

# XN01457

## Silicon PNP epitaxial planar type

For general amplification

### ■ Features

- Two elements incorporated into one package  
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half

### ■ Basic Part Number

- 2SB1693 × 2

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	-40	V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	-20	V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	-15	V
Collector current	$I_{\text{C}}$	-0.5	A
Peak collector current	$I_{\text{CP}}$	-1	A
Total power dissipation	$P_{\text{T}}$	300	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

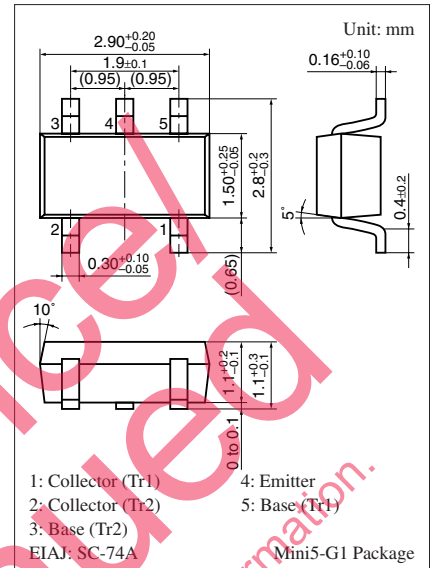
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = -10 \mu\text{A}$ , $I_{\text{E}} = 0$	-40			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = -2 \text{ mA}$ , $I_{\text{B}} = 0$	-20			V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	$I_{\text{E}} = -10 \mu\text{A}$ , $I_{\text{C}} = 0$	-15			V
Forward current transfer ratio <sup>*1</sup>	$h_{\text{FE1}}$	$V_{\text{CE}} = -2 \text{ V}$ , $I_{\text{C}} = -100 \text{ mA}$	160		560	—
	$h_{\text{FE2}}$	$V_{\text{CE}} = -2 \text{ V}$ , $I_{\text{C}} = -500 \text{ mA}$	100			
$h_{\text{FE}}$ ratio <sup>*1, 2</sup>	$h_{\text{FE}}(\text{Small})$	$V_{\text{CE}} = -2 \text{ V}$ , $I_{\text{C}} = -100 \text{ mA}$	0.50	0.99		—
Collector-emitter saturation voltage <sup>*1</sup>	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -100 \text{ mA}$ , $I_{\text{B}} = -10 \text{ mA}$		-60	-300	mV
		$I_{\text{C}} = -0.5 \text{ A}$ , $I_{\text{B}} = -25 \text{ mA}$		-210	-500	
Transition frequency	$f_{\text{T}}$	$V_{\text{CB}} = -5 \text{ V}$ , $I_{\text{E}} = 50 \text{ mA}$ , $f = 200 \text{ MHz}$		170		MHz
Collector output capacitance (Common base, input open circuited)	$C_{\text{ob}}$	$V_{\text{CB}} = -10 \text{ V}$ , $I_{\text{E}} = 0$ , $f = 1 \text{ MHz}$		16		pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

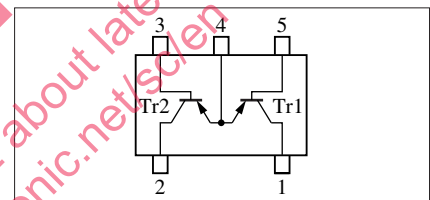
2. \*1: Pulse measurement

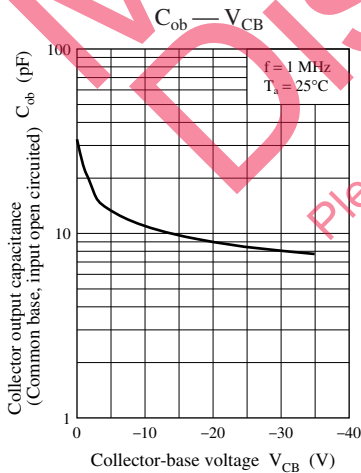
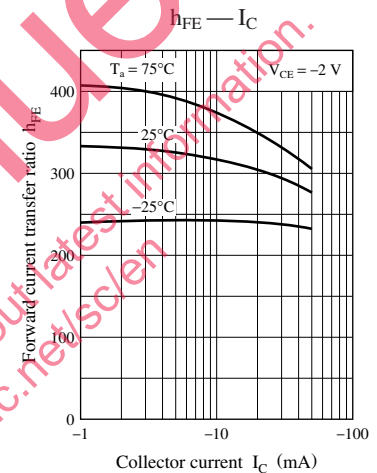
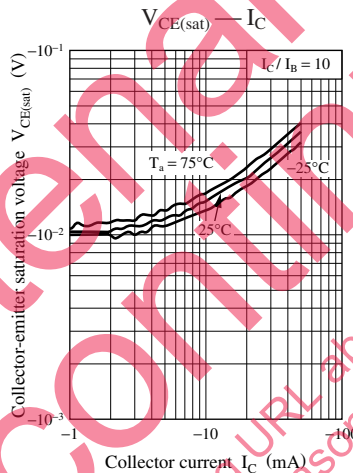
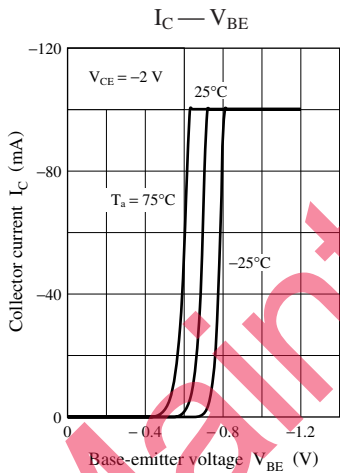
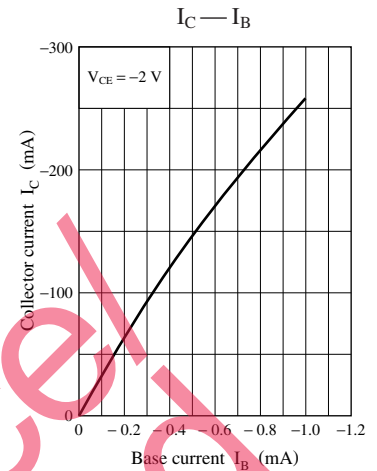
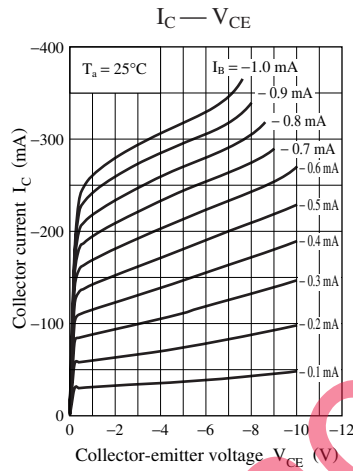
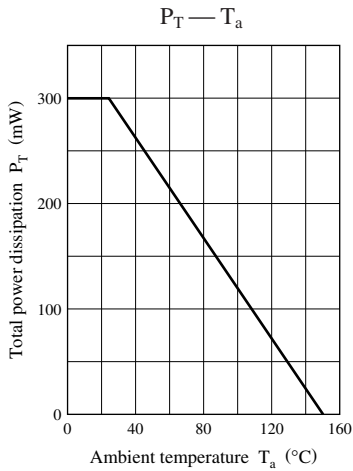
\*2: Ratio between 2 elements



Marking Symbol: 4Y

Internal Connection





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