KODENSHI AUK

SBT2222A

NPN Silicon Transistor

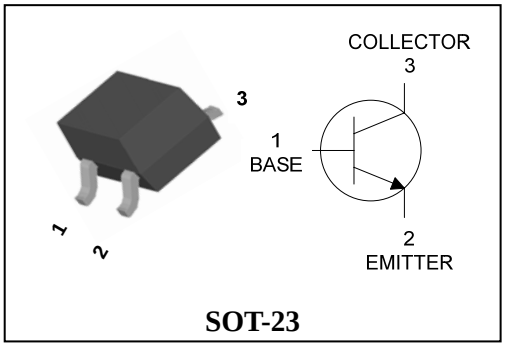
Descriptions

- General purpose application
- Switching application

Features

- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with SBT2907A

PIN Connection



SOT-23

Ordering Information

Type NO.	Marking	Package Code
SBT2222A	1P □ ① ②	SOT-23

①Device Code ②Year& Week Code

Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	75	V
Collector-Emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	0.6	A(DC)
	I_{CP}*	1.2	A(Pulse)
Collector dissipation	P_C**	350	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55~150	°C

* : Single pulse, tp= 300 μs

** : Package mounted on 99.5% alumina 10×8×0.6mm

Electrical Characteristics

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	I_C= 10μA, I_E= 0	75	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C= 1mA, I_B= 0	40	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E= 10μA, I_C= 0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}= 75V, I_E= 0	-	-	20	nA
Collector cut-off current	I_{CEX}	V_{CE}= 30V, V_{EB}= 0.5V	-	-	50	nA
DC current gain	h_{FE}	V_{CE}= 10V, I_C= 10mA	100	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	I_C= 150mA, I_B= 15mA	-	-	0.4	V
Transition frequency	f_T	V_{CE}= 20V, I_C= 20mA, f= 100MHz	250	-	-	MHz
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0, f= 1MHz	-	-	8	pF
Delay time	t_d	V_{CC}= 30V_{dc}, $V_{BE(off)}$= 0.5V_{dc}, I_C= 150mA_{dc}, I_{B1}= 15mA_{dc}	-	-	10	ns
Rise time	t_r		-	-	25	ns
Storage time	t_s	V_{CC}= 30V_{dc}, I_C= 150mA_{dc}, I_{B1}= I_{B2}= 15mA_{dc}	-	-	225	ns
Fall Time	t_f		-	-	60	ns

