KODENSHI AUK

SBT5551F

NPN Silicon Transistor

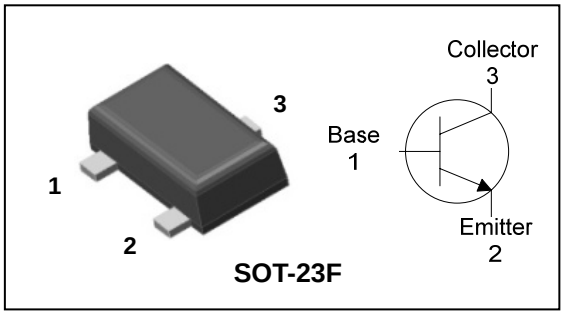
Descriptions

- General purpose amplifier
- High voltage application

Features

- high collector breakdown voltage :
  V_{CBO} = 180V, V_{CEO} = 160V
- Low collector saturation voltage :
  $V_{CE(sat)}$=0.5V(MAX.)
- Complementary pair with SBT5401F

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
SBT5551F	FNF □ 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}	180	V
Collector-Emitter voltage	V_{CEO}	160	V
Emitter-Base voltage	V_{EBO}	6	V
Collector current	I_C	600	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C=100μA, I_E=0	180	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	160	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=10μA, I_C=0	6	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=120V, I_E=0	-	-	100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	100	nA
DC current gain	$h_{FE\ (1)}$	V_{CE}=5V, I_C=1mA	80	-		-
DC current gain	$h_{FE\ (2)}$	V_{CE}=5V, I_C=10mA	80	-	250	-
DC current gain	$h_{FE\ (3)}$	V_{CE}=5V, I_C=50mA	30	-		-
Collector-Emitter saturation voltage	$V_{CE(sat)(1)}$*	I_C=10mA, I_B=1mA	-	-	0.2	V
Collector-Emitter saturation voltage	$V_{CE(sat)(2)}$*	I_C=50mA, I_B=5mA	-	-	0.5	V
Base-Emitter saturation voltage	$V_{BE(sat)(1)}$*	I_C=10mA, I_B=1mA	-	-	1	V
Base-Emitter saturation voltage	$V_{BE(sat)(2)}$*	I_C=50mA, I_B=5mA	-	-	1	V
Transition frequency	f_T	V_{CE}=10V, I_C=10mA	100	-	400	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	-	6	pF

