

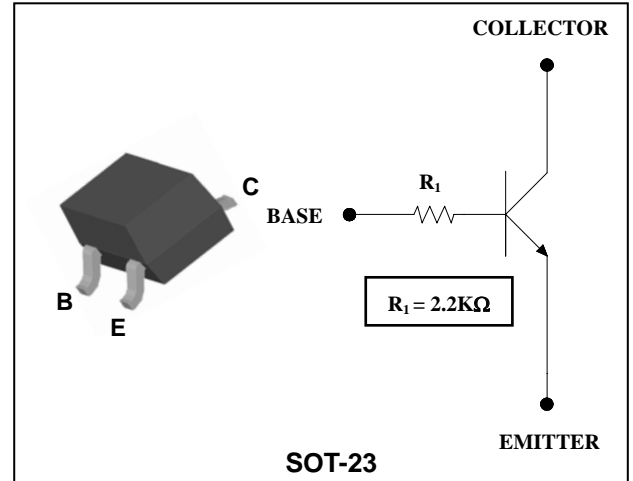
## Descriptions

- Switching application
- Interface circuit and driver circuit application


## Features

- With built-in bias resistor
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process
- High packing density

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
SRC1231S	C31  ① ②	SOT-23

① Device Code ② Year&Week Code

## Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector current	$I_C$	300	mA
Collector Power dissipation	$P_D$	200	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{stg}$	-55 ~ 150	°C

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CB0}$	$I_C = 50\mu A, I_E = 0$	30	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C = 1mA, I_B = 0$	15	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E = 50\mu A, I_C = 0$	5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$	-	-	0.5	$\mu A$
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 2.5mA$	-	60	150	mV
DC current gain	$h_{FE}$	$V_{CE} = 5V, I_C = 50mA$	200	350	800	-
Input resistor (Input to base)	$R_1$	-	1.54	2.2	2.86	K $\Omega$
Transition frequency	$f_T^*$	$V_{CE} = 10V, I_E = 50mA, f = 100MHz$	-	200	-	MHz

