KODENSHI AUK

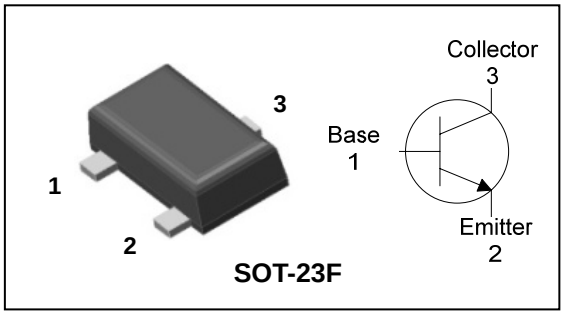
STD123ASF

NPN Silicon Transistor

Features

- High β & low saturation transistor.
  h_{FE}=400 Min. @V_{CE}=1V, Ic=100mA
- Suitable for large current drive directly.
- Application for IRED Drive transistor in remote transmitter.

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STD123ASF	12A □ ① ②	SOT-23F

① Device Code ② Year&Week Code

Absolute maximum ratings (Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	10	V
Collector-Emitter voltage	V_{CEO}	6	V
Emitter-Base voltage	V_{EBO}	3	V
Collector current	I_C	1	A
Collector dissipation	P_C*	350	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

* : Package mounted on 99.5% alumina 10×8×0.1mm

Electrical Characteristics (Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=50μA, I_E=0	10	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	6	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=50μA, I_C=0	3	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=10V, I_E=0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=3V, I_C=0	-	-	0.1	μA
DC current gain	h_{FE}	V_{CE}=1V, I_C=100mA	400	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA	-	0.1	0.3	V
Transistor frequency	f_T	V_{CE}=5V, I_C=50mA	-	260	-	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	5	-	pF
On resistance	R_{ON}	f=1KHz, I_B=1mA, V_{IN}=0.3V	-	0.6	-	Ω

