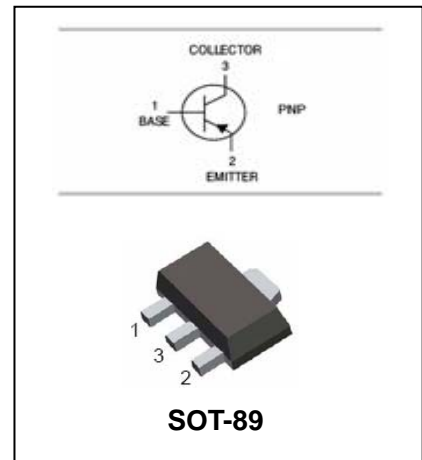


## Medium power transistor(-32V,-2A)

## 2SB1188

### FEATURES

- Low  $V_{CE(SAT)} = -0.5V$  (Typ.)  
( $I_C/I_B = -2A/-0.2A$ ).
- Complementary the 2SD1766.



### APPLICATIONS

- Epitaxial planar type NPN silicon transistor.

### ORDERING INFORMATION

Type No.	Marking	Package Code
2SB1188	BCP/BCQ/BCR	SOT-89

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-32	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -DC -Pulse	-2 -3	A
$P_C$	Collector power dissipation	500	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	°C

## Medium power transistor(-32V,-2A)

## 2SB1188

### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN		MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A$ $I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA$ $I_B = 0$	-32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A$ $I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -20V$ $I_E = 0$			-1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V$ $I_C = 0$			-1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -3V$ $I_C = -0.5A$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2A$ $I_B = -0.2mA$		-0.5	-0.8	V
Transition frequency	$f_T$	$V_{CE} = -5V$ $I_C = -0.5A$ , $f = 30MHz$		100		MHz
Output Capacitance	$C_{obo}$	$V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$		50		pF

### CLASSIFICATION $H_{FE}$

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BCP	BCQ	BCR

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

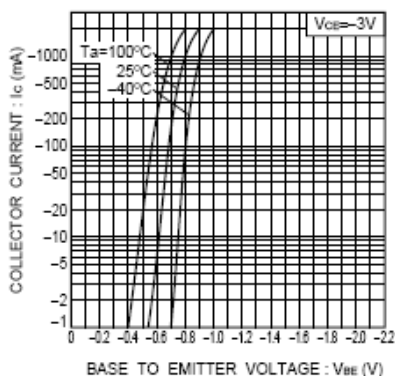


Fig.1 Grounded emitter propagation characteristics

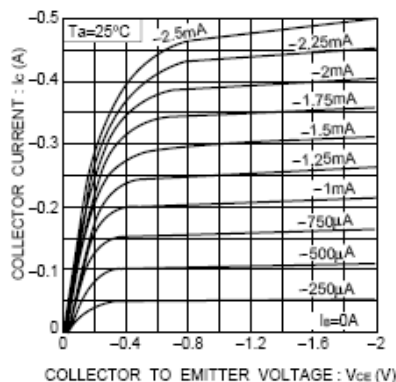


Fig.2 Grounded emitter output characteristics

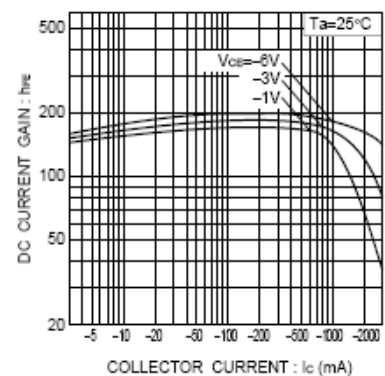


Fig.3 DC current gain vs. collector current ( I )

