

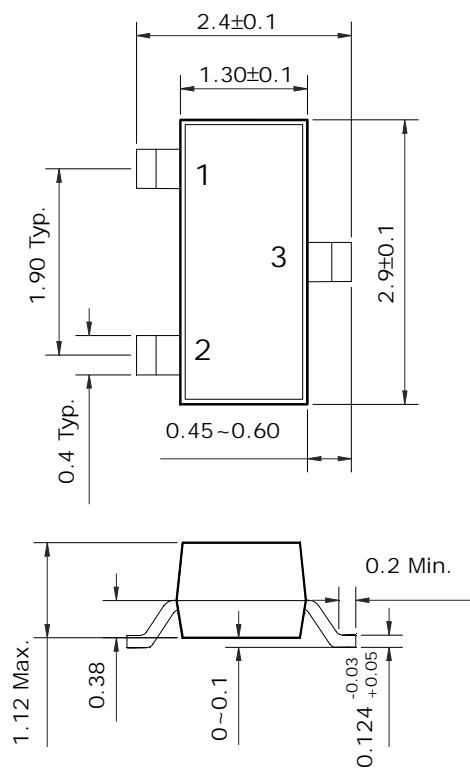
Features

- Low saturation medium current application
- Extremely low collector saturation voltage
- Suitable for low voltage large current drivers
- High DC current gain and large current capability
- Low on resistance : $R_{ON}=0.6\Omega$ (Max.) ($I_B=1mA$)

Ordering Information

Type NO.	Marking	Package Code
STD123S	123	SOT-23

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}	20	V
Collector-Emitter voltage	V _{CEO}	15	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 =50μA, I _E =0	20	-	-	V
Collector-Emitter breakdown voltage	BV _{CEO}	I _C =1mA, I _B =0	15	-	-	V
Emitter-Base breakdown voltage	BV _{EBO}	I _E =50μA, I _C =0	6.5	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} =20V, I _E =0	-	-	0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =6V, I _C =0	-	-	0.1	μA
DC current gain	h _{FE}	V _{CE} =1V, I _C =100mA	150	-	-	-
Collector-Emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA	-	0.1	0.3	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
On resistance	R _{ON}	f=1KHz, I _B =1mA, V _{IN} =0.3V	-	0.6	-	Ω

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

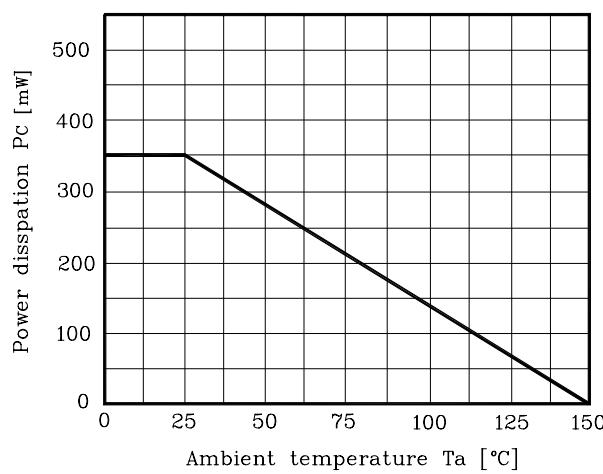


Fig. 2 $V_{CE(sat)}-I_C$

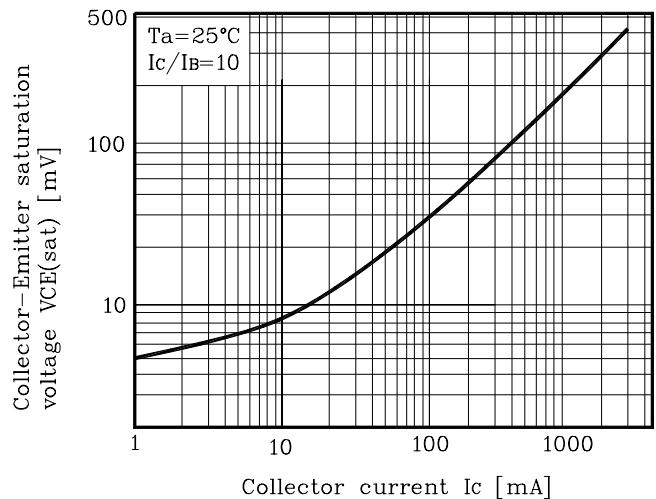


Fig. 2 $C_{ob}-V_{CB}$

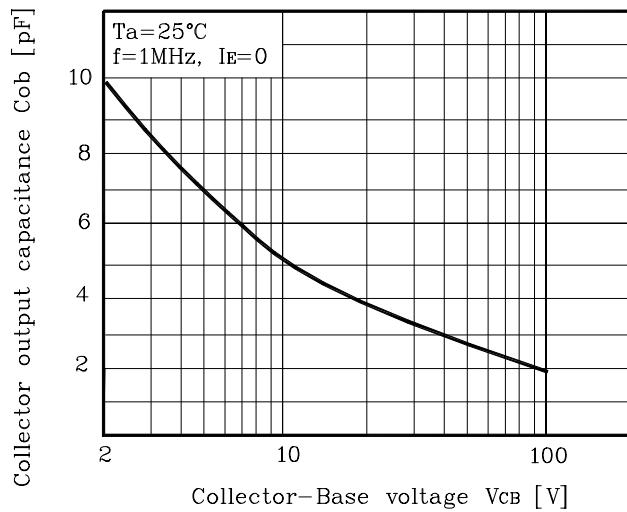


Fig. 4 $h_{FE}-I_C$

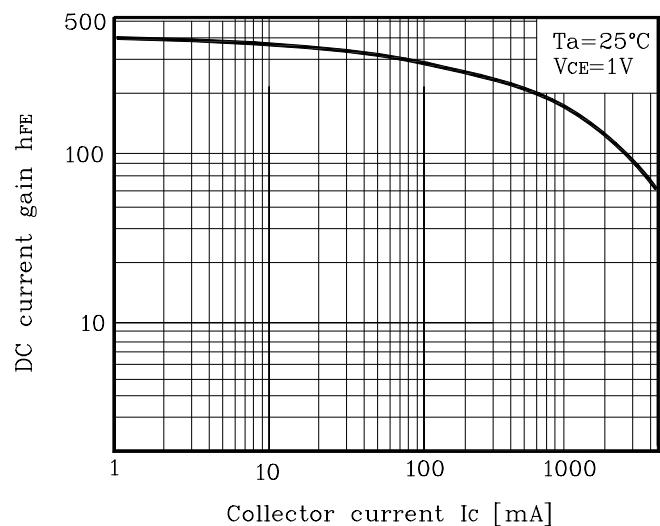


Fig. 5 $R_{ON}-I_B$

