

2SC5931

Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV, CRT monitor

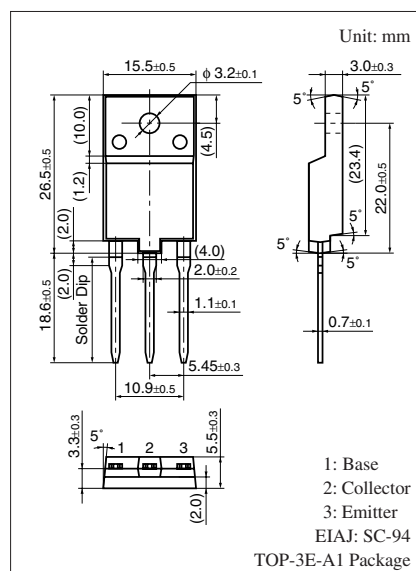
■ Features

- 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 $T_C = 25^\circ\text{C}$

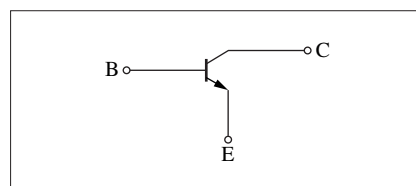
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V _{CBO}	1 700	V
Collector-emitter voltage (E-B short)	V _{CES}	1 700	V
Collector-emitter voltage (Base open)	V _{CEO}	600	V
Emitter-base voltage (Collector open)	V _{EBO}	7	V
Base current	I _B	7.5	A
Collector current	I _C	15	A
Peak collector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

Note) *: Non-repetitive peak collector current



Marking Symbol: C5931

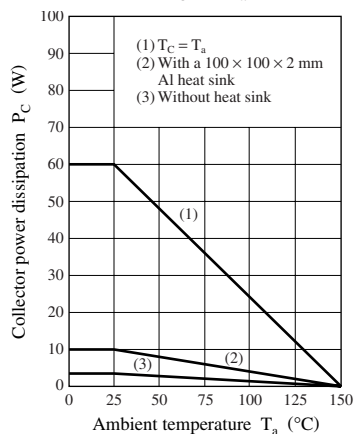
Internal Connection



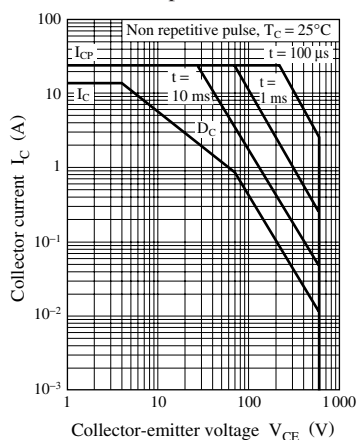
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

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	μA
		$V_{CB} = 1\,700\text{ V}, I_E = 0$			1	mA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$			50	μA
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	μs
Fall time	t_f	$I_{B1} = 1.88\text{ A}, I_{B2} = -3.75\text{ A}$			0.2	μs

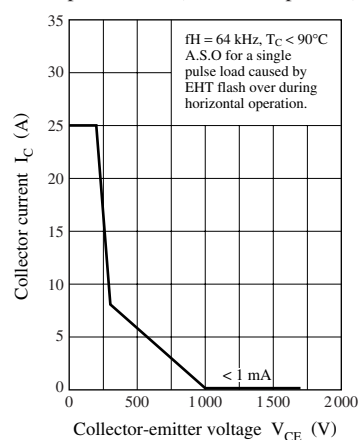
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

$P_C - T_a$ 

Safe operation area



Safe operation area (Horizontal operation)



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