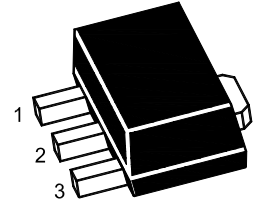


# 2SA1900U

## PNP Silicon Epitaxial Planar Transistor

Medium power transistor



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

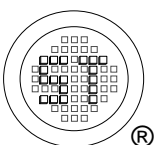
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Collector Current ( $P_w = 20$ ms)	$-I_{CP}$	2	A
Collector Power Dissipation	$P_C$	0.5 2 <sup>1)</sup>	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

<sup>1)</sup>When mounted on a 40 x 40 x 0.7 mm ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 3$ V, $-I_C = 500$ mA	$h_{FE}$	120	-	270	-
Collector Base Cutoff Current at $-V_{CB} = 40$ V	$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 4$ V	$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 50$ $\mu\text{A}$	$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 1$ mA	$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 50$ $\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 500$ mA, $-I_B = 50$ mA	$-V_{CE(sat)}$	-	-	0.4	V
Transition Frequency at $-V_{CE} = 5$ V, $I_E = 50$ mA, $f = 100$ MHz	$f_T$	-	150	-	MHz
Collector Output Capacitance at $-V_{CB} = 10$ V, $f = 1$ MHz	$C_{ob}$	-	20	-	pF



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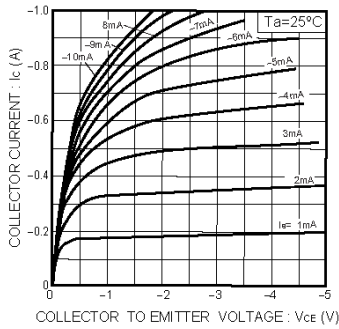


Fig.1 Grounded emitter output characteristics

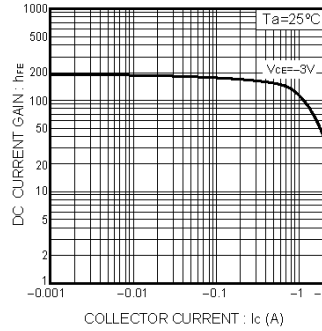


Fig.2 DC current gain vs. collector current

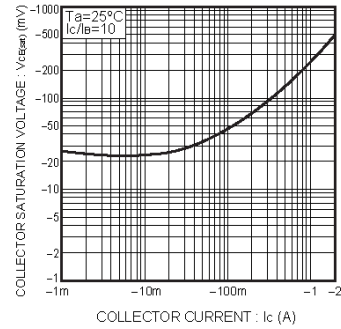


Fig.3 Collector-emitter saturation voltage vs. collector current

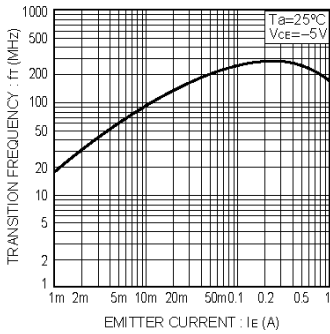


Fig.4 Gain bandwidth product vs. emitter current

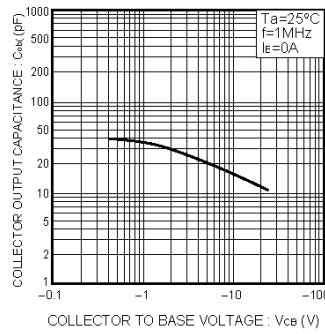


Fig.5 Collector output capacitance vs. collector-base voltage

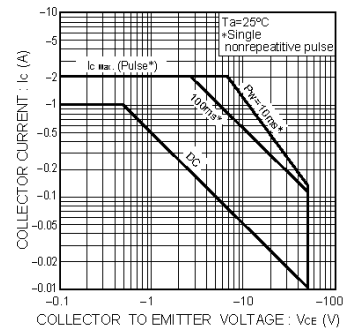
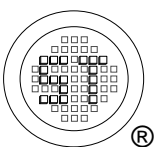


Fig.6 Safe operating area



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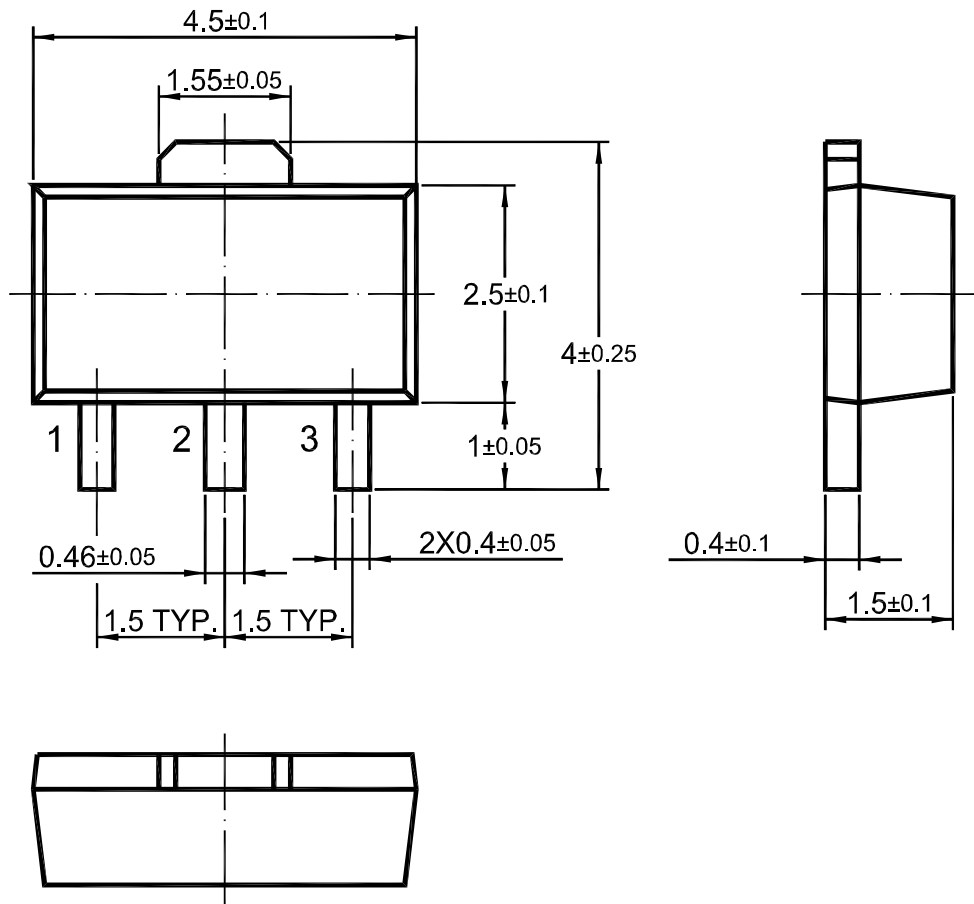
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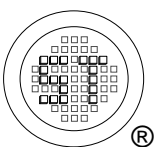
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## SOT-89 PACKAGE OUTLINE



Dimensions in mm



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