

Descriptions

- General small signal application
- Switching application

Features

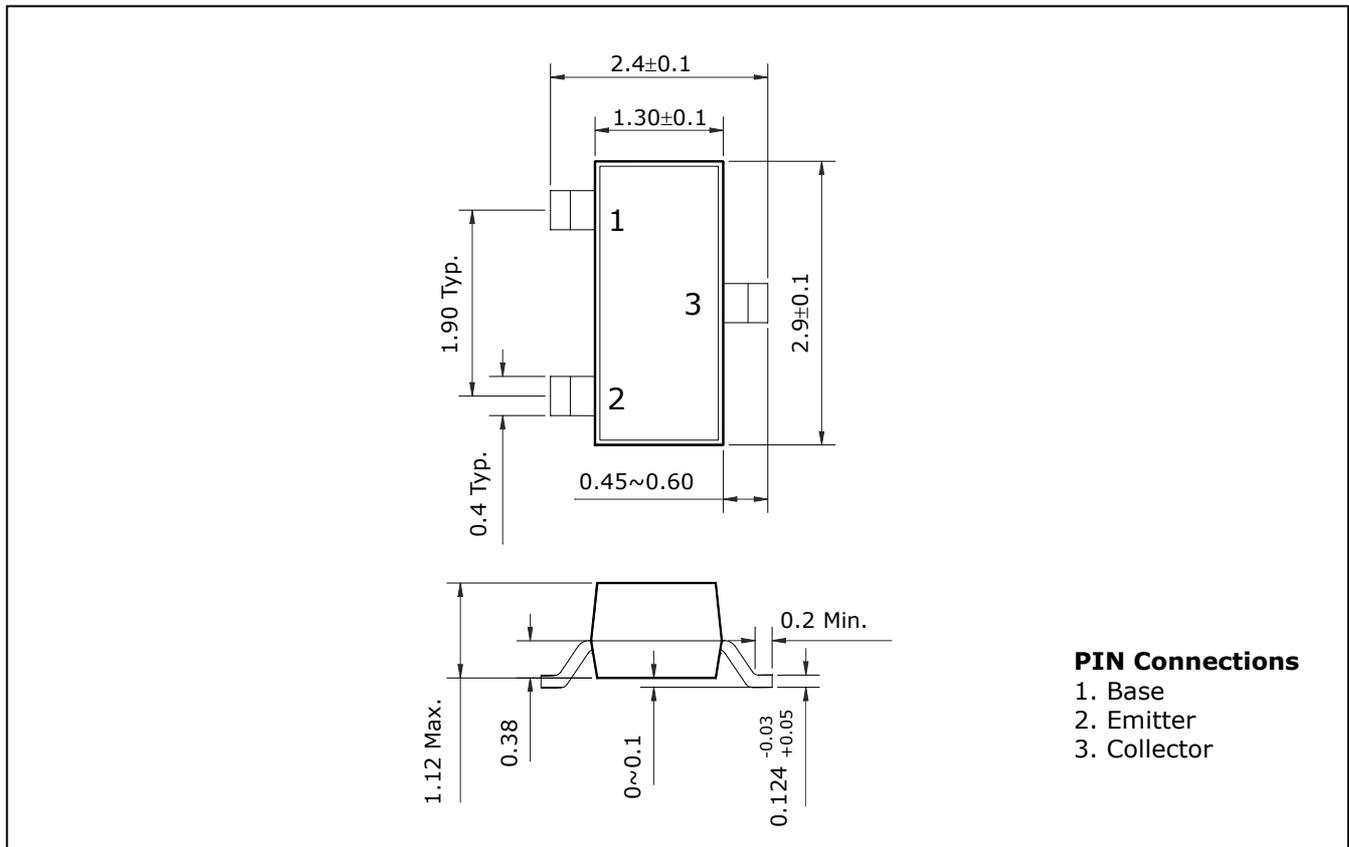
- Low collector saturation voltage
- Collector output capacitance
- Complementary pair with SBT3904

Ordering Information

Type NO.	Marking	Package Code
SBT3906	2A	SOT-23

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

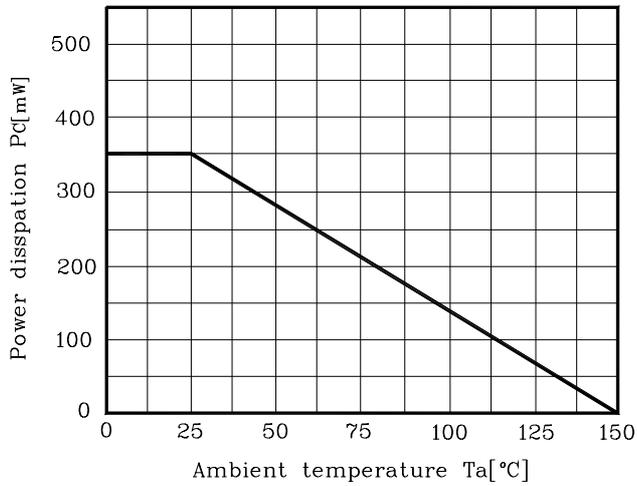


Fig. 2 h_{FE} - I_C

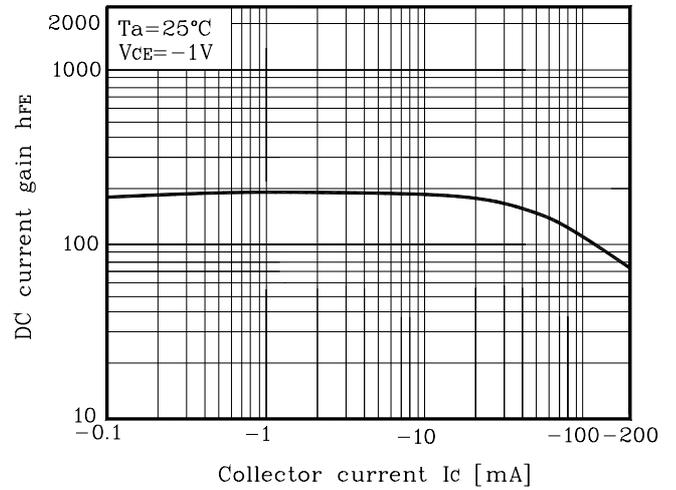
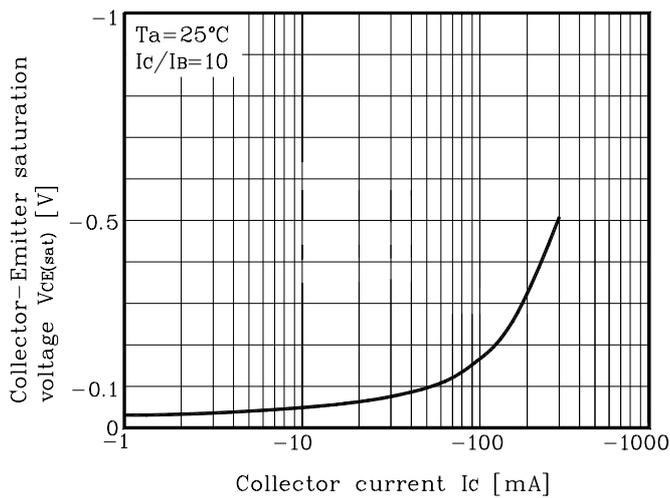


Fig. 3 $V_{CE(sat)}$ - I_C



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