* : Pulse Tester : Pulse Width ≤300μs, Duty Cycle ≤2.0%

Electrical Characteristic Curves

Fig. 1 h_{FE} - I_C

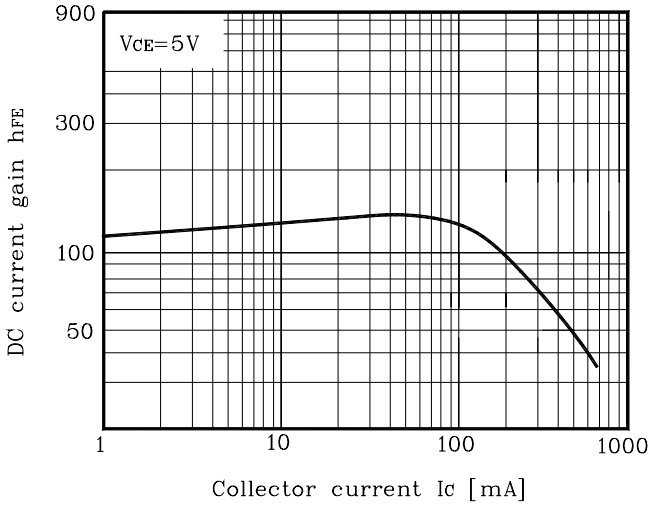


Fig. 2 I_C - V_{BE}

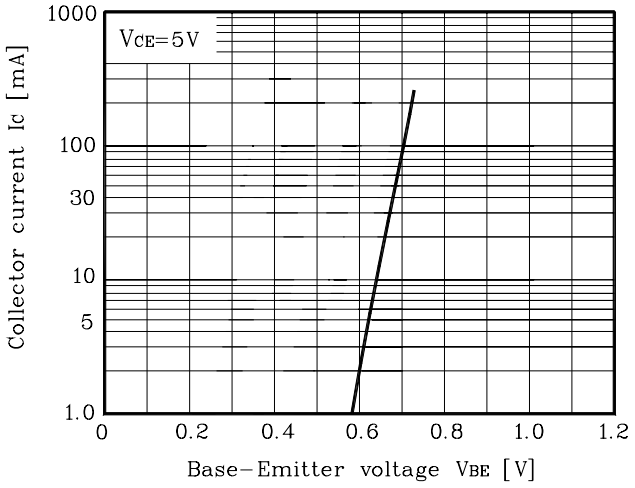


Fig. 3 f_T - I_C

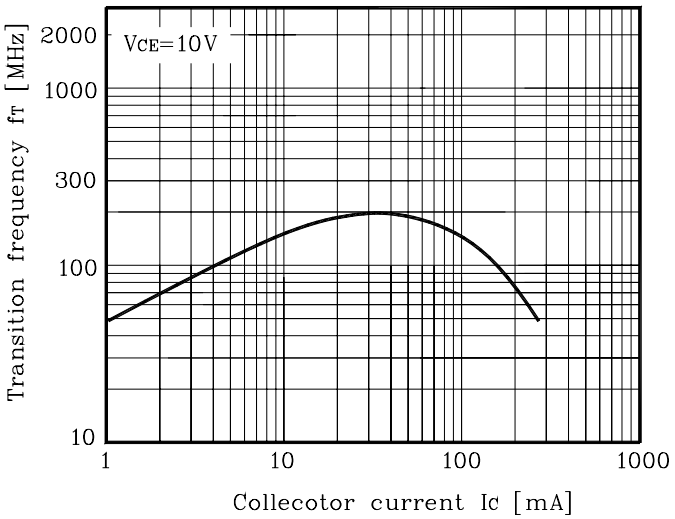


Fig. 4 $V_{CE(sat)}$, $V_{BE(sat)}$ - I_C

