



SBT2222F

NPN Silicon Transistor

Descriptions

- General purpose application
- Switching application

Features

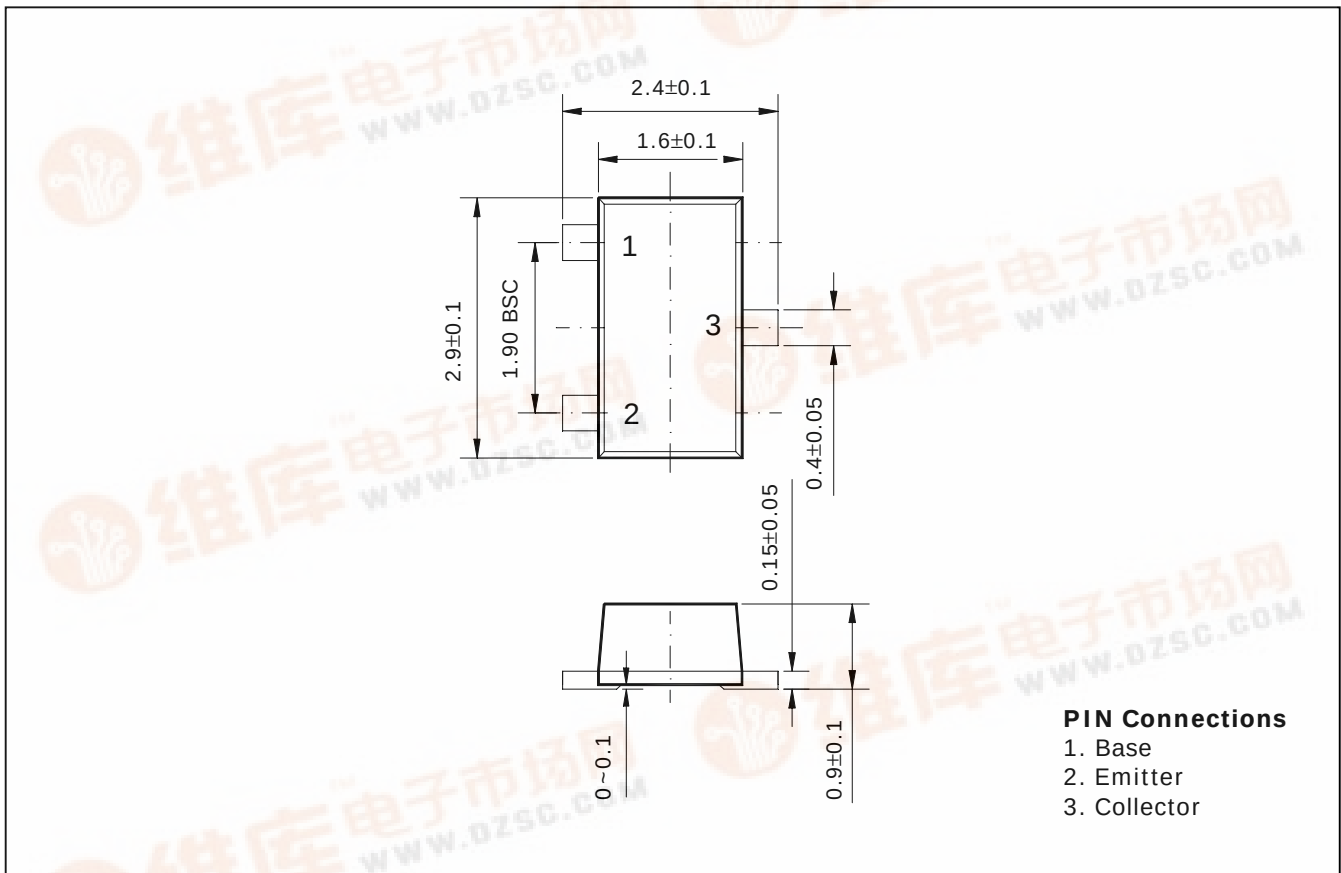
- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with SBT2907F