Electrical Characteristic Curves

Fig. 1 P_C - T_a

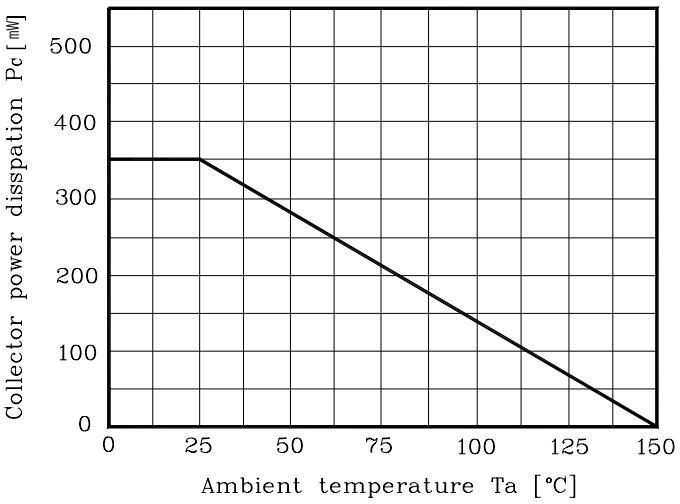


Fig. 2 h_{FE} - I_C

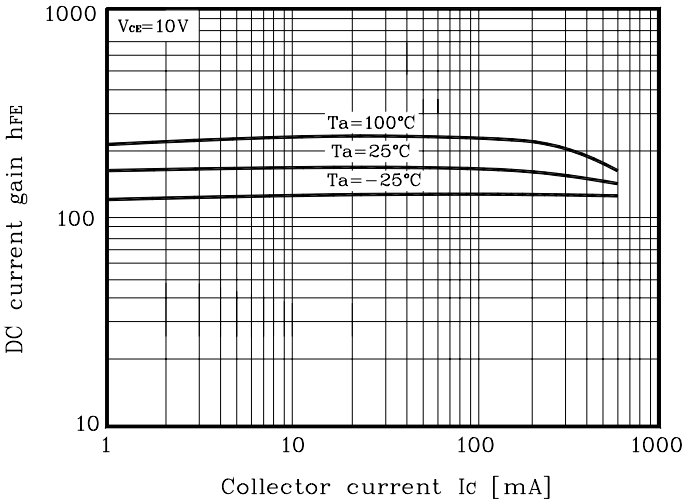


Fig. 3 I_C - $V_{CE(SAT)}$

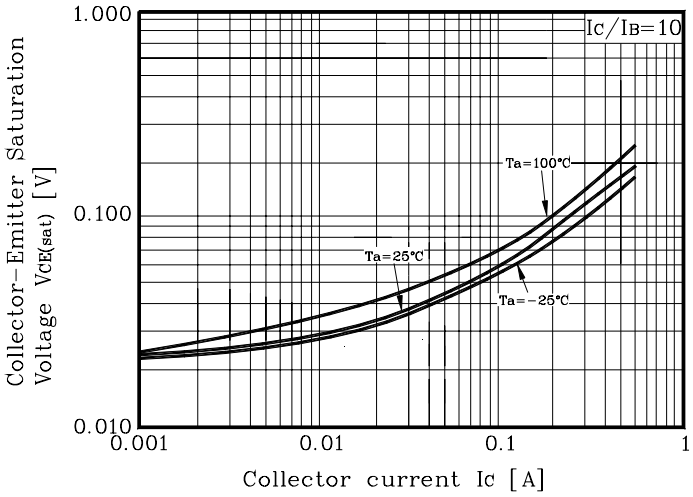


Fig. 4 I_C – $V_{BE(SAT)}$

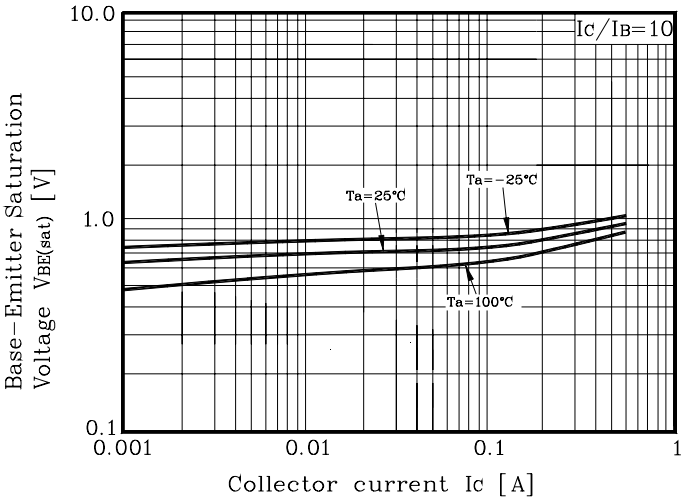
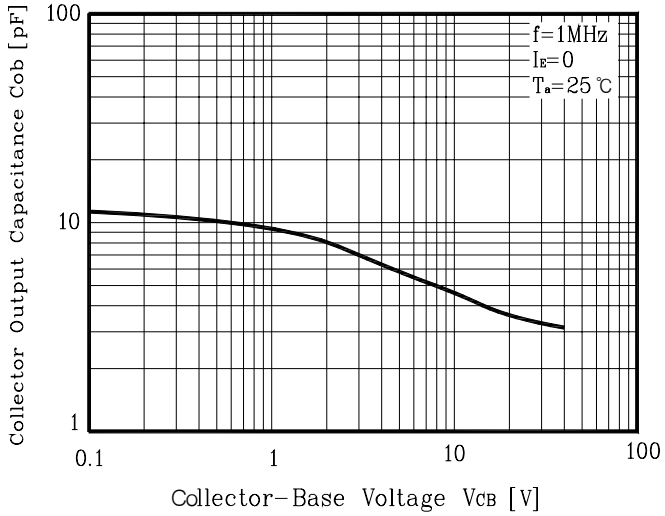
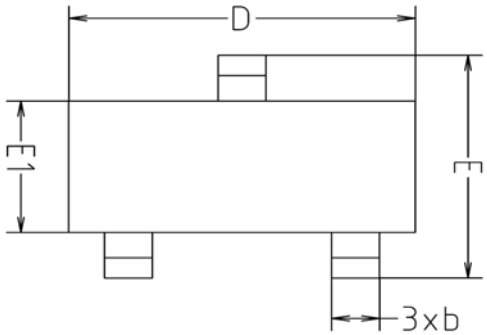
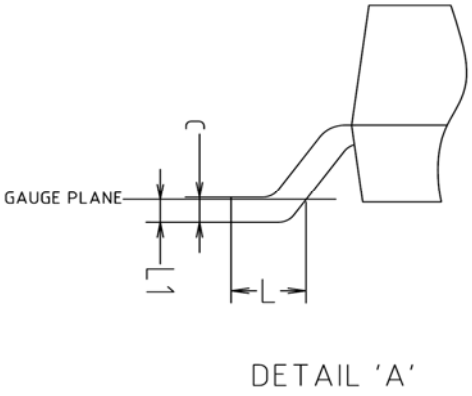


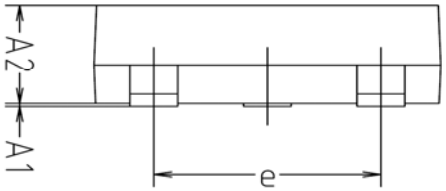
Fig. 5 C_{ob}-V_{CB}

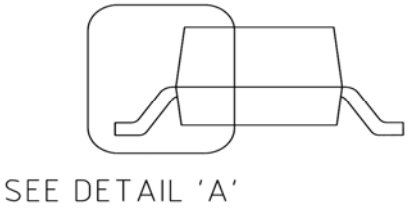


Outline Dimension



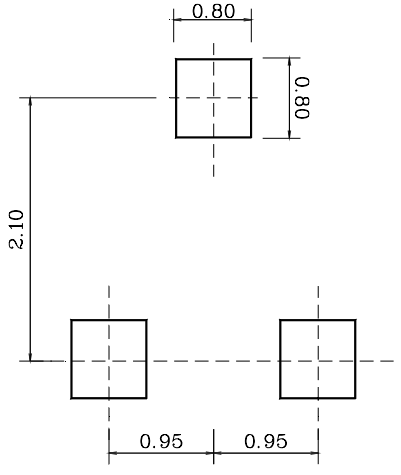






SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.82	-	1.02	
b	0.39	0.42	0.45	
c	0.09	0.12	0.15	
D	2.80	2.90	3.00	
E	2.20	2.40	2.60	
E1	1.20	1.30	1.40	
e	1.90BSC			
L	0.20	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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