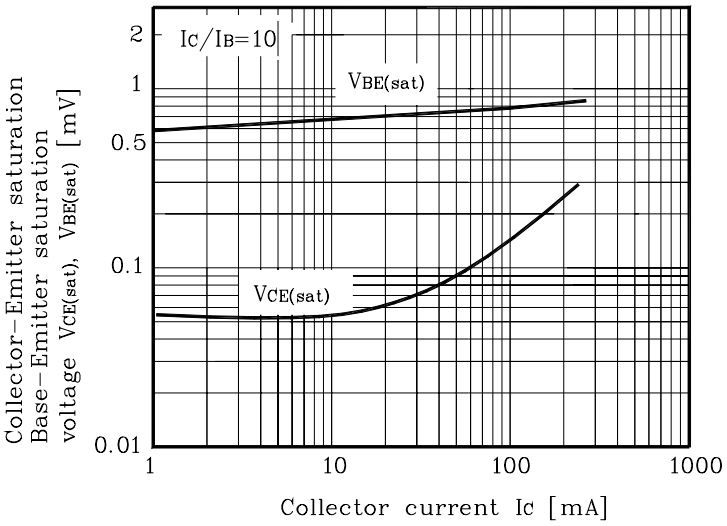
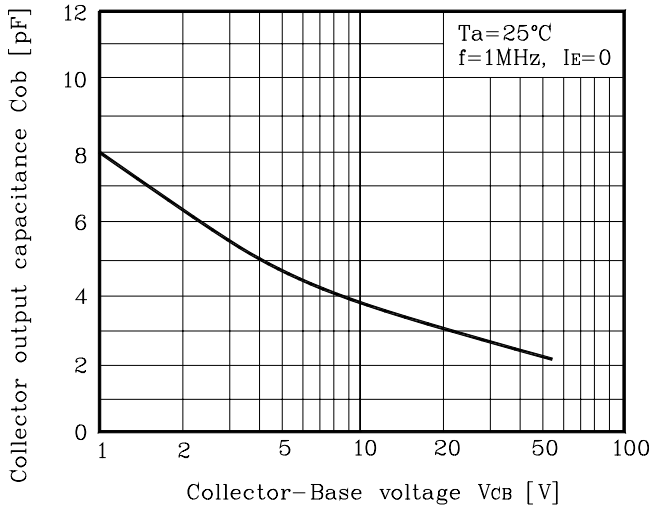
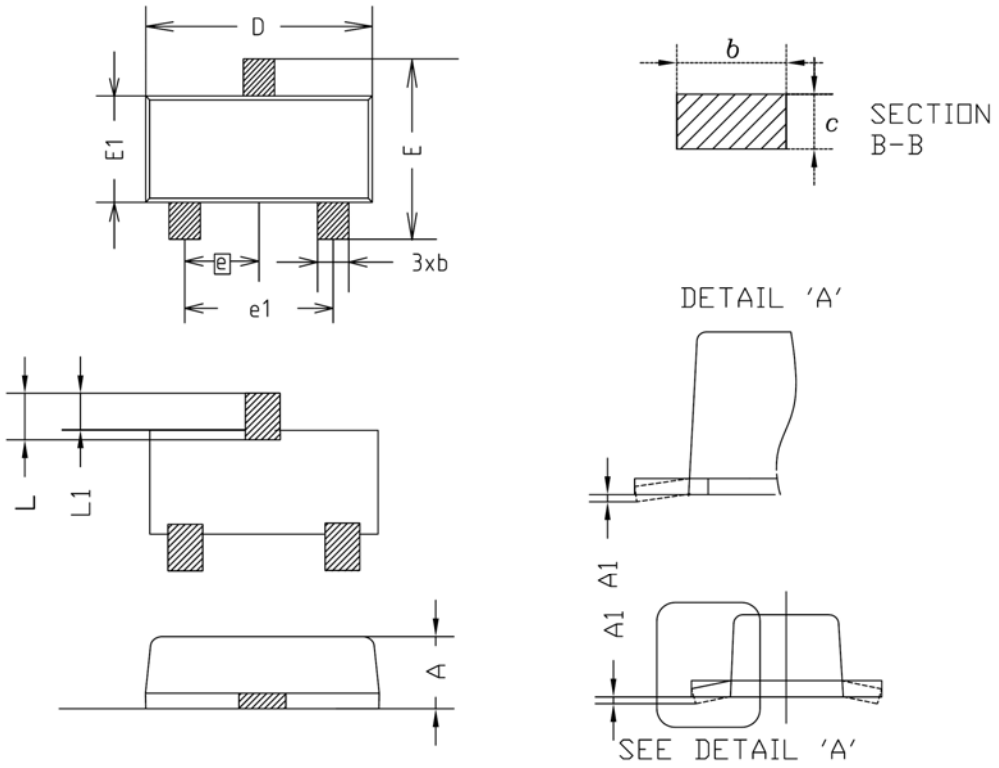


Fig. 5 C_{ob} - V_{CB}

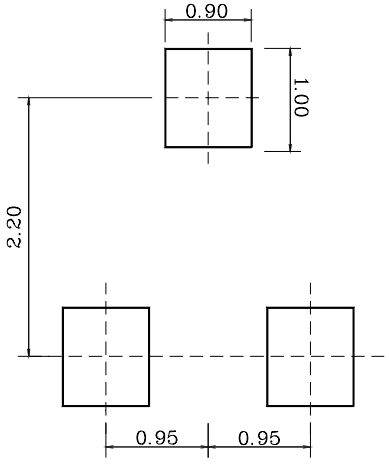


Outline Dimension



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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