KODENSHI AUK

STD1766

NPN Silicon Transistor

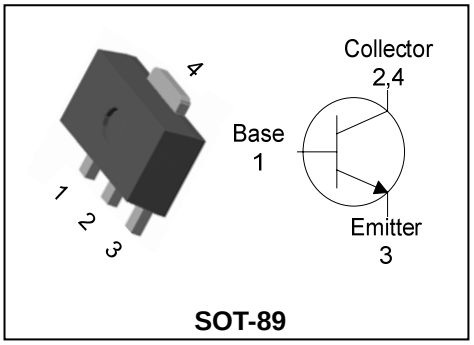
Descriptions

- Medium power amplifier

Features

- P_C(Collector power dissipation)=2W
  (Ceramic substrate of 250 ㎟×0.8t used)
- Low collector saturation voltage :
  $V_{CE(sat)}$=0.5V(Typ.)
- Complementary pair with STB1188
- "Green" device and RoHS compliant device
- Available in full lead (Pb)-free device

PIN Connection



SOT-89

Ordering Information

Type NO.	Marking	Package Code
STD1766	B2 □YWW	SOT-89

B2: DEVICE CODE, □ : h_{FE} rank, YWW(Y : Year code, WW : Weekly code)

Absolute maximum ratings

(Ta=25°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(DC)
	I_{CP}*	4	A(Pulse)
Collector power dissipation	P_C	0.5	W
	P_C**	1	
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~150	°C

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-ambient	$R_{th(J-A)}$	-	250.0	℃/W
		$R_{th(J-A)}$ **	-	125.0	

* : Single pulse, tp= 300 μs

** : When mounted on ceramic substrate(250 ㎟×0.8t)

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=50 ㎂, I_E=0	40	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1 ㎃, I_B=0	32	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=50 ㎂, I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0	-	-	1	㎂
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	1	㎂
DC current gain	h_{FE}*	V_{CE}=3V, I_C=0.5A	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=2A, I_B=200 ㎃	-	0.5	0.8	V
Transition frequency	f_T	V_{CB}=5V, I_C=500 ㎃	-	100	-	㎒
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1 ㎒	-	30	-	pF

