

# 2SC5902

## Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV

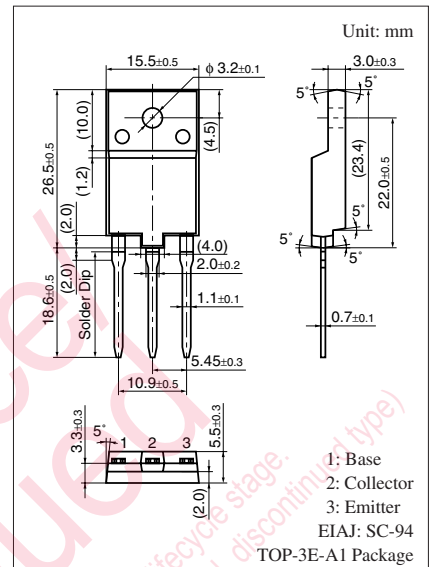
### ■ Features

- High breakdown voltage:  $V_{CBO} \geq 1700$  V
- Wide safe operation area
- Built-in dumper diode

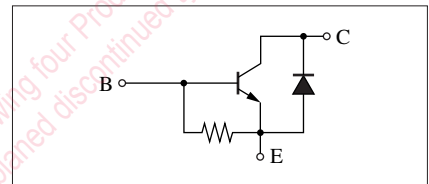
### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	1700	V
Collector-emitter voltage (E-B short)	$V_{CES}$	1700	V
Emitter-base voltage (Collector open)	$V_{EBO}$	7	V
Base current	$I_B$	3	A
Collector current	$I_C$	9	A
Peak collector current *	$I_{CP}$	14	A
Collector power dissipation	$P_C$	40	W
		$T_a = 25^\circ\text{C}$	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \*: Non-repetitive peak collector current



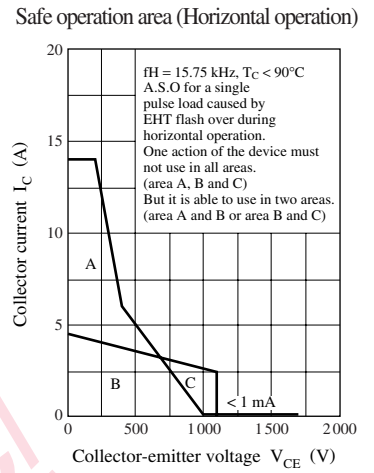
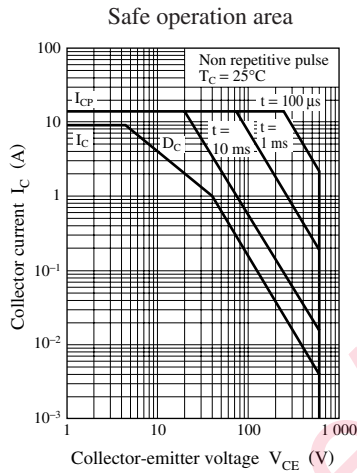
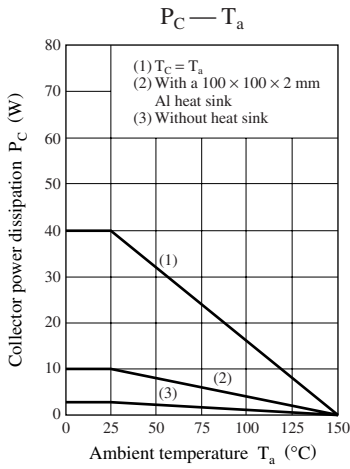
### Internal Connection



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 500$ mA, $I_C = 0$	7			V
Forward voltage	$V_F$	$I_F = 4.5$ A			-2	V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 1000$ V, $I_E = 0$			50	$\mu\text{A}$
		$V_{CB} = 1700$ V, $I_E = 0$			1	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5$ V, $I_C = 4.5$ A	5		10	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4.5$ A, $I_B = 1.13$ A			3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 4.5$ A, $I_B = 1.13$ A			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10$ V, $I_C = 0.1$ A, $f = 0.5$ MHz		3		MHz
Storage time	$t_{stg}$	$I_C = 4.5$ A, Resistance loaded			5.0	$\mu\text{s}$
Fall time	$t_f$	$I_{B1} = 1.13$ A, $I_{B2} = -2.25$ A			0.5	$\mu\text{s}$

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



Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.  
 (planned maintenance type, maintenance type, planned discontinued type, discontinued type)

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