

## Features

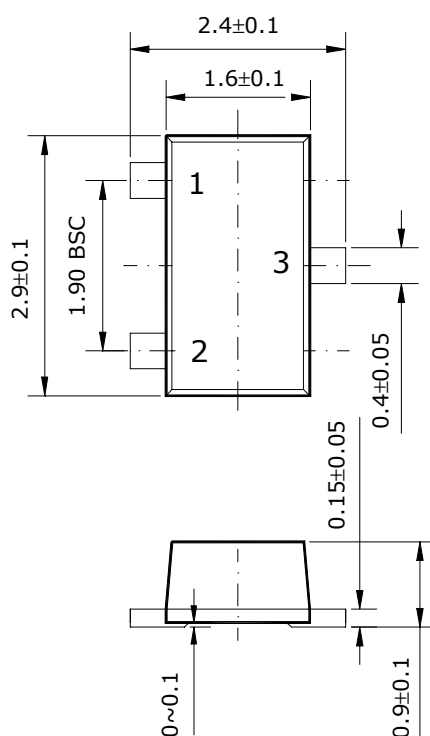
- Suitable for low voltage large current drivers
- High DC current gain and large current capability
- Complementary pair with STD123SF

## Ordering Information

Type NO.	Marking	Package Code
STA124SF	124	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	$V_{CBO}$	-15	V
Collector-Emitter voltage	$V_{CEO}$	-12	V
Emitter-Base voltage	$V_{EBO}$	-6.5	V
Collector current	$I_C$	-1	A
Collector dissipation	$P_C^*$	350	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~150	°C

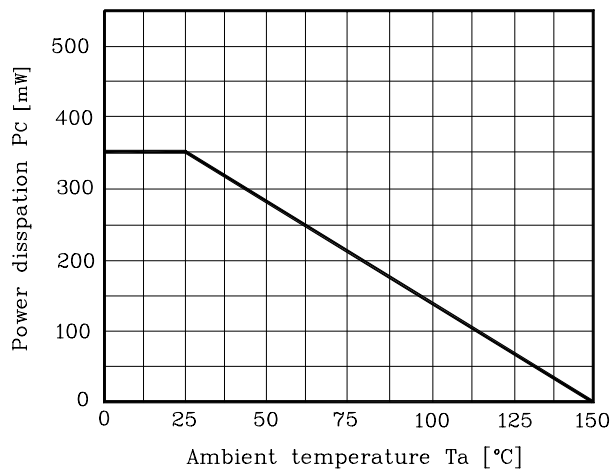
\* : Package mounted on 99.5% alumina 10×8×0.1mm

## Electrical Characteristics

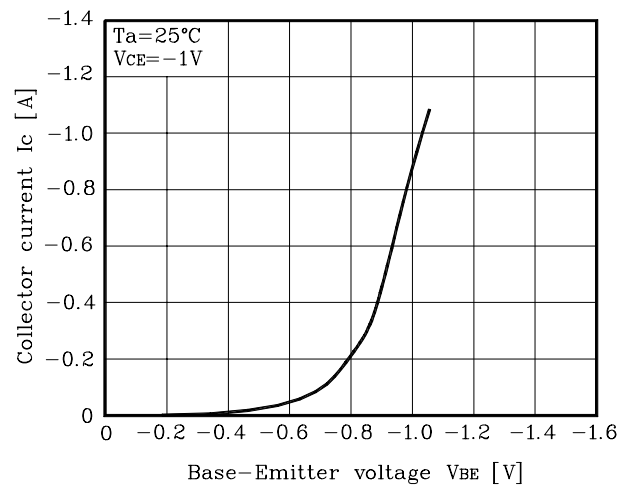
(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CBO}$	$I_C = -50\mu A, I_E = 0$	-15	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C = -1mA, I_B = 0$	-12	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E = -50\mu A, I_C = 0$	-6.5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -15V, I_E = 0$	-	-	-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6V, I_C = 0$	-	-	-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_C = -100mA$	200	-	450	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$	-	-0.2	-0.4	V
Transistor frequency	$f_T$	$V_{CE} = -5V, I_C = -50mA$	-	260	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	5	-	pF

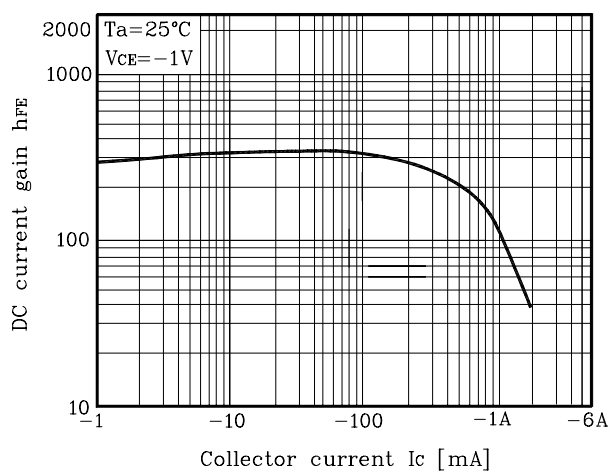
**Fig. 1  $P_C - T_a$**



**Fig. 2  $I_C - V_{BE}$**



**Fig. 3  $h_{FE} - I_C$**



**Fig. 4  $V_{CE(sat)} - I_C$**