Ordering Information

Type NO.	Marking	Package Code
SBT2222F	1B	SOT-23F

Outline Dimensions

unit : mm



SBT2222F

Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	60	V
Collector-Emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	600	mA
Collector dissipation	P_C^*	350	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-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}	$I_C = 10mA, I_B = 0$	30	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$	-	-	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	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	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

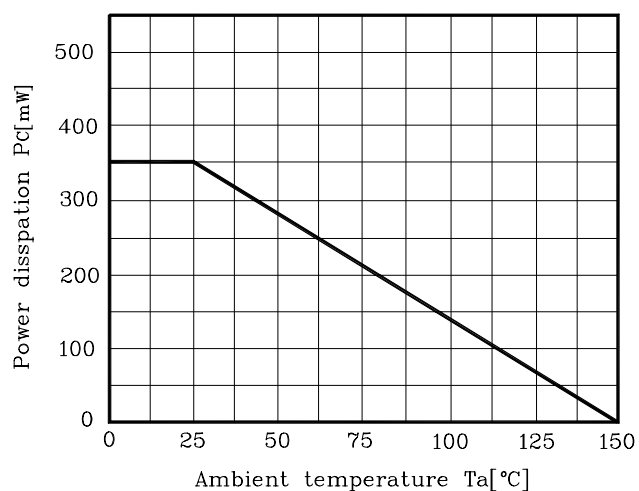


Fig. 2 h_{FE} - I_C

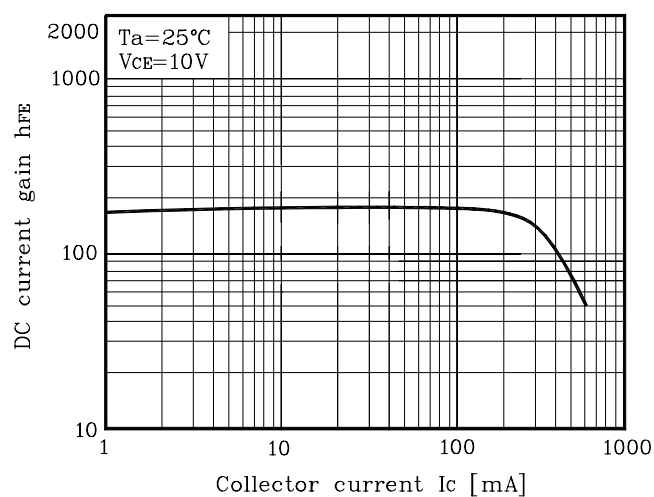


Fig. 3 $V_{CE(sat)}$ - I_C

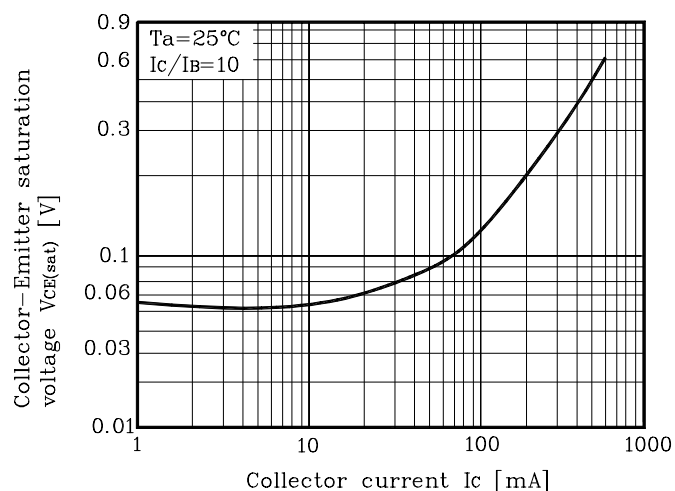


Fig. 4 C_{ob} - V_{CB}

