

Descriptions

- General purpose application
- Switching application

Features

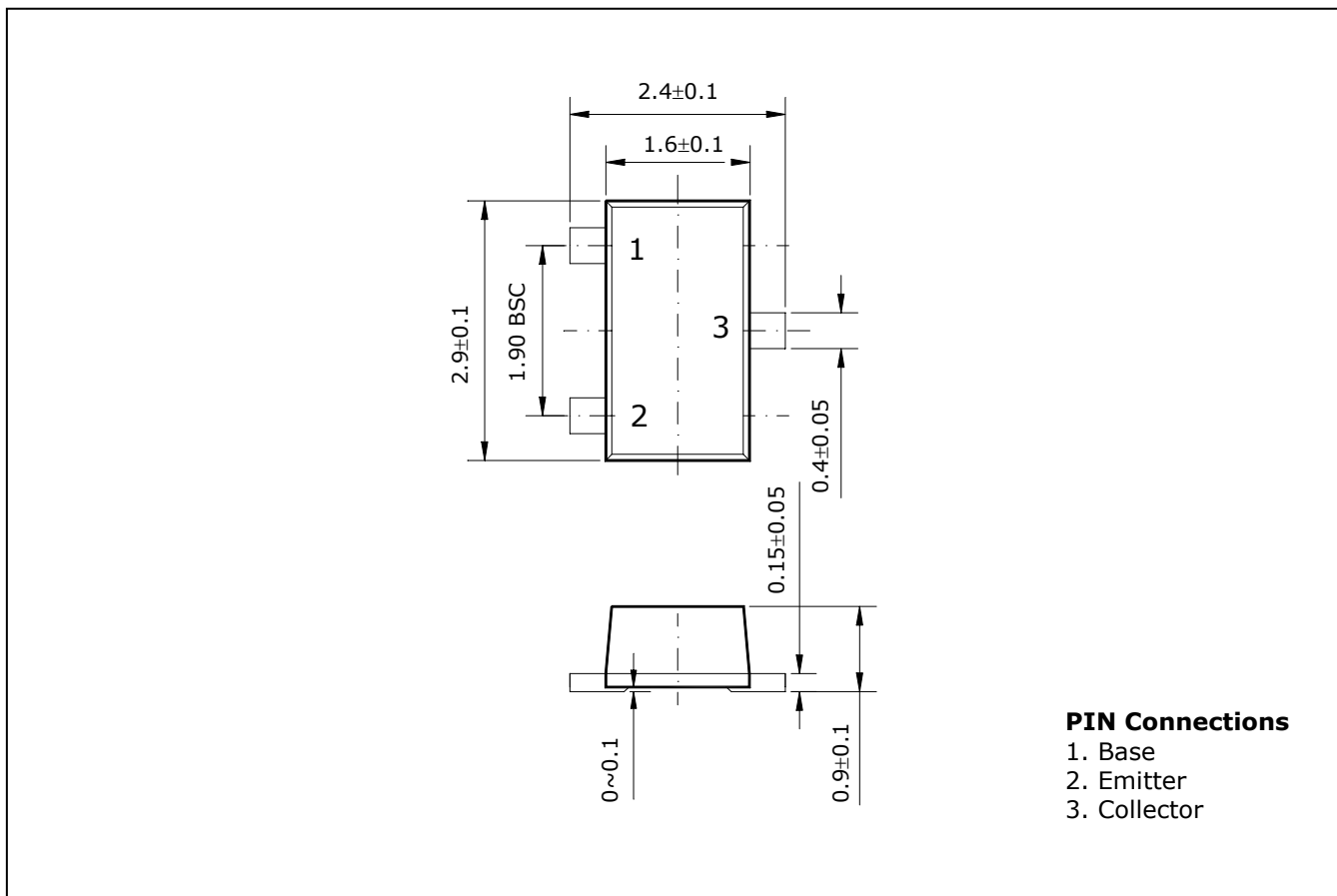
- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with SBT2222F

Ordering Information

Type NO.	Marking	Package Code
SBT2907F	2B	SOT-23F

Outline Dimensions

unit : mm



Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	-60	V
Collector-Emitter voltage	V_{CEO}	-40	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}	$I_C = -1mA, I_B = 0$	-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

