AUK Semiconductor

SBT2222AF

NPN Silicon Transistor

Descriptions

- General purpose application
- Switching application

Features

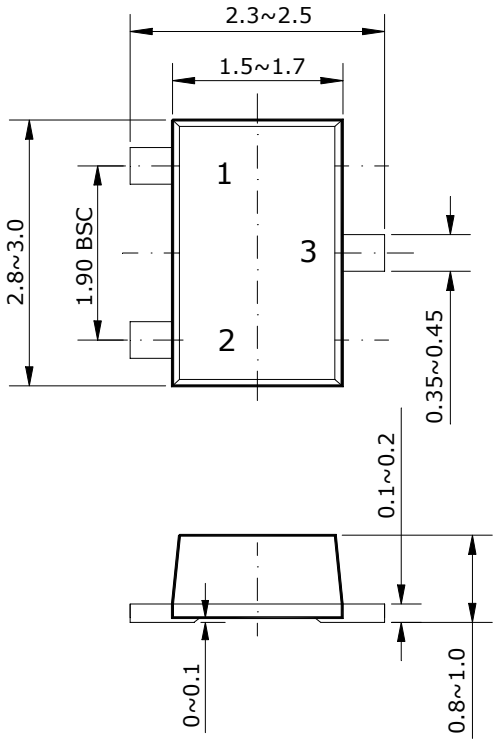
- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with SBT2907AF

Ordering Information

Type NO.	Marking	Package Code
SBT2222AF	1P	SOT-23F

Outline Dimensions

unit : mm



PIN Connections
1. Base
2. Emitter
3. Collector

Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	75	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=10μA, I_E=0	75	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	I_C=1mA, I_B=0	40	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	I_E=10μA, I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=75V, 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

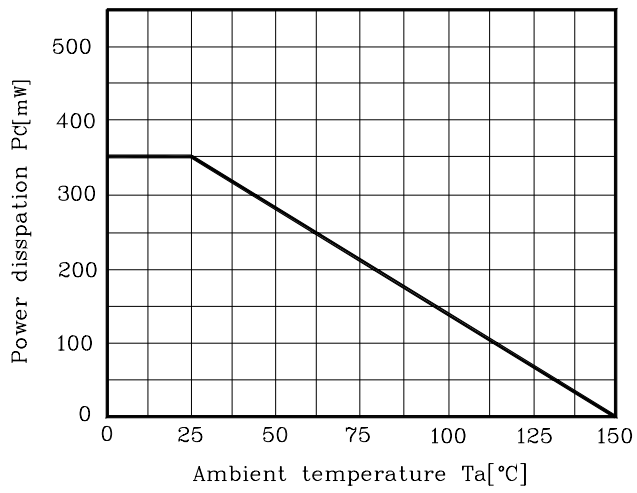


Fig. 2 h_{FE}-I_C

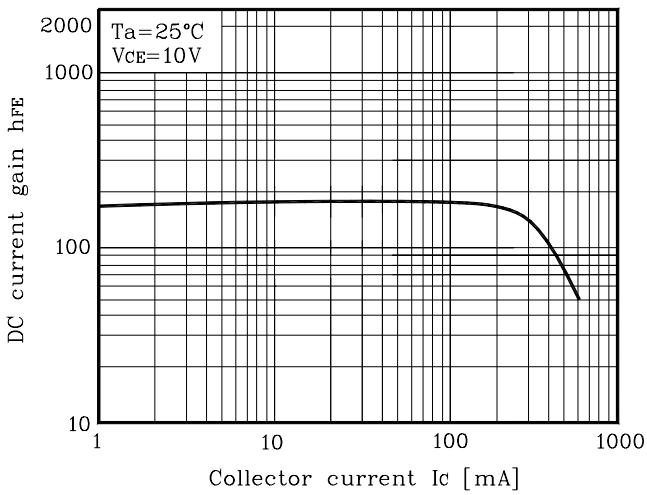


Fig. 3 $V_{CE(sat)}$-I_C

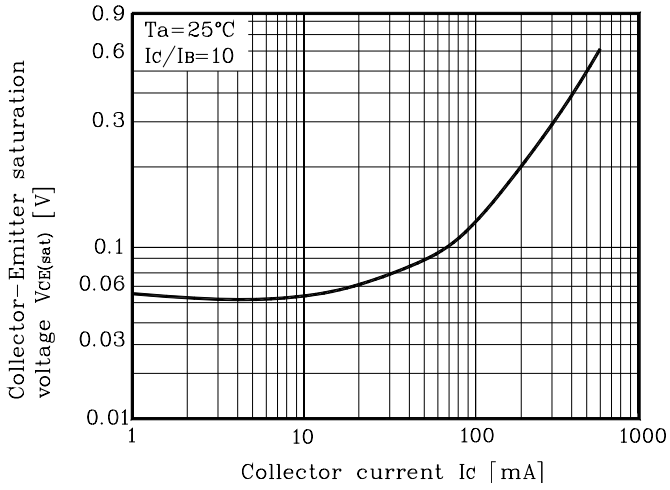
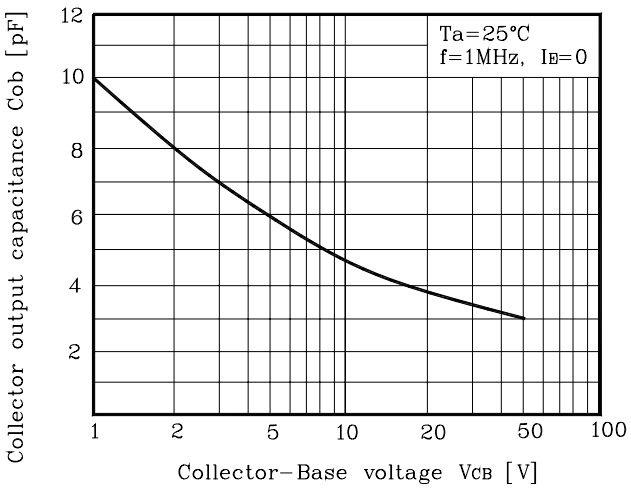


Fig. 4 C_{ob}-V_{CB}



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