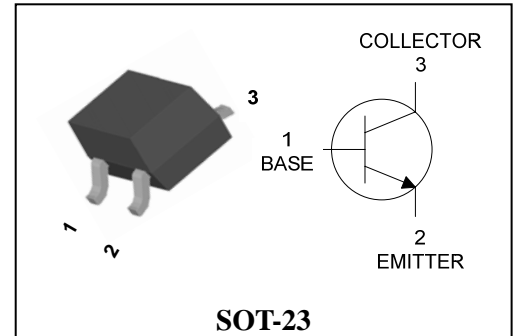



Features

- High β & low saturation transistor.
- $h_{FE}=400$ Min. @ $V_{CE}=1V$, $I_C=100mA$
- Suitable for large current drive directly.
- Application for IRED Drive transistor in remote transmitter.

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STD123AS	12A  ① ②	SOT-23

① Device Code ② Year&Week Code

Absolute maximum ratings

($T_a=25^\circ C$)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	10	V
Collector-Emitter voltage	V_{CEO}	6	V
Emitter-Base voltage	V_{EBO}	3	V
Collector current	I_C	1	A
Collector power dissipation	P_C	350	mW
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 ~ 150	$^\circ C$

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

Electrical Characteristics

($T_a=25^\circ C$)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C=50\mu A$, $I_E=0$	10	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=1mA$, $I_B=0$	6	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E=50\mu A$, $I_C=0$	3	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=10V$, $I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V$, $I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}	$V_{CE}=1V$, $I_C=100mA$	400	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA$, $I_B=50mA$	-	0.1	0.3	V
Transition 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 $P_C - T_a$

