

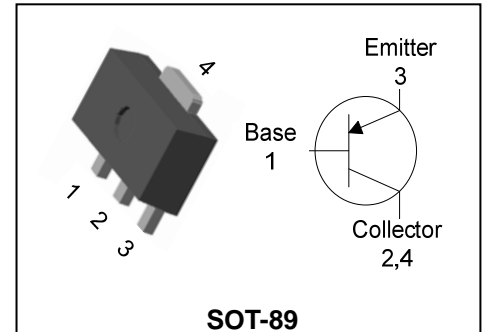
Description

- 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}	$I_C = -1 \text{ mA}, I_B = 0$	-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	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$	-	-	-1	μA
DC current gain	h_{FE}^*	$V_{CE} = -3V, I_C = -0.1A$	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -200 \text{ mA}$	-	-0.5	-0.8	V
Transition frequency	f_T	$V_{CB} = -5V, I_C = -500 \text{ mA},$ $f = 30 \text{ MHz}$	-	150	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1 \text{ MHz}$	-	50	-	pF

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

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

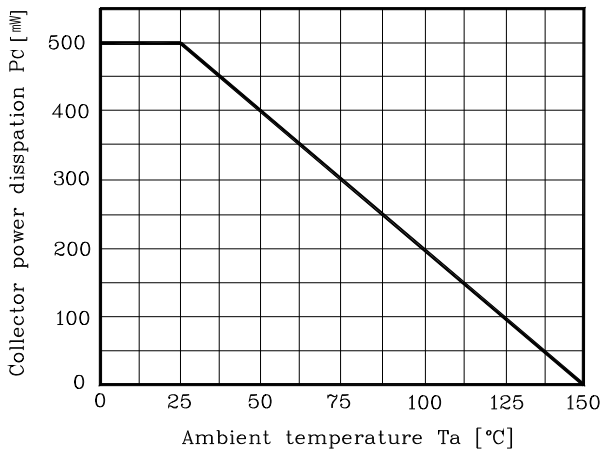


Fig. 2 $I_C - V_{BE}$

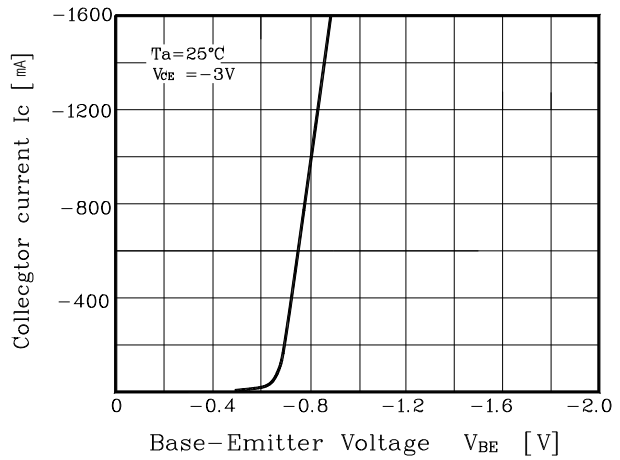


Fig. 3 $I_C - V_{CE}$

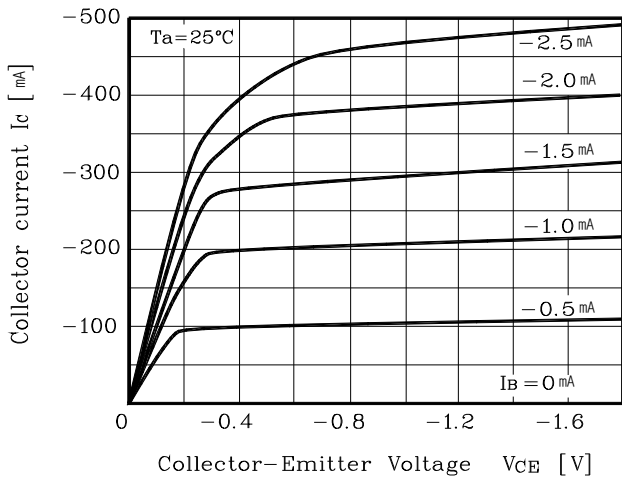


Fig. 4 $V_{CE(sat)} - I_C$

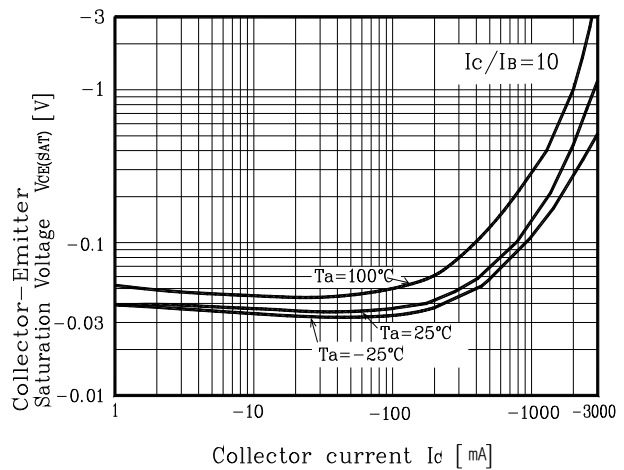


Fig. 5 $h_{FE} - I_C$

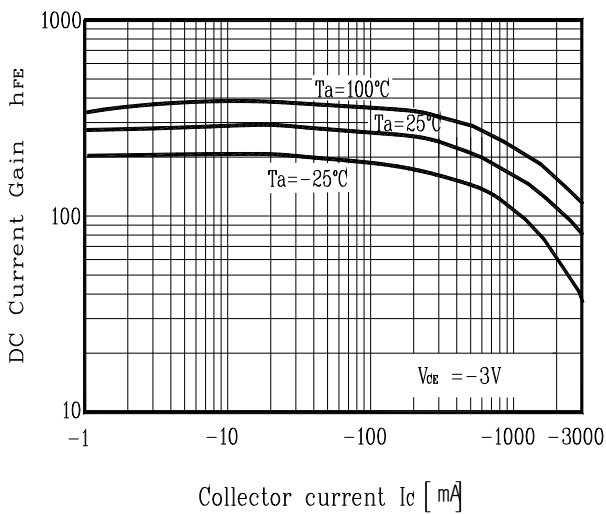
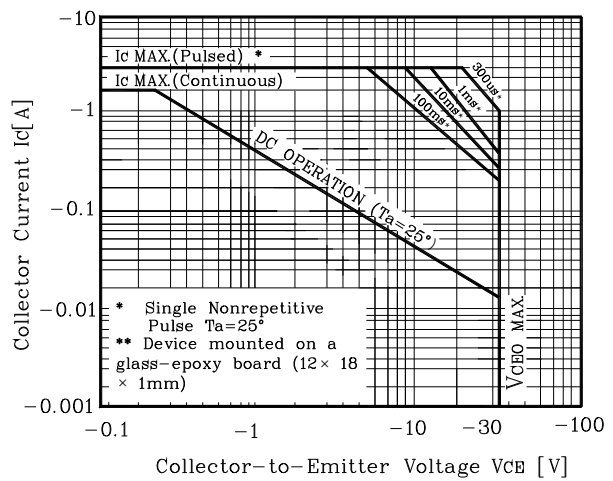
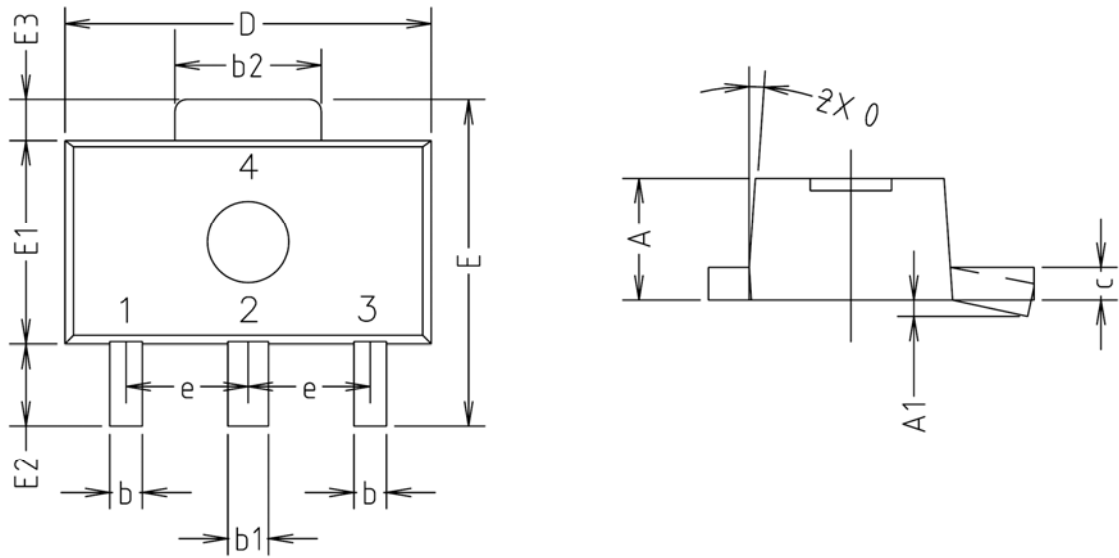


Fig. 6 Safe Operating Area

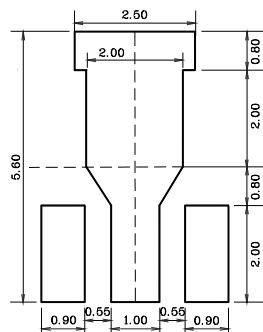


Outline Dimension (Unit: mm)



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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