

**Descriptions**

- General small signal application
- Switching application

**Features**

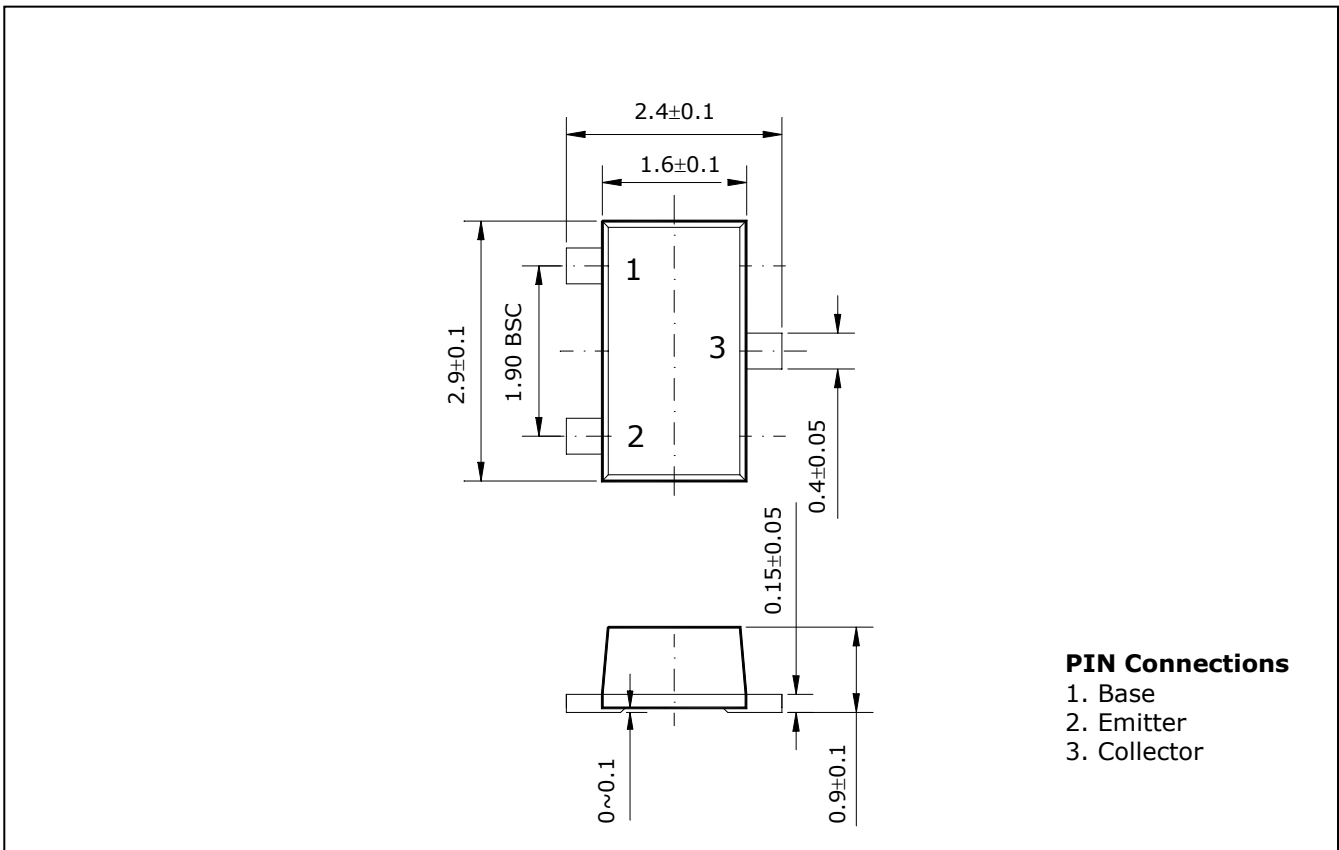
- Low collector saturation voltage
- Collector output capacitance
- Complementary pair with SBT3904F