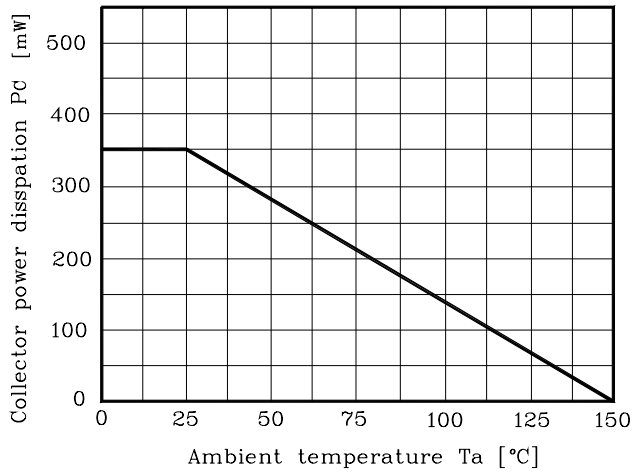


Fig. 2 $V_{CE(sat)} - I_C$

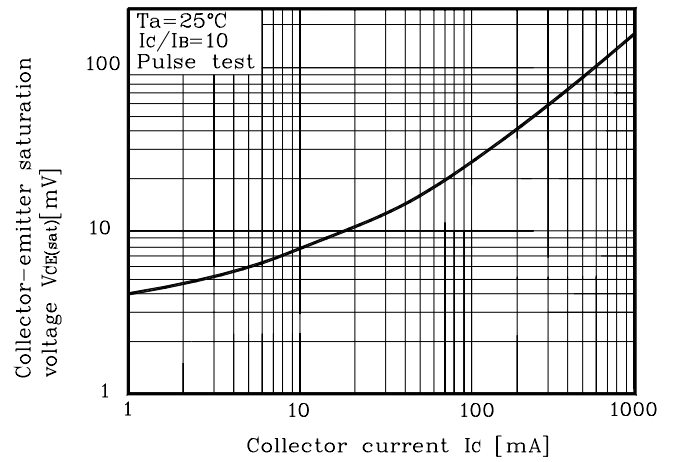


Fig. 3 $C_{ob} - V_{CB}$

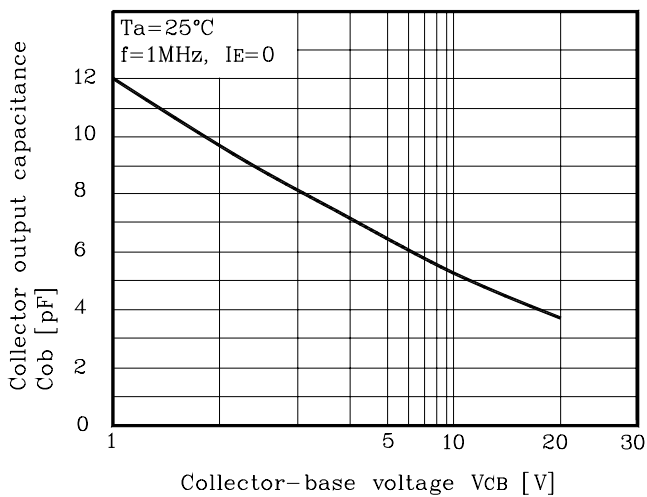


Fig. 4 $h_{FE} - I_C$

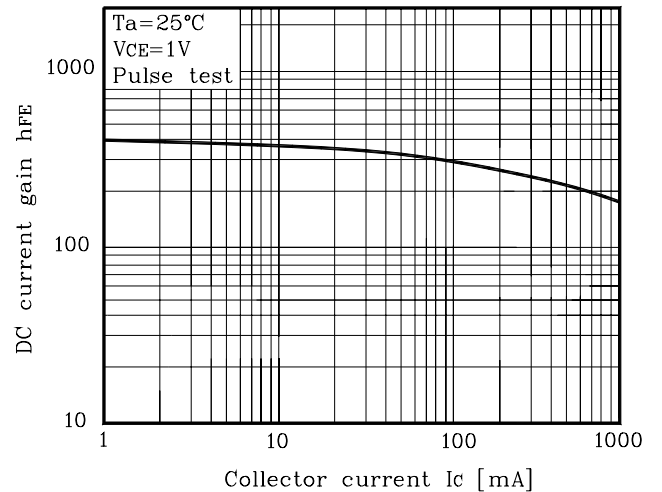
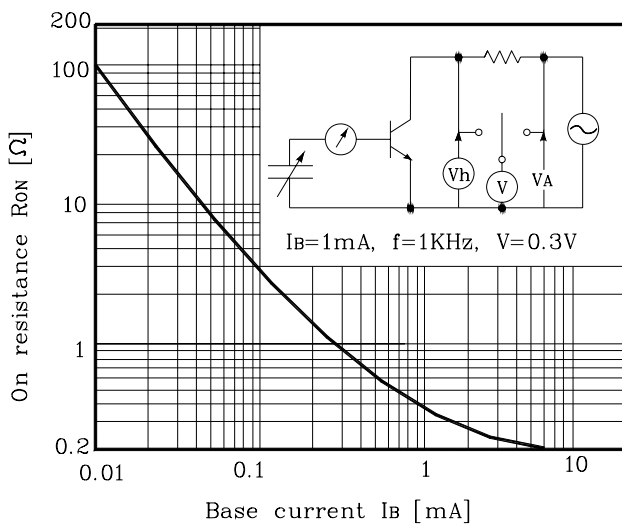
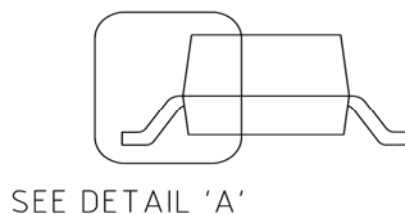
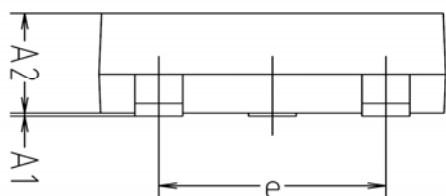
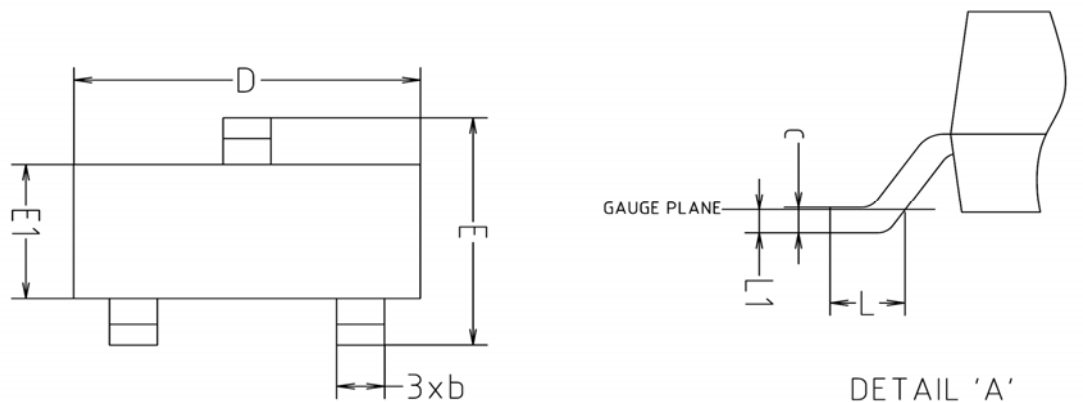


Fig. 5 $R_{ON} - I_B$

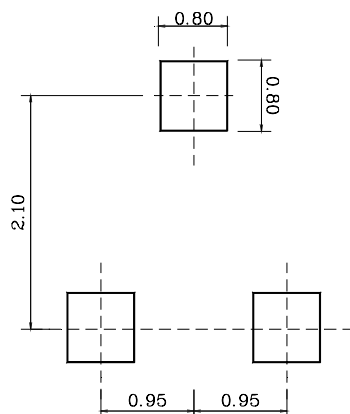


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.82	-	1.02	
b	0.39	0.42	0.45	
c	0.09	0.12	0.15	
D	2.80	2.90	3.00	
E	2.20	2.40	2.60	
E1	1.20	1.30	1.40	
e	1.90BSC			
L	0.20	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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