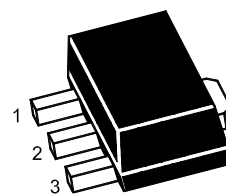


# ST 2SB1132U

## PNP SILICON EPITAXIAL 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	$-I_C$	1	A
Collector Current - Pulse <sup>1)</sup>	$-I_{CP}$	2	A
Total Power Dissipation	$P_{tot}$	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, PW = 100 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 $-V_{CE} = 3\text{ V}$ , $-I_C = 100\text{ mA}$ Current Gain Group	P	$h_{FE}$	82	-	180	-
	Q	$h_{FE}$	120	-	270	-
	R	$h_{FE}$	180	-	390	-
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 Cutoff Current at $-V_{CB} = 20\text{ V}$	$-I_{CBO}$	-	-	0.5	$\mu\text{A}$	
Emitter Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	0.5	$\mu\text{A}$	
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	-	0.5	V	
Transition Frequency at $I_E = 50\text{ mA}$ , $-V_{CE} = 5\text{ V}$ , $f = 30\text{ MHz}$	$f_T$	-	150	-	MHz	
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	30	pF	

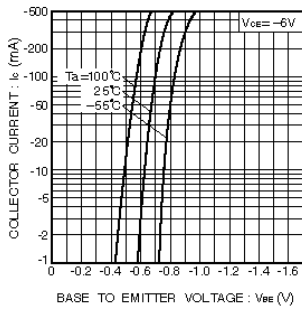


Fig. 1 Grounded emitter propagation characteristics

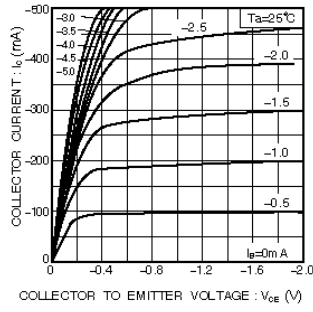


Fig. 2 Grounded emitter output characteristics

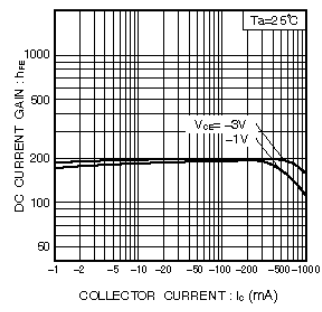


Fig. 3 DC current gain vs. collector current(I)

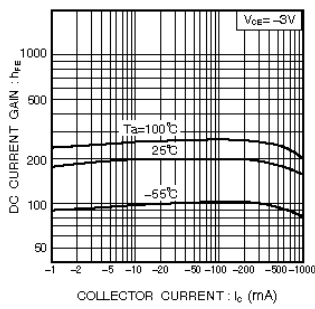


Fig. 4 DC current gain vs. collector current(II)

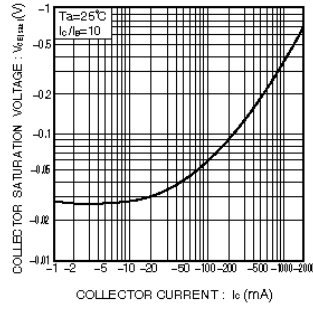


Fig. 5 Collector-emitter saturation voltage vs. collector current

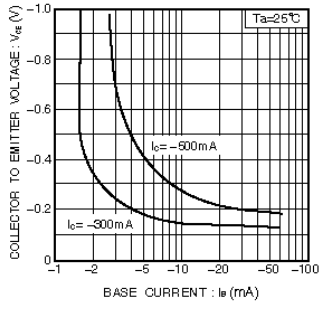


Fig. 6 Collector-emitter saturation voltage vs. base current

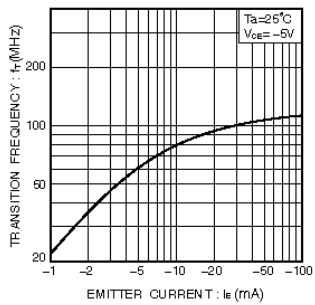


Fig. 7 Gain bandwidth product vs. emitter current

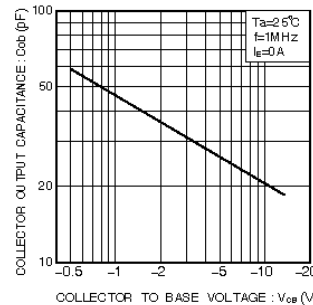


Fig. 8 Collector output capacitance vs. collector-base voltage

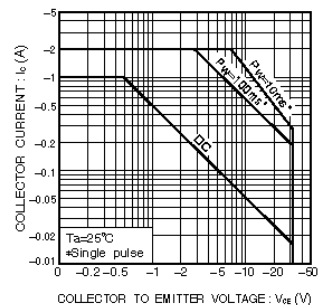


Fig. 9 Safe operation area

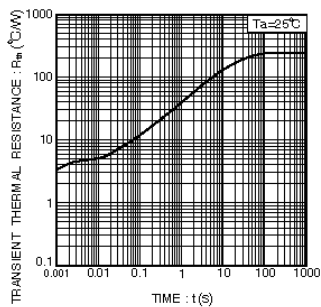
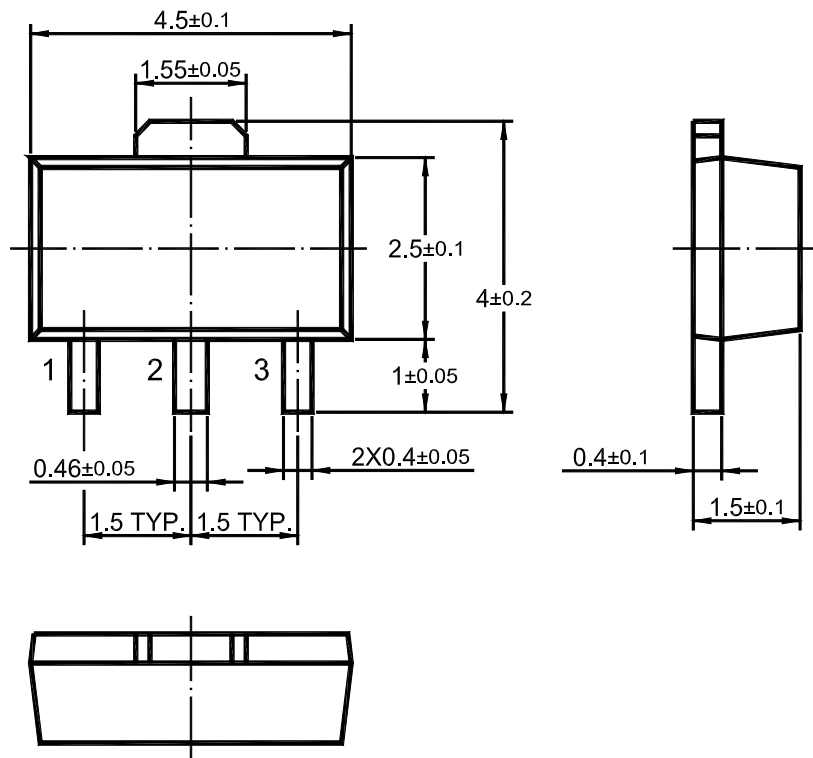


Fig. 10 Transient thermal resistance

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## SOT-89 PACKAGE OUTLINE



Dimensions in mm