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

Electrical Characteristic Curves

Fig. 1 P_C - T_a

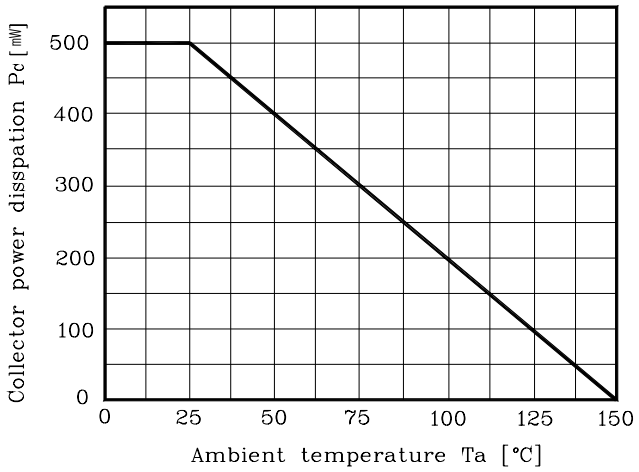


Fig. 2 I_C - V_{BE}

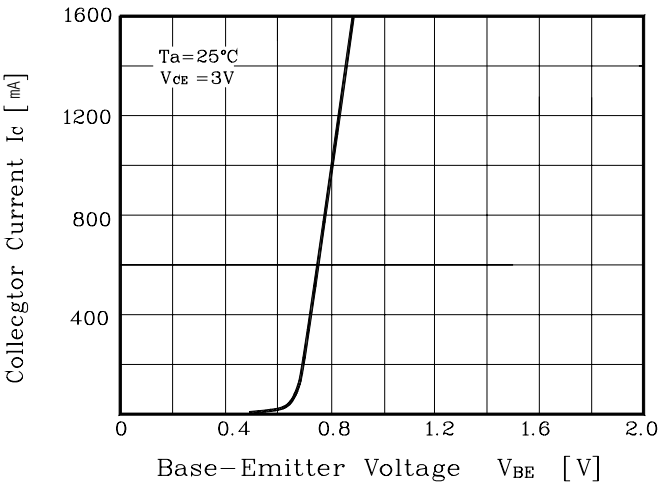


Fig. 3 I_C - V_{CE}

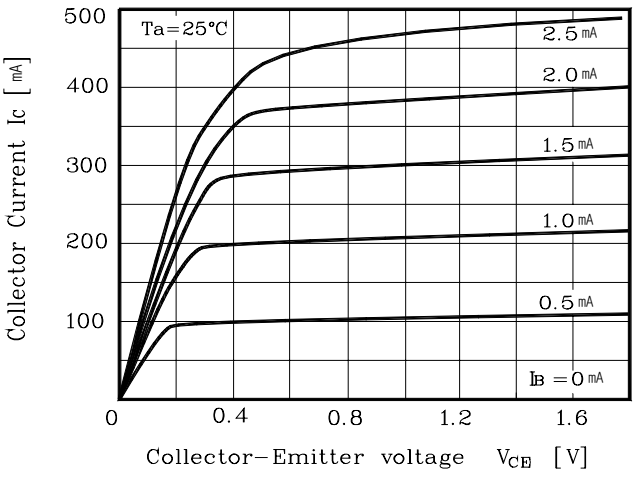


Fig. 4 $V_{CE(sat)}$ - I_C

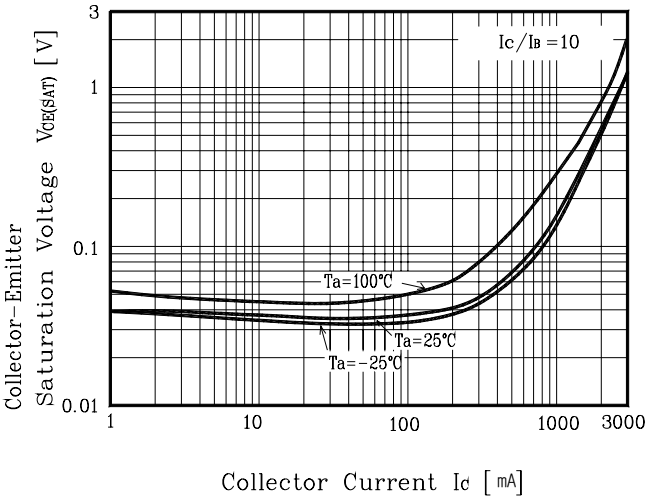
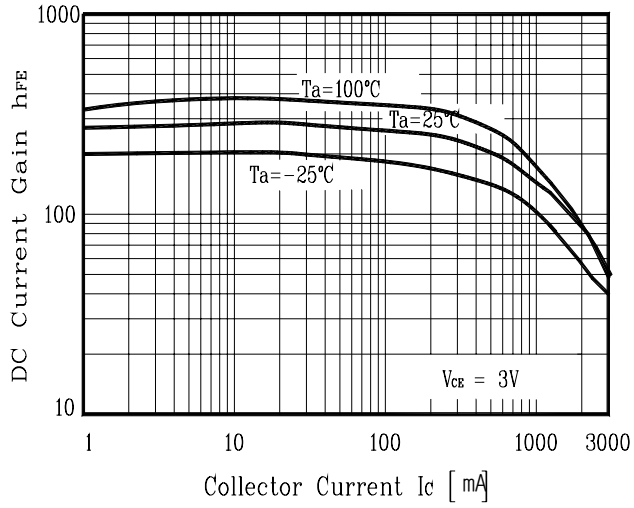
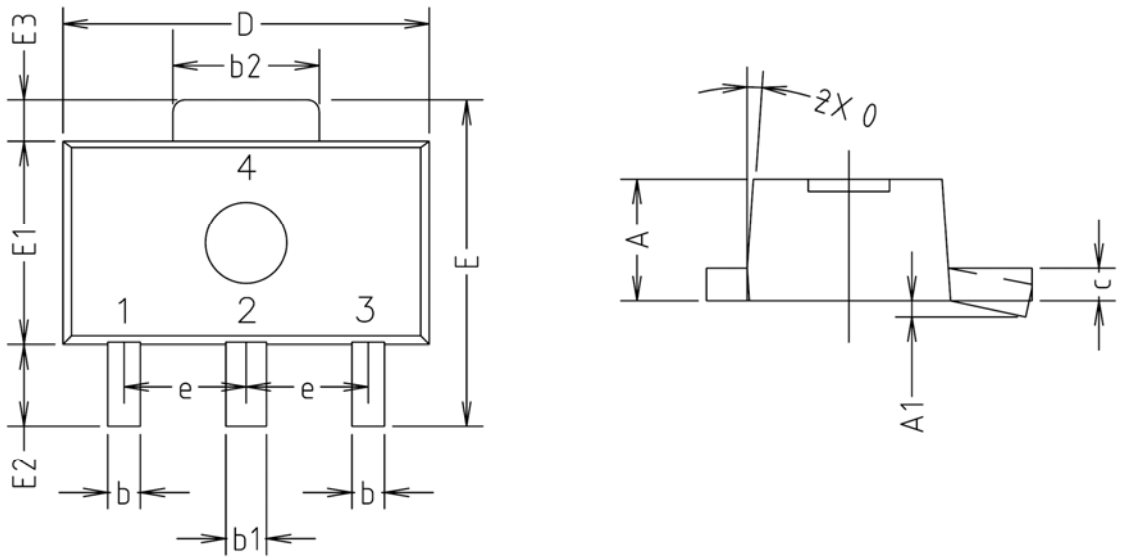


Fig. 5 h_{FE} - I_C

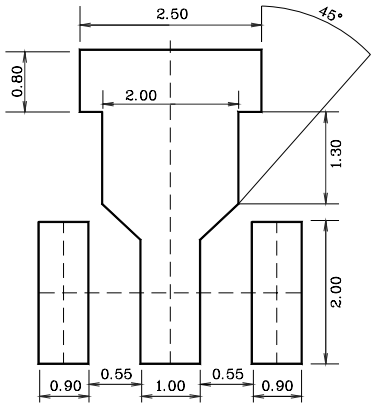


Outline Dimension(mm)



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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