## Medium power transistor(-32V,-2A)

## 2SB1188

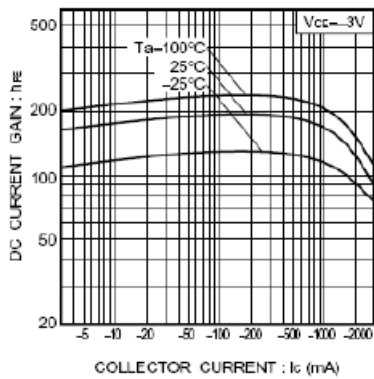


Fig.4 DC current gain vs. collector current ( I )

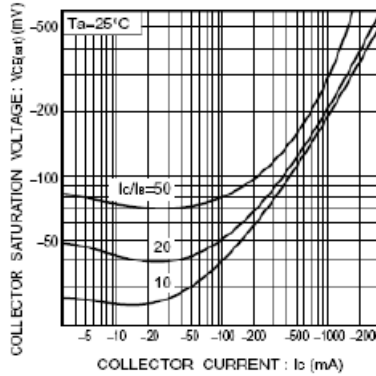


Fig.5 Collector-emitter saturation voltage vs. collector current ( I )

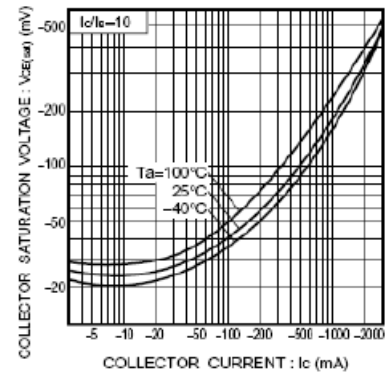


Fig.6 Collector-emitter saturation voltage vs. collector current ( II )

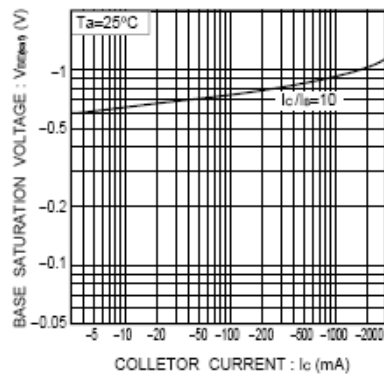


Fig.7 Base-emitter saturation voltage vs. collector current

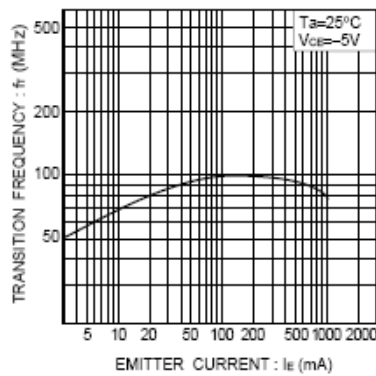


Fig.8 Gain bandwidth product vs. emitter current

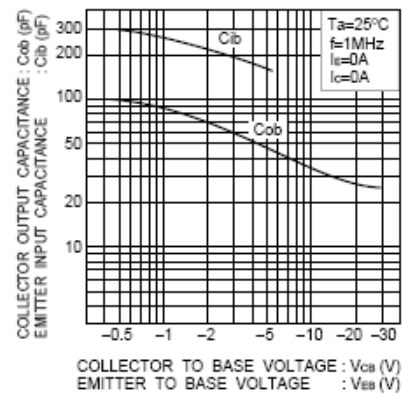


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

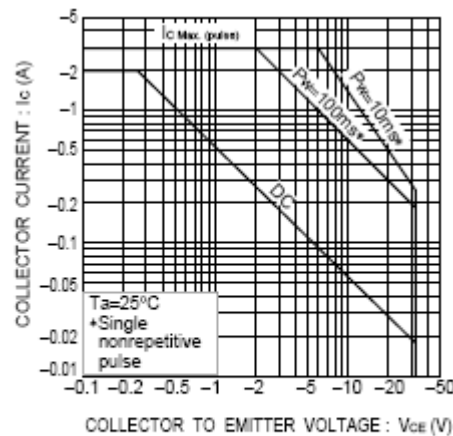


Fig.10 Safe operation area (2SB1188)