**Ordering Information**

Type NO.	Marking	Package Code
SBT3906F	2A	SOT-23F

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	-40	V
Collector-Emitter voltage	$V_{CEO}$	-40	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-200	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	$BV_{CBO}$	$I_C = -10\mu A, I_E = 0$	-40	-	-	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	$I_{CEX}$	$V_{CE} = -30V, V_{EB} = -3V$	-	-	-50	nA
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_C = -10mA$	100	-	300	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50mA, I_B = -5mA$	-	-	-0.4	V
Transition frequency	$f_T$	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	250	-	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -5V, I_E = 0, f = 1MHz$	-	-	4.5	pF
Delay time	$t_d$	$V_{CC} = -3V_{dcr}, V_{BE(off)} = -0.5V_{dcr}$	-	-	35	ns
Rise time	$t_r$	$I_C = -10mA_{dcr}, I_{B1} = -1mA_{dc}$	-	-	35	ns
Storage time	$t_s$	$V_{CC} = -3V_{dcr}, I_C = -10mA_{dcr}$	-	-	225	ns
Fall Time	$t_f$	$I_{B1} = I_{B2} = -1mA_{dc}$	-	-	75	ns

Electrical Characteristic Curves

Fig. 1  $P_C$ - $T_a$

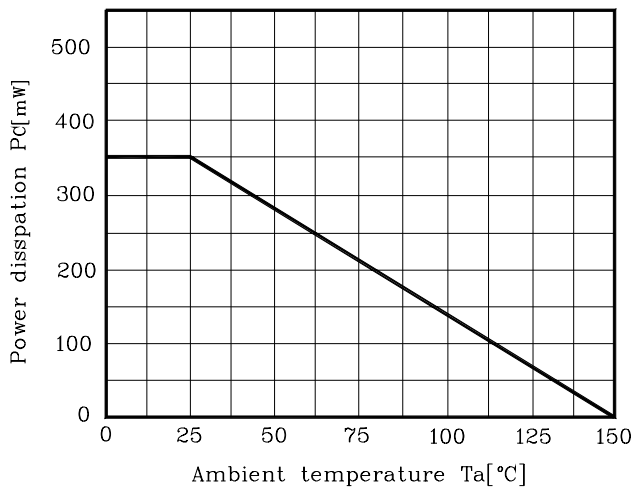


Fig. 2  $h_{FE}$ - $I_C$

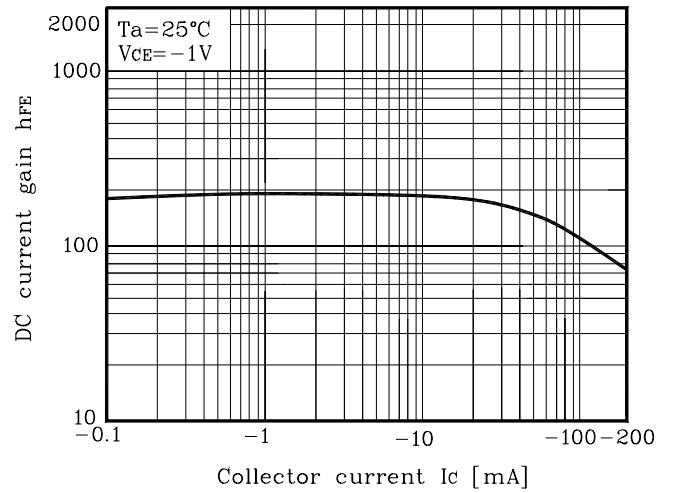
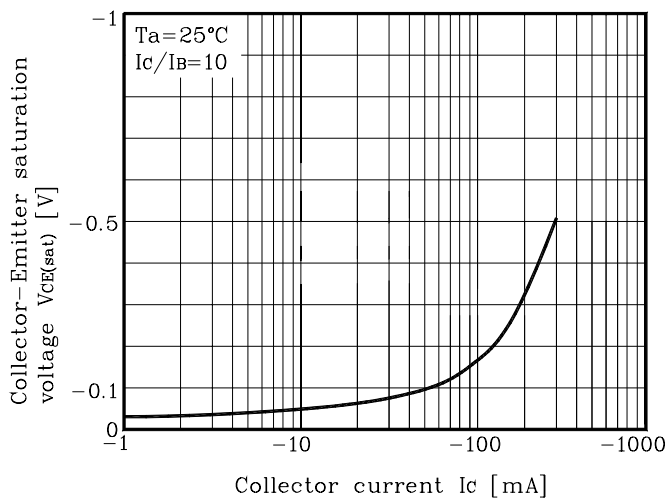


Fig. 3  $V_{CE(sat)}$ - $I_C$



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