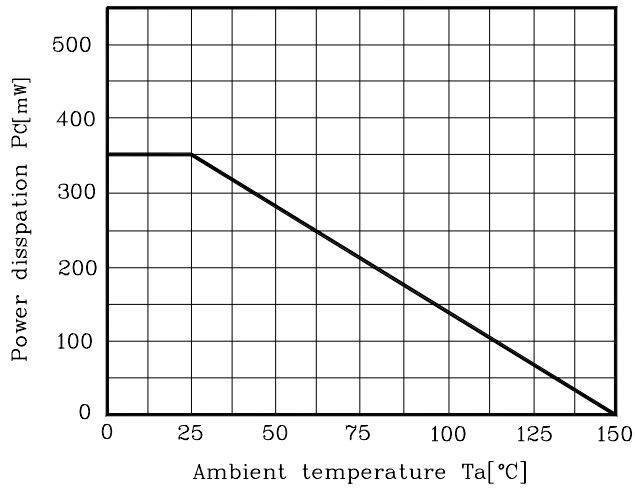


Fig. 2 $h_{FE}-I_C$

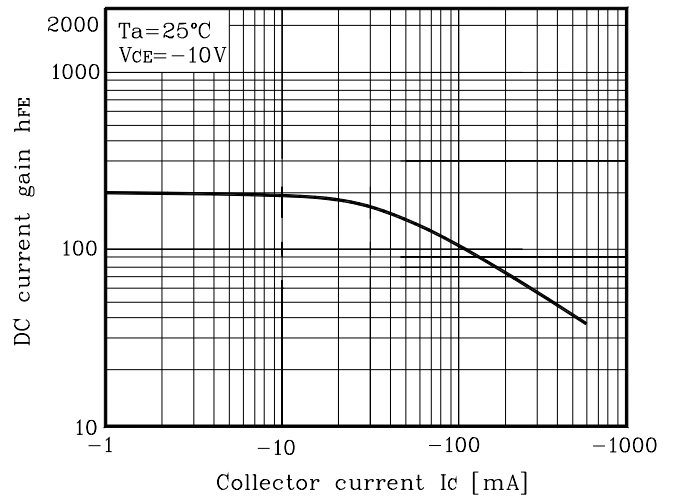


Fig. 3 $V_{CE(sat)}-I_C$

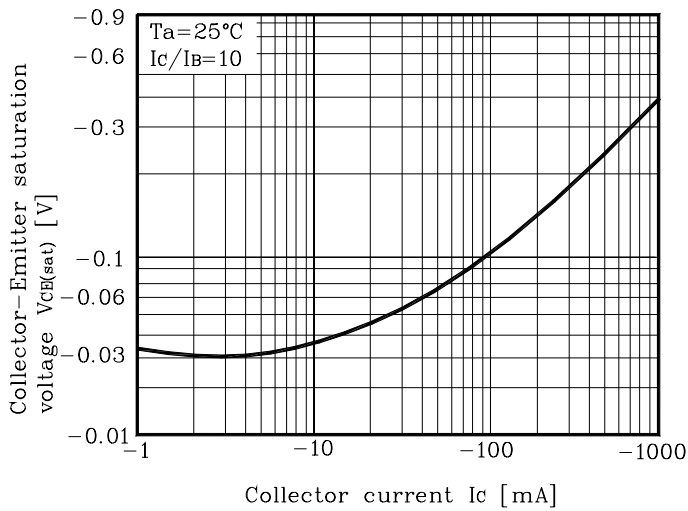
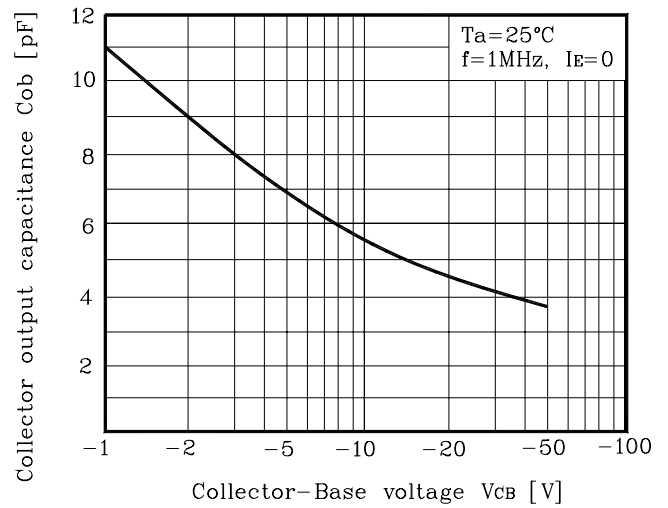


Fig. 4 $C_{ob}-V_{CB}$



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