

# 2SC5931

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## Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV, CRT monitor

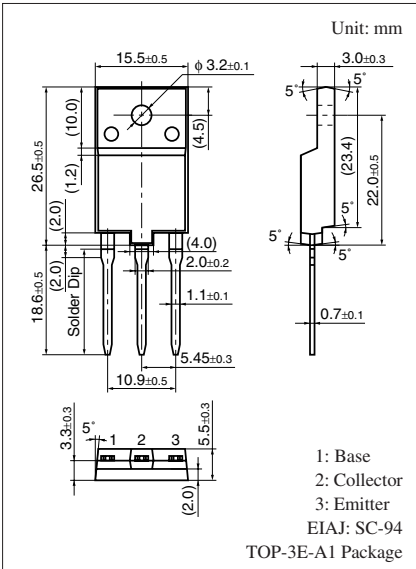
### ■ Features

- High breakdown voltage:  $V_{CBO} \geq 1\,700\text{ V}$
- High speed switching:  $t_f < 200\text{ ns}$
- Wide safe operation area

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

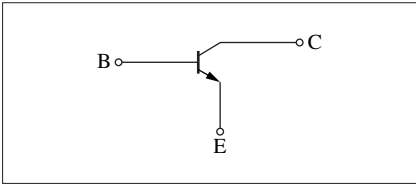
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	1 700	V
Collector-emitter voltage (E-B short)	V <sub>CES</sub>	1 700	V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	600	V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	7	V
Base current	I <sub>B</sub>	7.5	A
Collector current	I <sub>C</sub>	15	A
Peak collector current *	I <sub>CP</sub>	25	A
Collector power dissipation	P <sub>C</sub>	60	W
		3	
	T <sub>a</sub> = 25°C		
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	−55 to +150	°C

Note) \*: Non-repetitive peak collector current



Marking Symbol: C5931

### Internal Connection

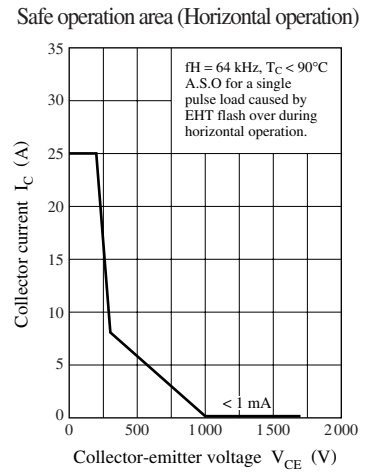
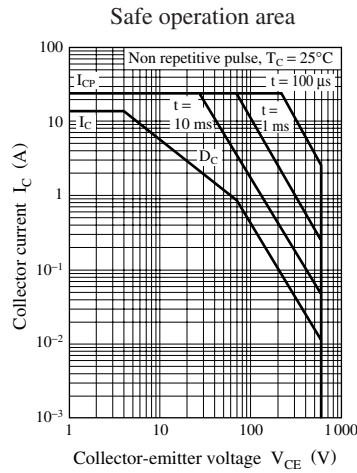
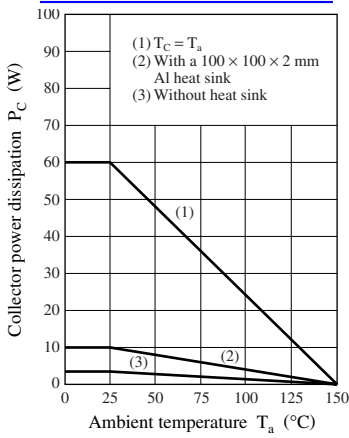


### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 1\,000\text{ V}, I_E = 0$			50	$\mu\text{A}$
		$V_{CB} = 1\,700\text{ V}, I_E = 0$			1	mA
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 7\text{ V}, I_C = 0$			50	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 7.5\text{ A}$	5		10	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 7.5\text{ A}, I_B = 1.88\text{ A}$			3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 7.5\text{ A}, I_B = 1.88\text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}, f = 0.5\text{ MHz}$		3		MHz
Storage time	$t_{stg}$	$I_C = 7.5\text{ A}, \text{Resistance loaded}$			2.7	$\mu\text{s}$
Fall time	$t_f$	$I_{B1} = 1.88\text{ A}, I_{B2} = -3.75\text{ A}$			0.2	$\mu\text{s}$

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

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