

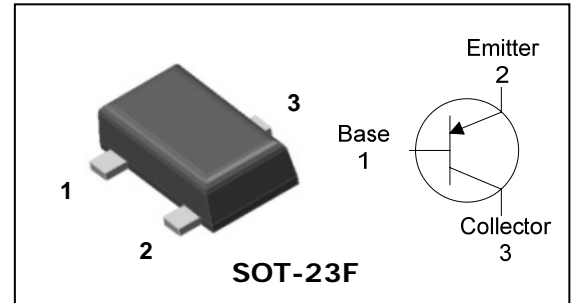
## Descriptions

- General purpose application
- Switching application

## Features

- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with SBT2222F

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
SBT2907F	$\frac{2B}{\text{① ②}}$	SOT-23F

① Device Code ② Year&Week Code

## Absolute maximum ratings

T<sub>a</sub>=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V <sub>CBO</sub>	-60	V
Collector-Emitter voltage	V <sub>CEO</sub>	-40	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-600	mA
Collector dissipation	P <sub>C</sub> <sup>*</sup>	350	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C

\* : 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	$BV_{CBO}$	$I_C = -10\mu A, I_E = 0$	-60	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C = -1mA, I_B = 0$	-40	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E = -10\mu A, I_C = 0$	-5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$	-	-	-20	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	$f_T$	$V_{CE} = -5.0V, I_C = -20mA,$ $f = 100MHz$	200	-	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	-	8	pF
Turn-on time	$t_{on}$	$V_{CC} = -30V_{dc}, I_C = -150mA_{dc},$ $I_{B1} = -15mA_{dc}$	-	-	45	ns
Delay time	$t_d$		-	-	10	ns
Rise time	$t_r$		-	-	40	ns
Turn-off time	$t_{off}$	$V_{CC} = -6.0V_{dc}, I_C = -150mA_{dc},$ $I_{B1} = I_{B2} = -15mA_{dc}$	-	-	100	ns
Storage time	$t_s$		-	-	80	ns
Fall time	$t_f$		-	-	30	ns

