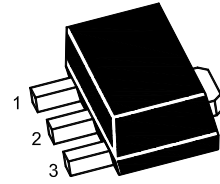


2SB1188U

PNP Silicon Epitaxial Planar Transistor

Medium power transistor



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

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

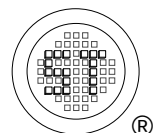
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{\text{CBO}}$	40	V
Collector Emitter Voltage	$-V_{\text{CEO}}$	32	V
Emitter Base Voltage	$-V_{\text{EBO}}$	5	V
Collector Current - DC	$-I_{\text{C}}$	2	A
Collector Current - Pulse ¹⁾	$-I_{\text{CP}}$	3 ¹⁾	A
Collector Power Dissipation	P_{C}	0.5 2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

¹⁾ Single pulse, $P_{\text{W}} = 100$ ms.

²⁾ 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 $-V_{\text{CE}} = 3 \text{ V}$, $-I_{\text{C}} = 500 \text{ mA}$	Current Gain Group P Q R	h_{FE}	82	-	180	-
		h_{FE}	120	-	270	-
		h_{FE}	180	-	390	-
Collector Cutoff Current at $-V_{\text{CB}} = 20 \text{ V}$	$-I_{\text{CBO}}$	-	-	1	μA	
Emitter Cutoff Current at $-V_{\text{EB}} = 4 \text{ V}$	$-I_{\text{EBO}}$	-	-	1	μA	
Collector Base Breakdown Voltage at $-I_{\text{C}} = 50 \mu\text{A}$	$-V_{(\text{BR})\text{CBO}}$	40	-	-	V	
Collector Emitter Breakdown Voltage at $-I_{\text{C}} = 1 \text{ mA}$	$-V_{(\text{BR})\text{CEO}}$	32	-	-	V	
Emitter Base Breakdown Voltage at $-I_{\text{E}} = 50 \mu\text{A}$	$-V_{(\text{BR})\text{EBO}}$	5	-	-	V	
Collector Emitter Saturation Voltage at $-I_{\text{C}} = 2 \text{ A}$, $-I_{\text{B}} = 200 \text{ mA}$	$-V_{\text{CE}(\text{sat})}$	-	-	0.8	V	
Transition Frequency at $-V_{\text{CE}} = 5 \text{ V}$, $I_{\text{E}} = 0.5 \text{ A}$, $f = 100 \text{ MHz}$	f_{T}	-	100	-	MHz	
Output Capacitance at $-V_{\text{CB}} = 10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$	C_{ob}	-	50	-	pF	



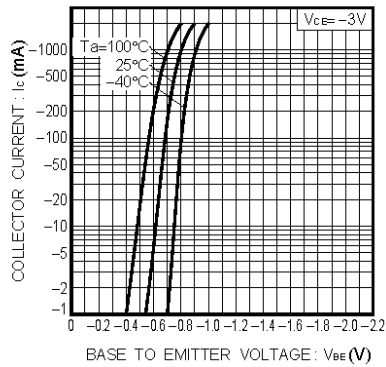


Fig.1 Grounded emitter propagation characteristics

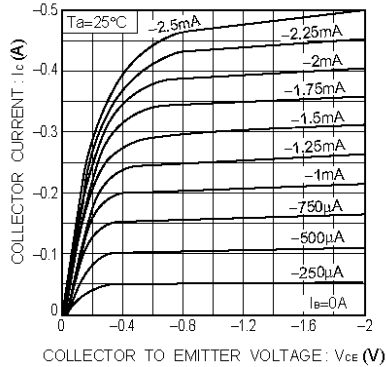


Fig.2 Grounded emitter output characteristics

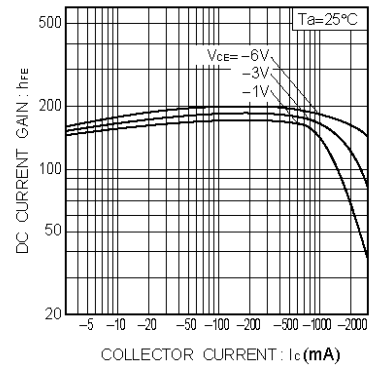


Fig.3 DC current gain vs. collector current (I)

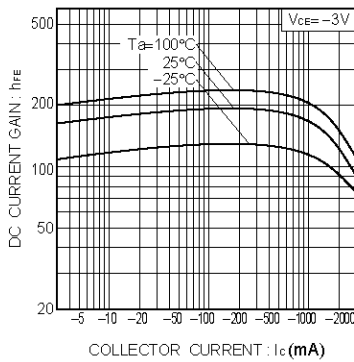


Fig.4 DC current gain vs. collector current (II)

