

Descriptions

- General small signal application
- Switching application

Features

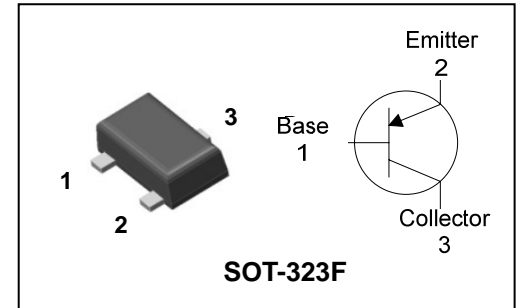
- Low collector saturation voltage
- Collector output capacitance

Ordering Information

Type NO.	Marking	Package Code
SBT3906UF	EQ □ ① ②	SOT-323F

① Device Code ② Year&Week Code

PIN Connection



Absolute maximum ratings

 $T_a=25^{\circ}\text{C}$

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CB0}	-40	V
Collector-Emitter voltage	V_{CEO}	-40	V
Emitter-Base voltage	V_{EBO}	-5	V
Collector current	I_C	-200	mA
Collector Power dissipation	P_C^*	200	mW
Junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55 ~ 150	$^{\circ}\text{C}$

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

Electrical Characteristics

 $T_a=25^{\circ}\text{C}$

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CB0}	$I_C=-10\mu\text{A}, I_E=0$	-40	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=-1\text{mA}, I_B=0$	-40	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=-10\mu\text{A}, I_C=0$	-5	-	-	V
Collector cut-off current	I_{CEX}	$V_{CE}=-30\text{V}, V_{EB}=-3\text{V}$	-	-	-50	nA
DC current gain	h_{FE}	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100	-	300	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$	-	-	-0.4	V
Transition frequency	f_T	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	250	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=-5\text{V}, I_E=0, f=1\text{MHz}$	-	-	4.5	pF
Delay time	t_d	$V_{CC}=-3\text{V}, I_C=-10\text{mA}, I_{B1}=-1\text{mA}$	-	-	35	ns
Rise time	t_r		-	-	35	ns
Storage time	t_s		-	-	225	ns
Fall Time	t_f	$V_{CC}=-3\text{V}, I_C=-10\text{mA}, I_{B1}=I_{B2}=-1\text{mA}$	-	-	75	ns