Electrical Characteristic Curves

Fig. 1 P_C - T_a

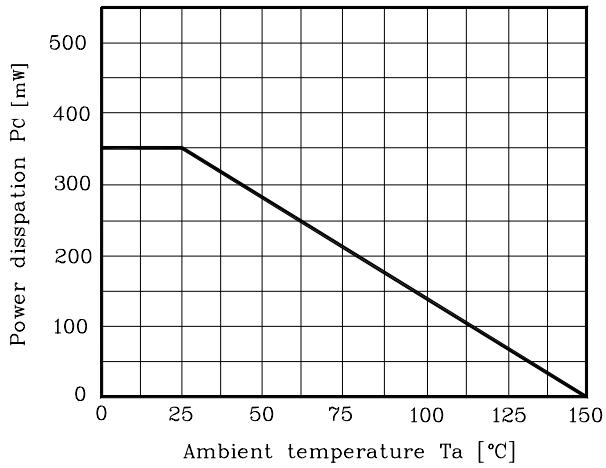


Fig. 2 $V_{CE(sat)}$-I_C

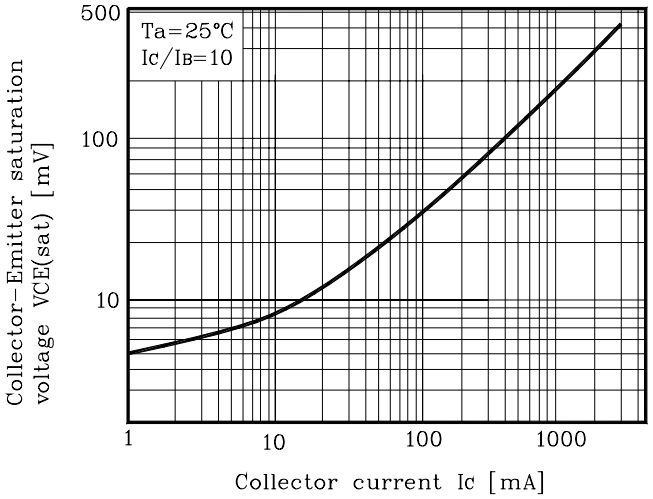


Fig. 3 C_{Ob}-V_{CB}

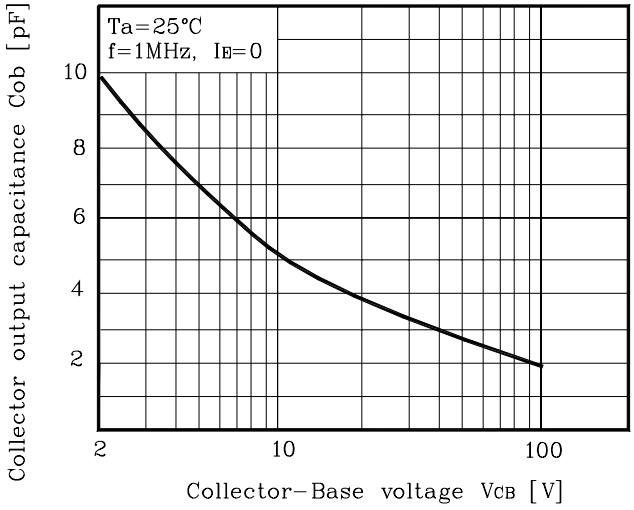


Fig. 4 h_{FE}-I_C

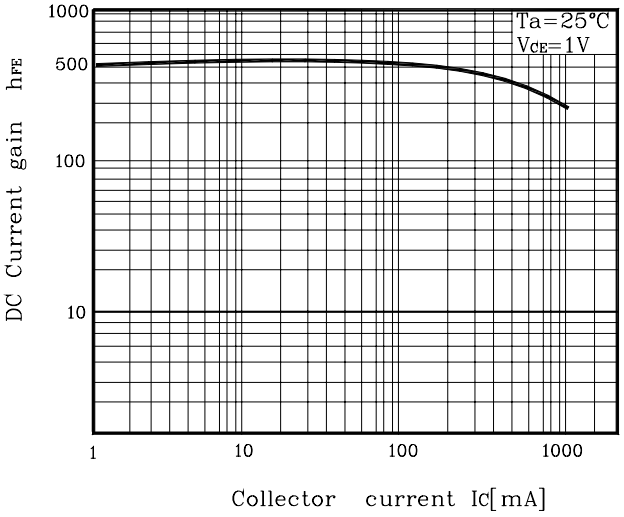
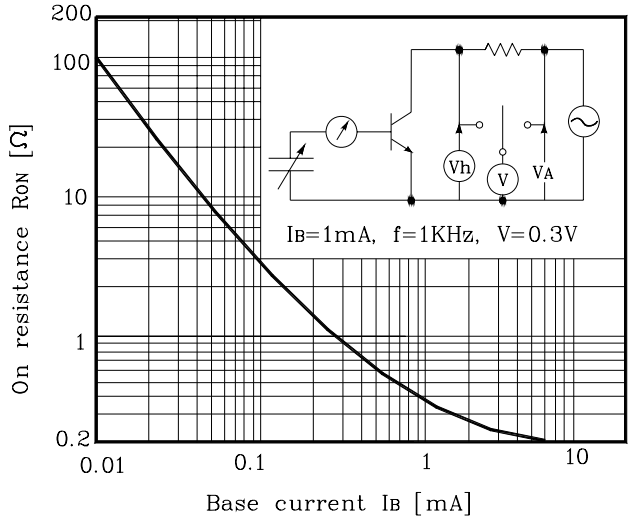
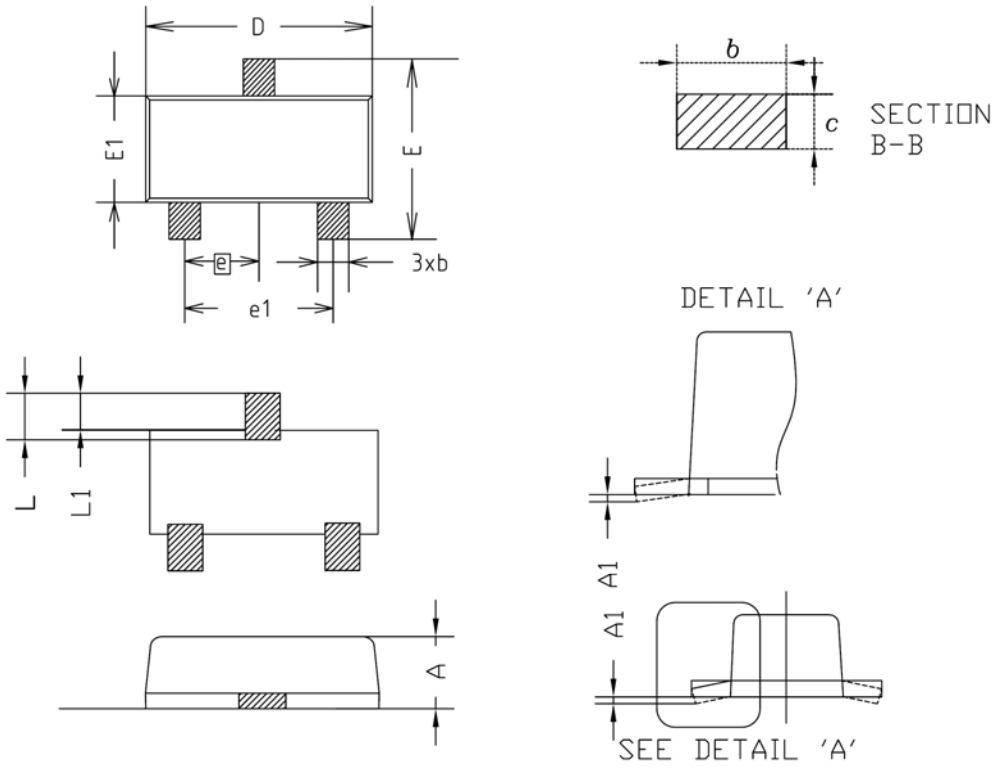


Fig. 5 R_{ON}-I_B

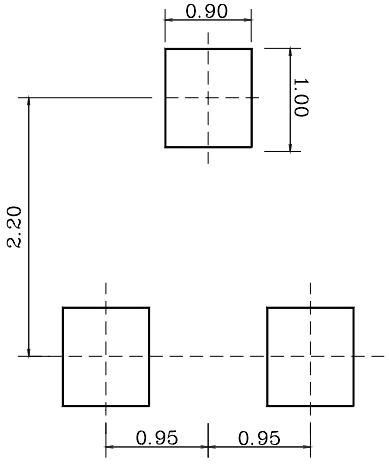


Outline Dimension



SYMBOL	MILLIMETER(mm)			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.80	0.90	1.00	
A1	0.00	–	0.10	
b	0.35	0.40	0.45	
c	0.10	0.15	0.20	
D	2.80	2.90	3.00	
E	2.30	2.40	2.50	
E1	1.50	1.60	1.70	
e	0.95BSC			
e1	1.80	1.90	2.00	
L	0.48	0.58	0.68	
L1	0.30	–	0.50	

※Recommend PCB solder land [Unit: mm]



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