\* : Characteristic of transistor only

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

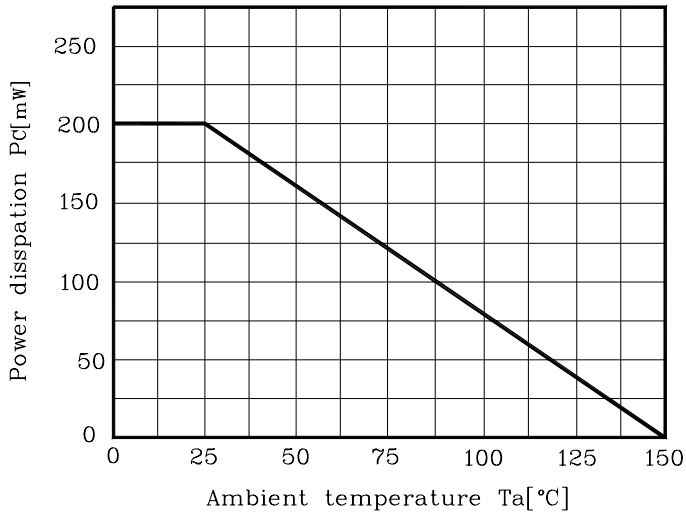


Fig. 2  $h_{FE} - I_C$

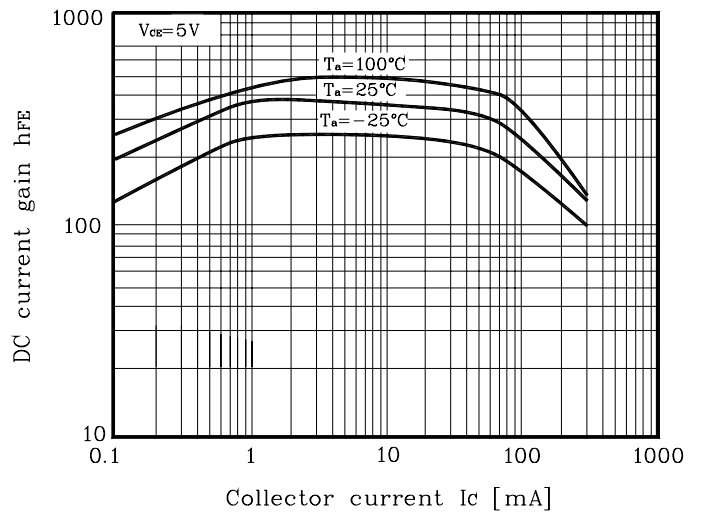


Fig. 3  $I_C - V_{CE(SAT)}$

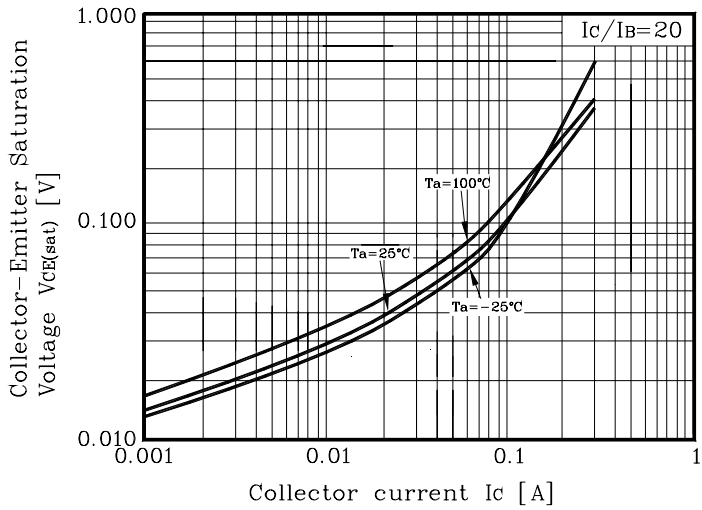


Fig. 4  $I_C - V_{BE(ON)}$

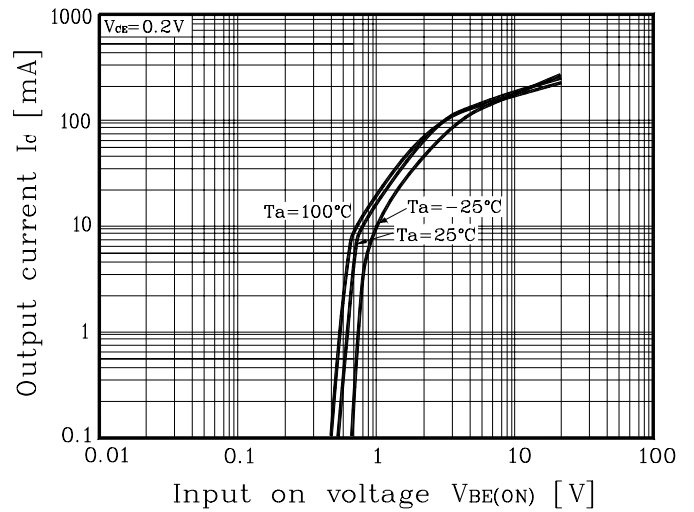
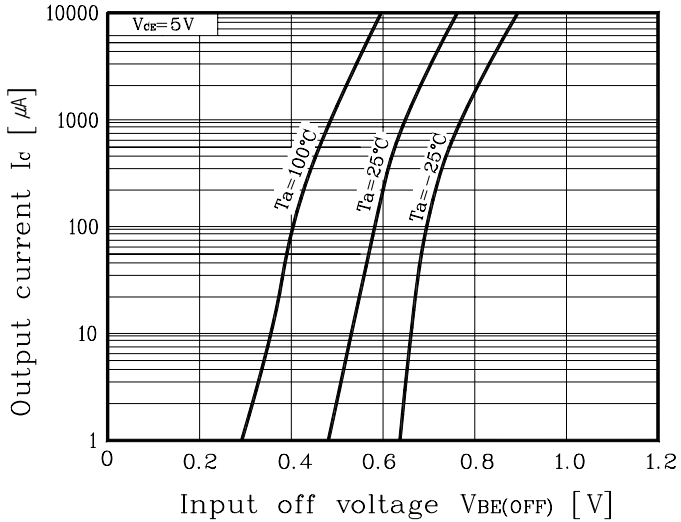
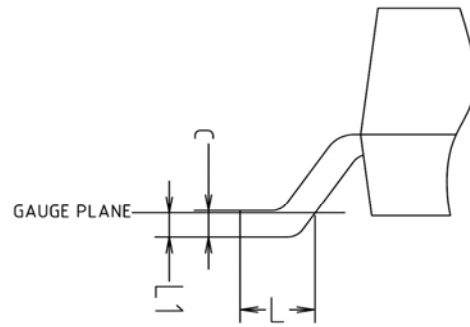
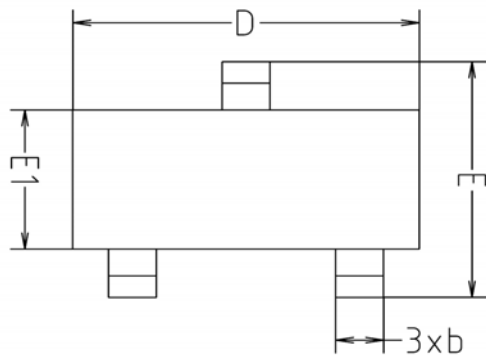


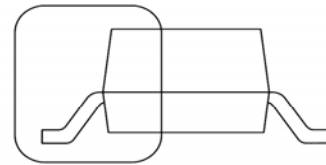
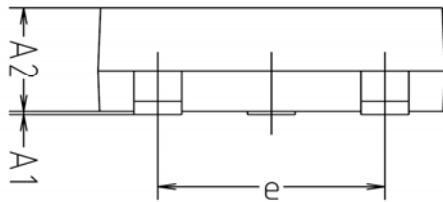
Fig. 5  $I_C - V_{BE(OFF)}$



## Outline Dimension



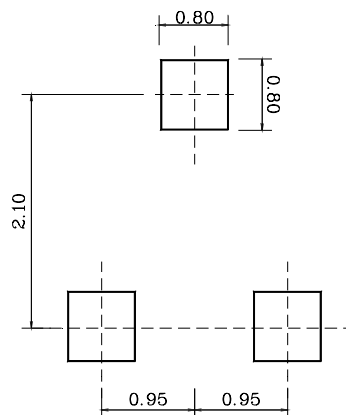
DETAIL 'A'



SEE DETAIL 'A'

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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