

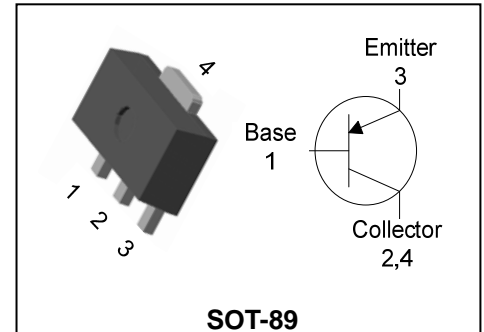
## Description

- Medium power amplifier

## Features

- $P_C$  (Collector power dissipation) = 1W  
(Ceramic substrate of  $250\text{ mm}^2 \times 0.8\text{t}$  used)
- Low collector saturation voltage :  $V_{CE(sat)} = -0.5\text{V}$  (Typ.)
- Complementary pair with STD1766

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
STB1188	B1 YWW	SOT-89

B1: Device code, YWW (Y : Year code, WW : Week code)

## Absolute maximum ratings

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

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	-40	V
Collector-Emitter voltage	$V_{CEO}$	-32	V
Emitter-Base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-2	A
Collector power dissipation	$P_C$	0.5	W
	$P_C^*$	1	
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$
Operating temperature range	$T_{opr}$	-40 ~ 125	$^\circ\text{C}$

\* : When mounted on ceramic substrate ( $250\text{ mm}^2 \times 0.8\text{t}$ )

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C = -50 \mu A, I_E = 0$	-40	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C = -1 mA, I_B = 0$	-32	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E = -50 \mu A, I_C = 0$	-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	$h_{FE}^*$	$V_{CE} = -3V, I_C = -0.1A$	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -200 mA$	-	-0.5	-0.8	V
Transition frequency	$f_T$	$V_{CB} = -5V, I_C = -500 mA,$ $f = 30 MHz$	-	150	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1 MHz$	-	50	-	pF

