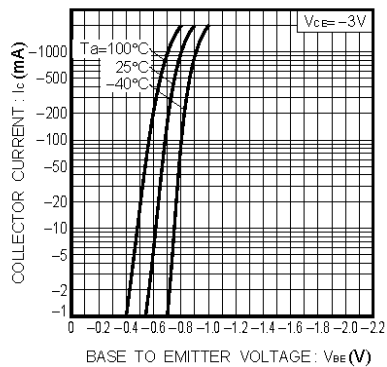


Fig.1 Grounded emitter propagation characteristics

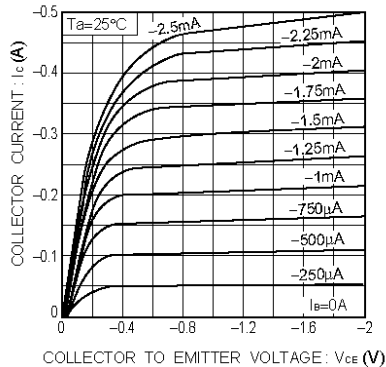


Fig.2 Grounded emitter output characteristics

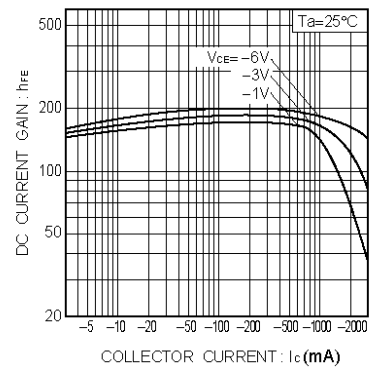


Fig.3 DC current gain vs. collector current (I)

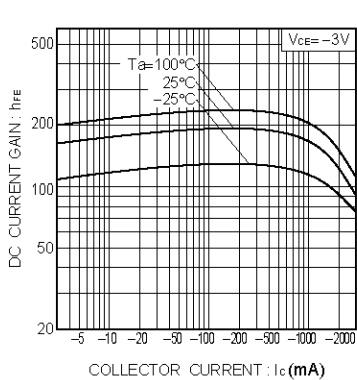


Fig.4 DC current gain vs. collector current (II)

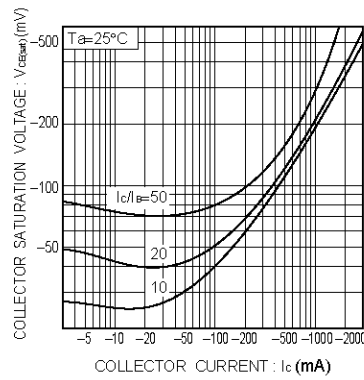


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

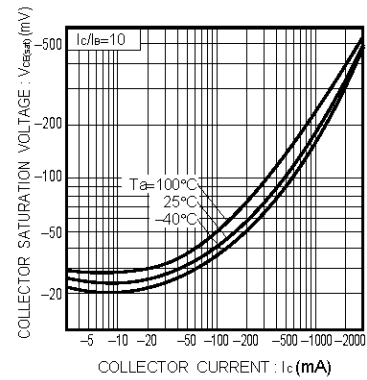


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

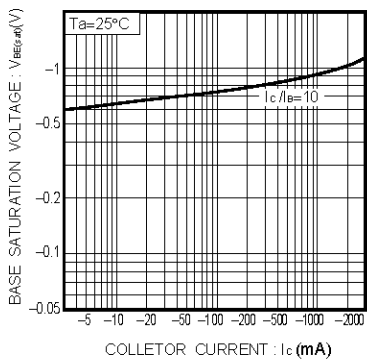


Fig.7 Base-emitter saturation voltage vs. collector current

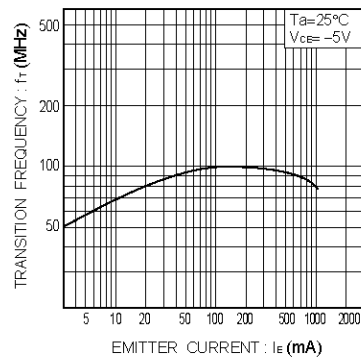


Fig.8 Gain bandwidth product vs. emitter current

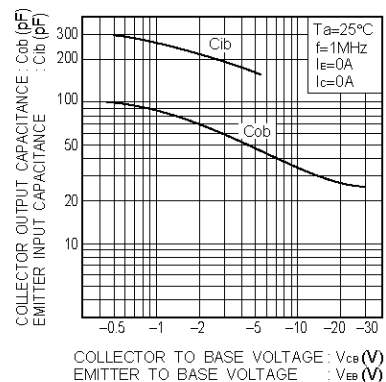
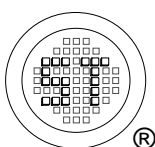
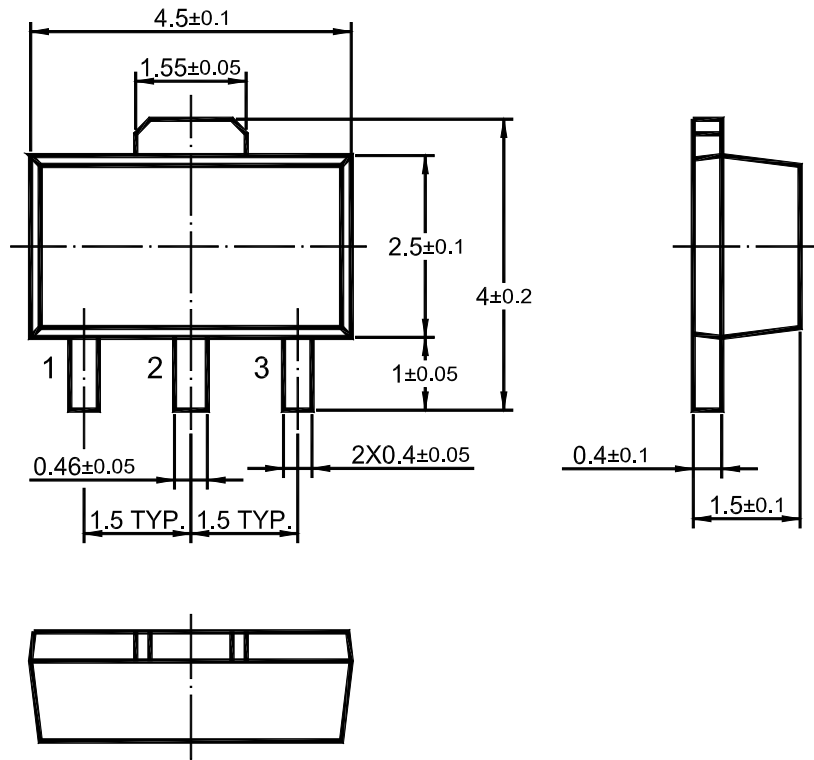


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

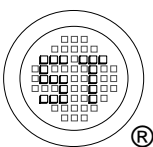


# ST 2SB1188U

## SOT-89 PACKAGE OUTLINE



Dimensions in mm



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