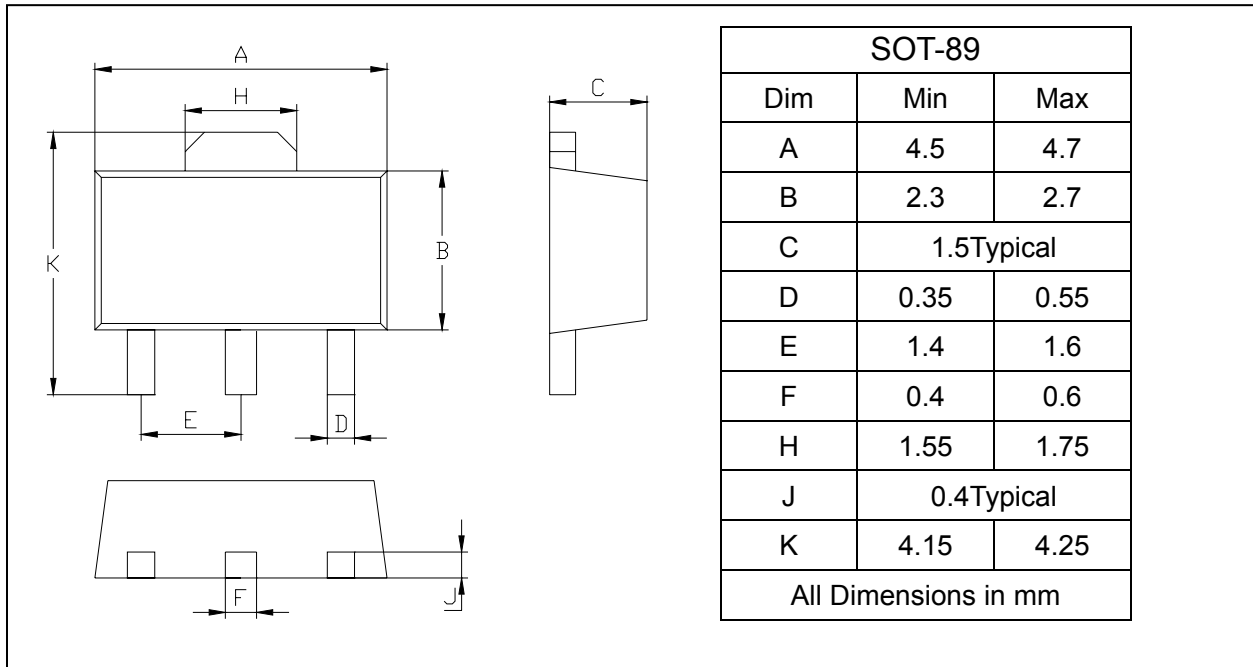
## Medium power transistor(-32V,-2A)

**2SB1188**

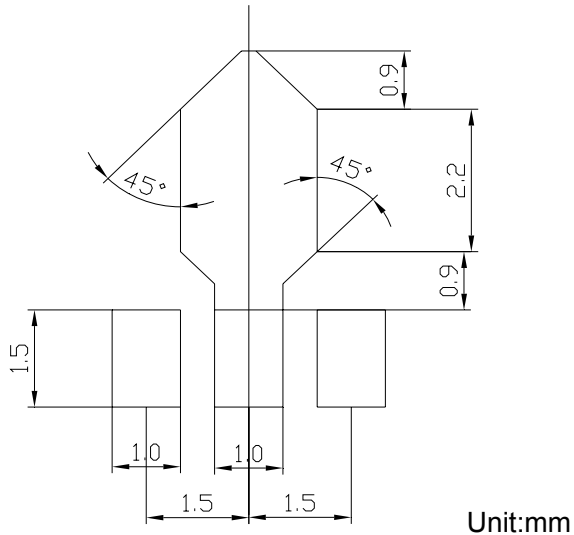
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
2SB1188	SOT-89	1000/Tape&Reel

[www.s-manuals.com](http://www.s-manuals.com)