\* :  $h_{FE}$  rank / O : 100~200, Y : 160~320

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

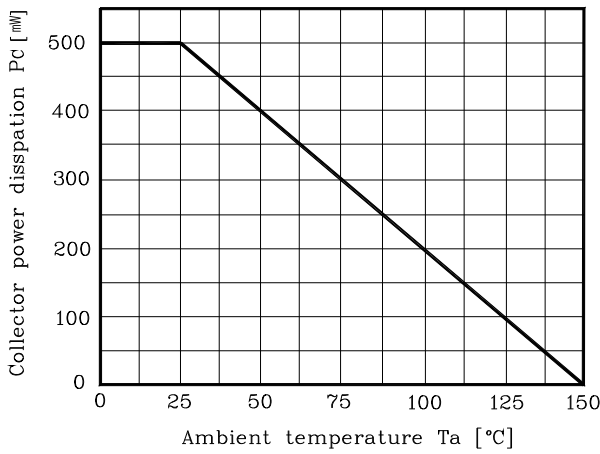


Fig. 2  $I_C - V_{BE}$

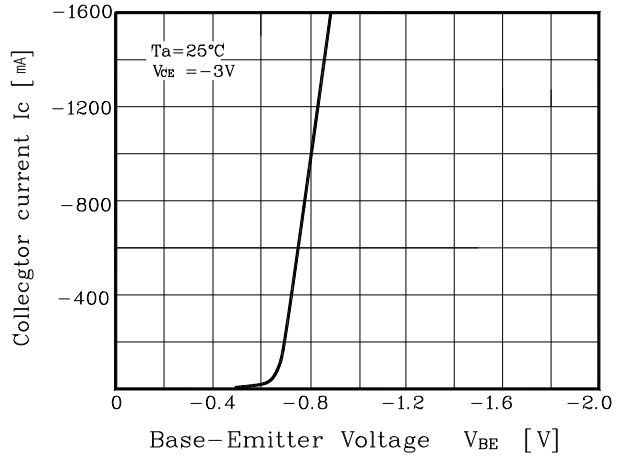


Fig. 3  $I_C - V_{CE}$

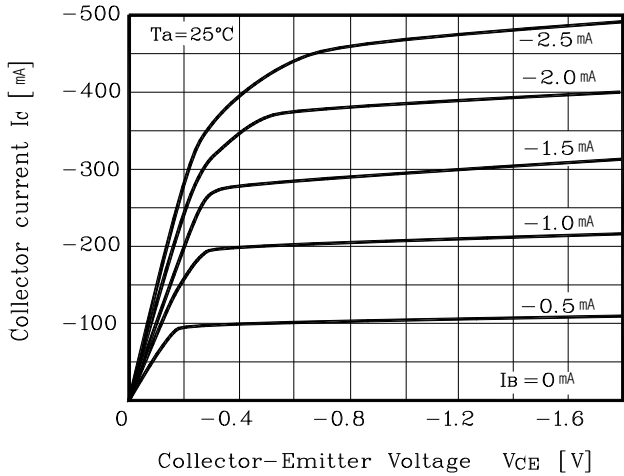


Fig. 4  $V_{CE(sat)} - I_C$

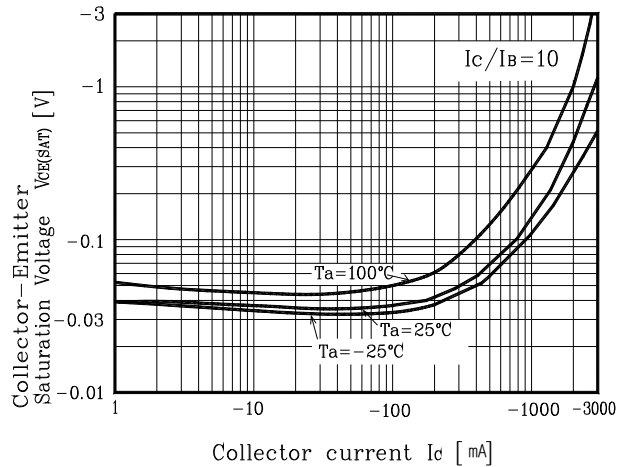


Fig. 5  $h_{FE} - I_C$

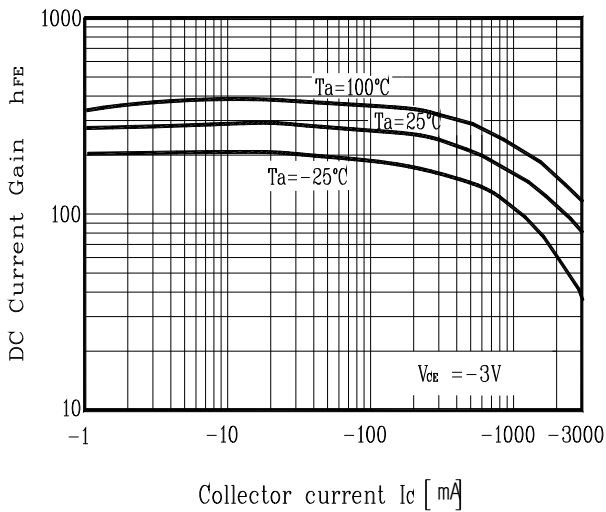
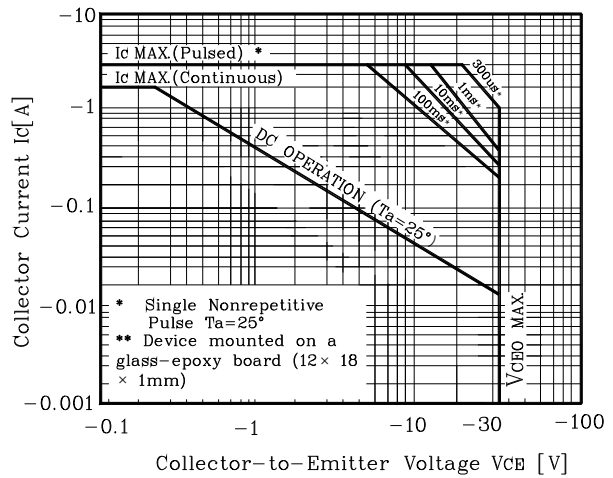
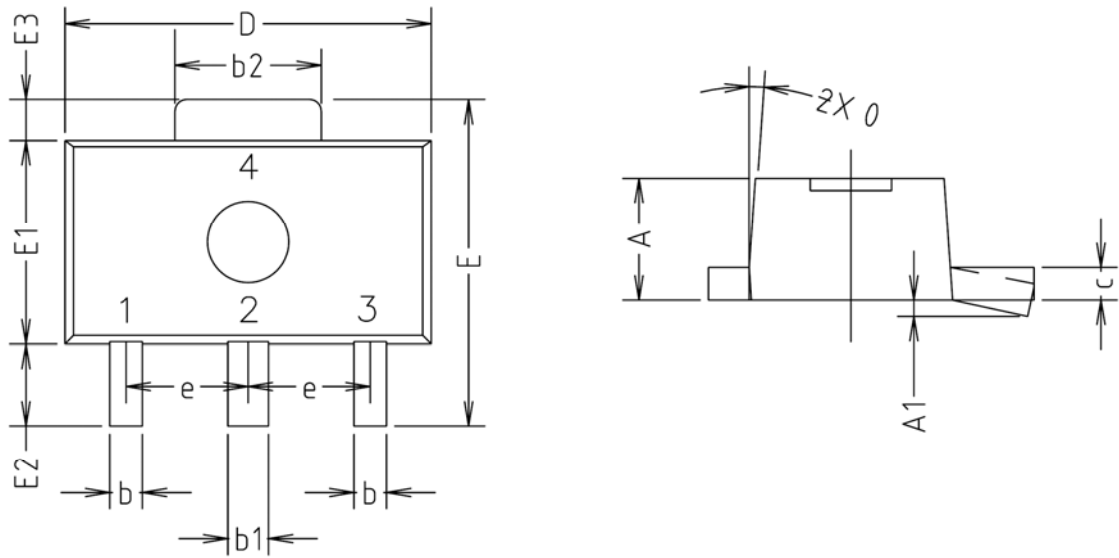


Fig. 6 Safe Operating Area

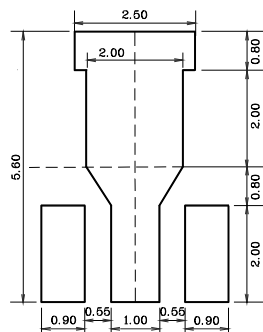


**Outline Dimension (Unit: mm)**



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	1.40	1.50	1.60	
A1	0.00	—	0.10	
b	0.38	0.42	0.48	
b1	0.48	0.52	0.58	
b2	1.79	1.82	1.87	
c	0.40	0.42	0.46	
D	4.40	4.50	4.70	
E	3.70	4.00	4.30	
E1	2.40	2.50	2.70	
E2	0.80	1.00	1.20	
E3	0.40	0.50	0.60	
e	1.50 TYP.			
θ	4° TYP.			

**※ Recommend PCB solder land (Unit: mm)**



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