Electrical Characteristic Curves

Fig. 1  $P_C$ - $T_a$

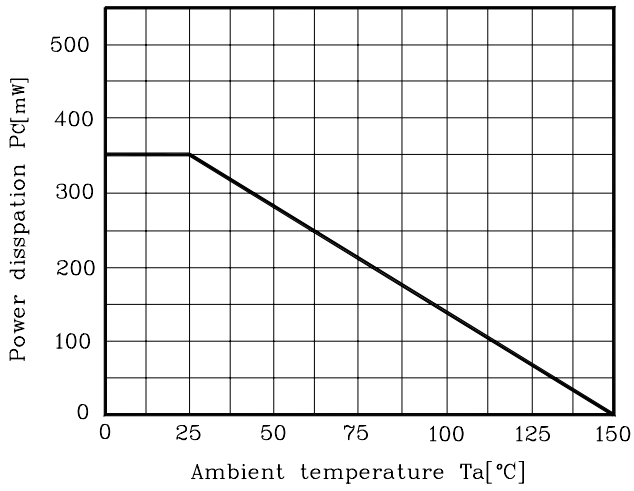


Fig. 2  $h_{FE}$ - $I_C$

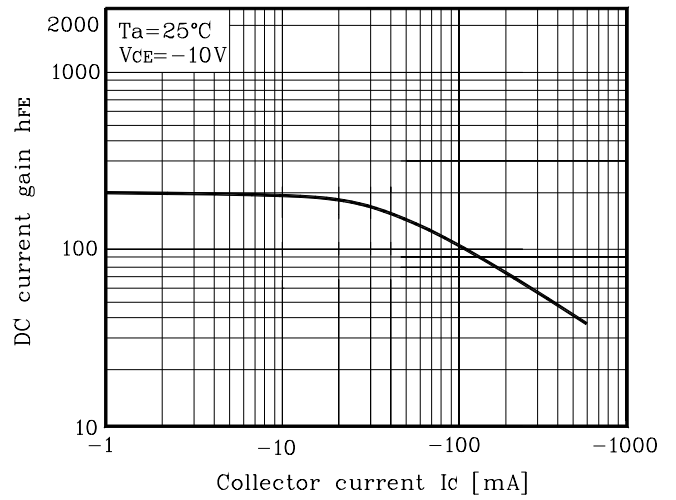


Fig. 3  $V_{CE(sat)}$ - $I_C$

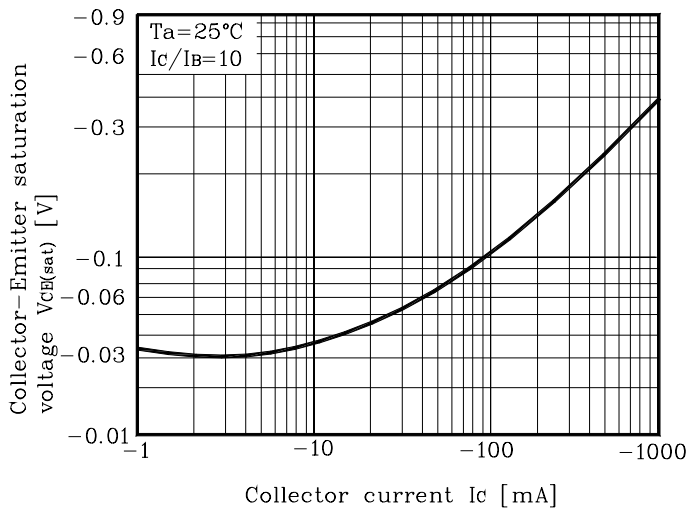
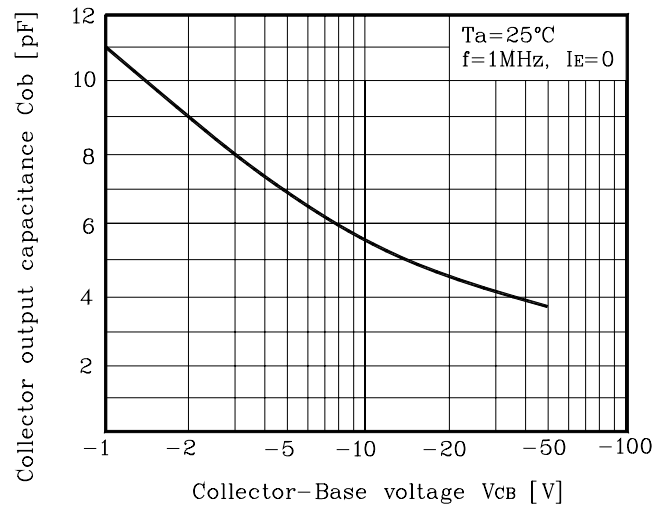
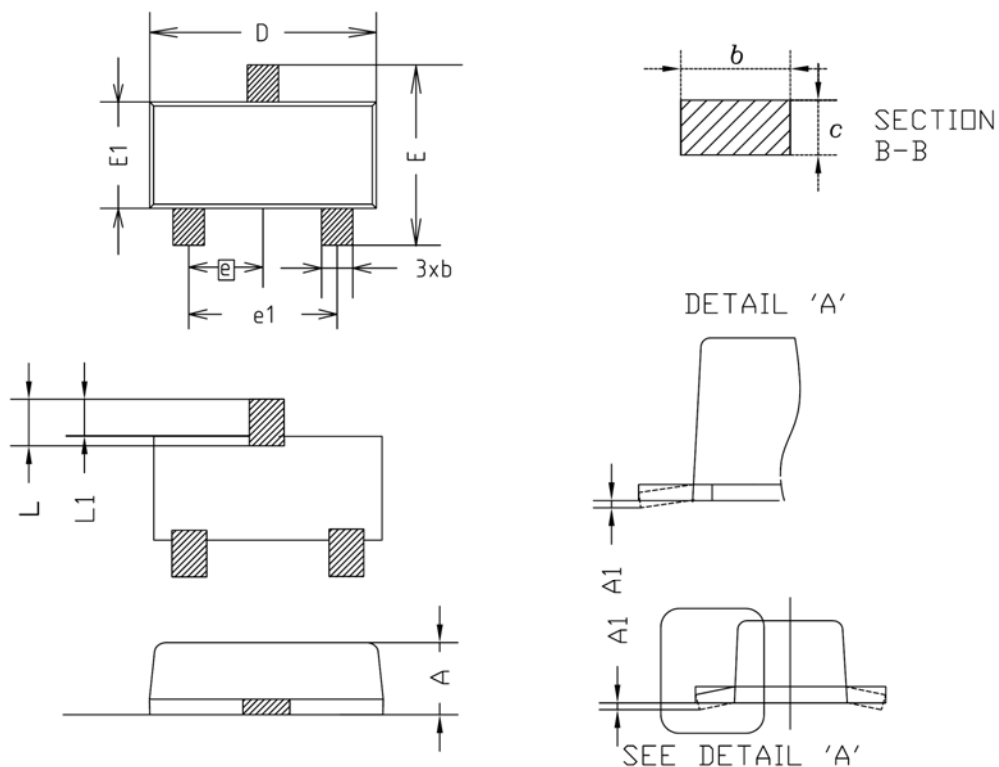


Fig. 4  $C_{ob}$ - $V_{CB}$

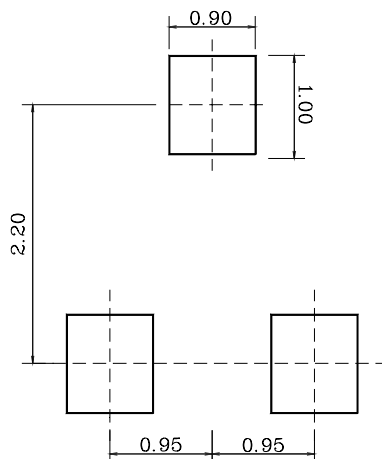


## Outline Dimension



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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