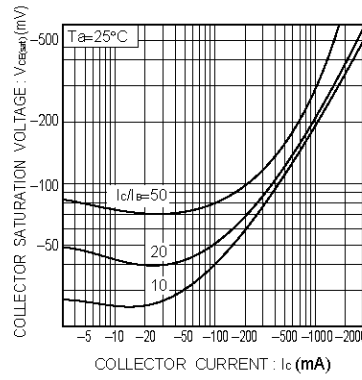


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

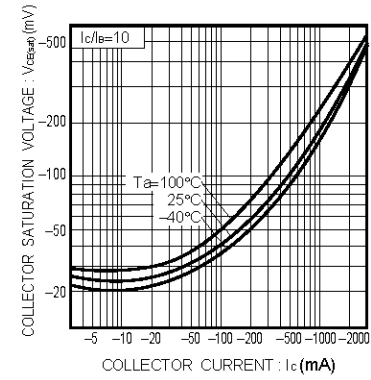


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

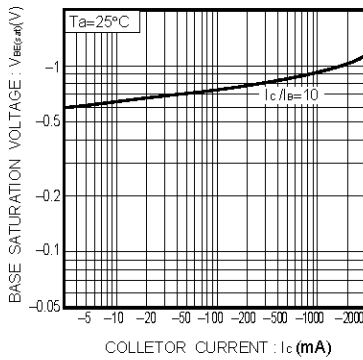


Fig.7 Base-emitter saturation voltage vs. collector current

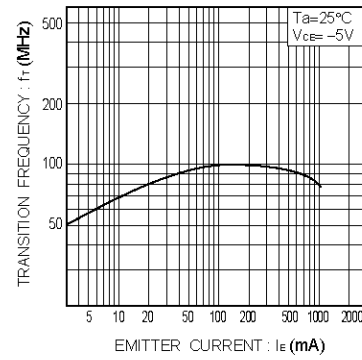


Fig.8 Gain bandwidth product vs. emitter current

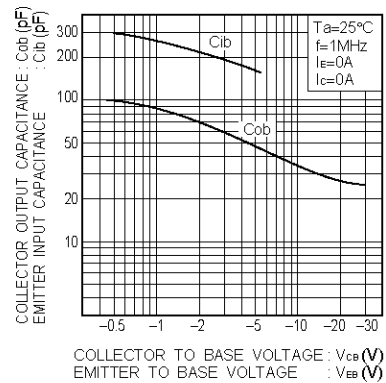
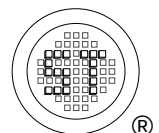
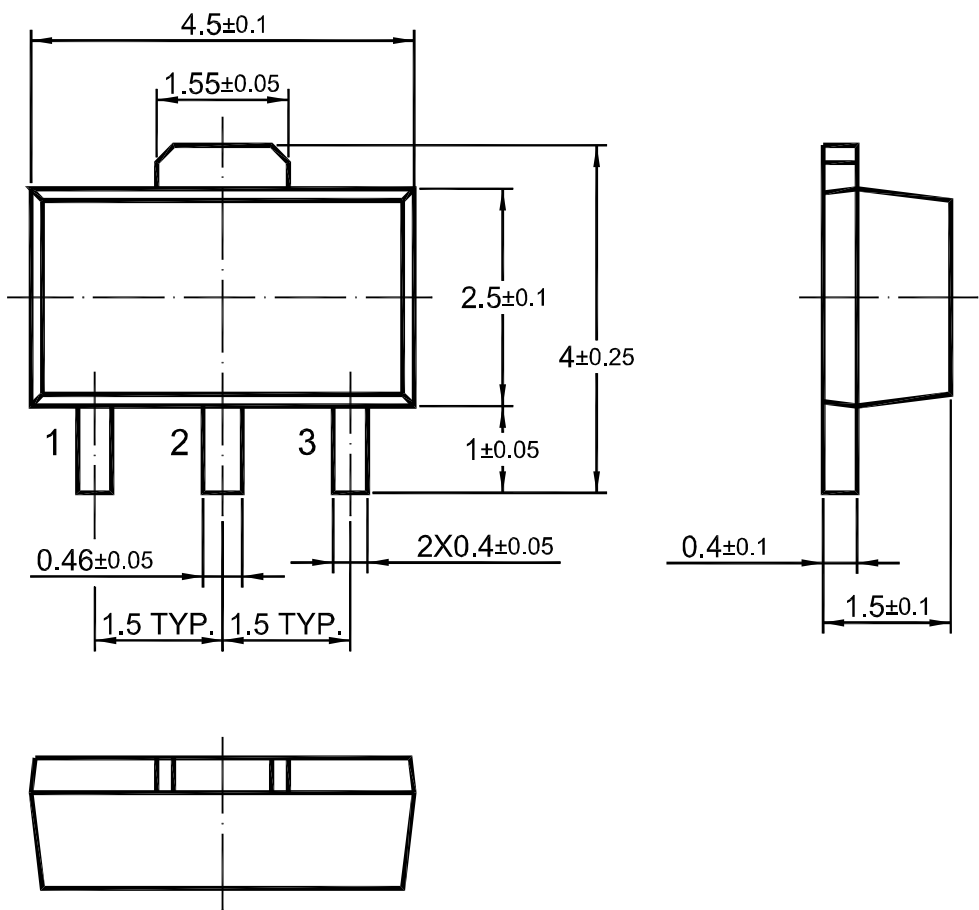


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage



2SB1188U

SOT-89 PACKAGE OUTLINE



Dimensions in mm