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

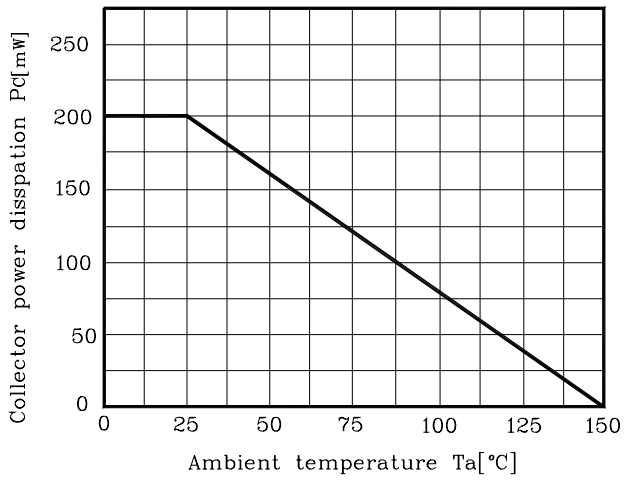


Fig. 2 $h_{FE} - I_C$

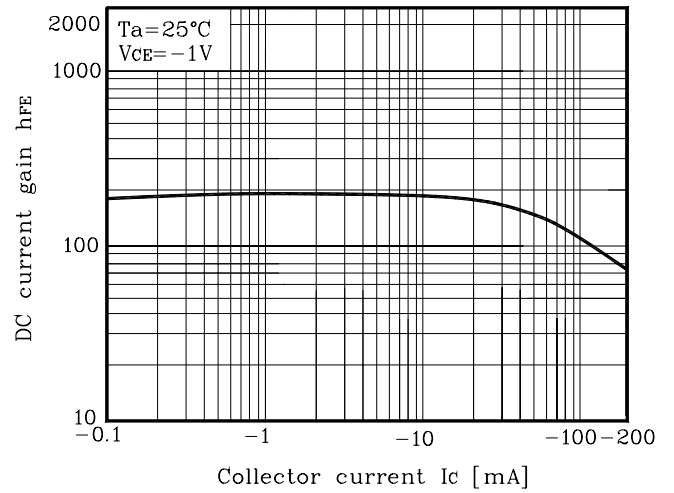


Fig. 3 $I_C - V_{CE}$

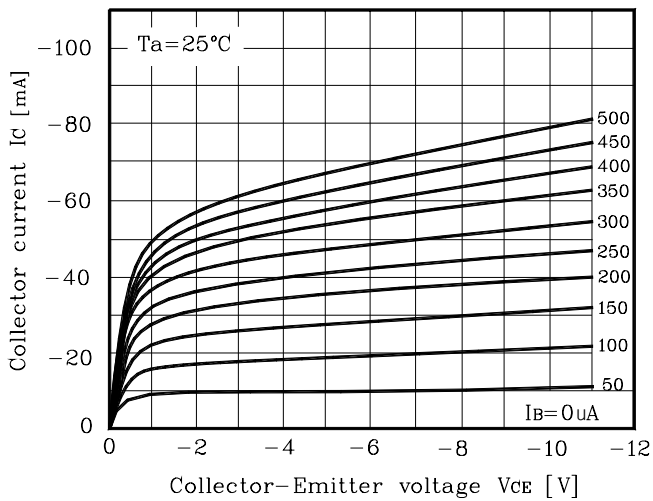
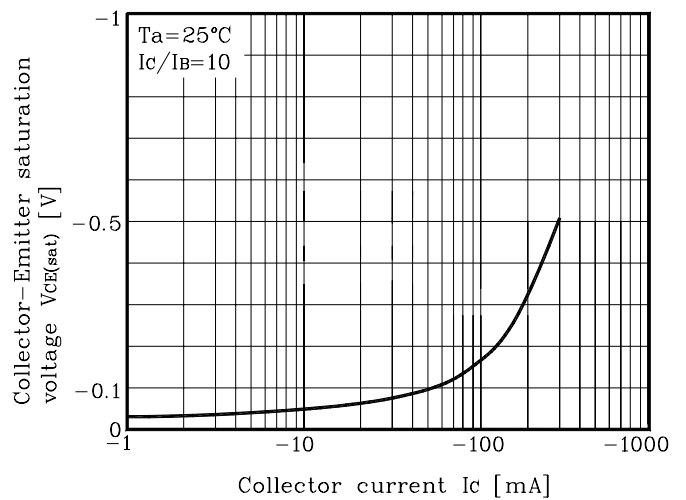
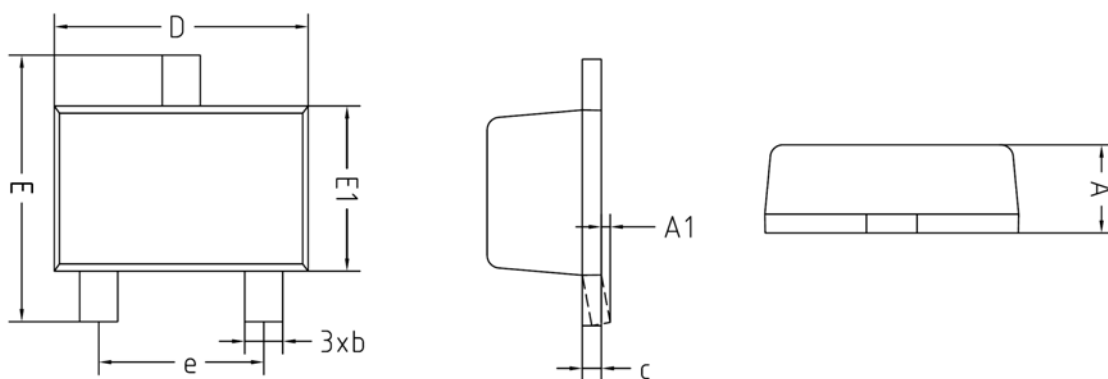


Fig. 4 $V_{CE(sat)} - I_C$

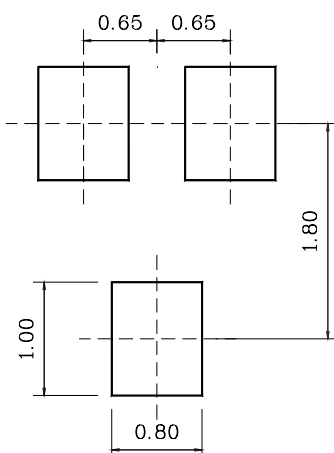


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.60	-	0.80	
A1	0.00	-	0.10	
b	0.30	-	0.40	
c	0.08	-	0.16	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.20	1.30	1.40	
e	1.30BSC			

※Recommend PCB solder land [Unit: mm]



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