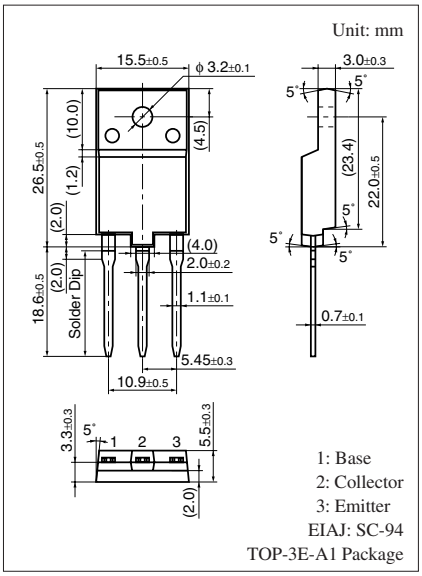
2SC5902

Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV



■ Features

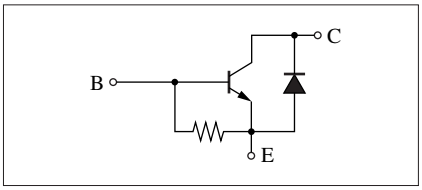
- High breakdown voltage: $V_{CBO} \geq 1\,700$ V
- Wide safe operation area
- Built-in dumper diode

■ Absolute Maximum Ratings $T_C = 25°C$

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
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
$T_a = 25°C$		3	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Note) ∗: Non-repetitive peak collector current

Internal Connection

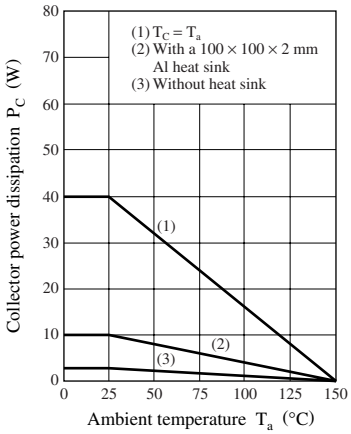


■ Electrical Characteristics $T_C = 25°C \pm 3°C$

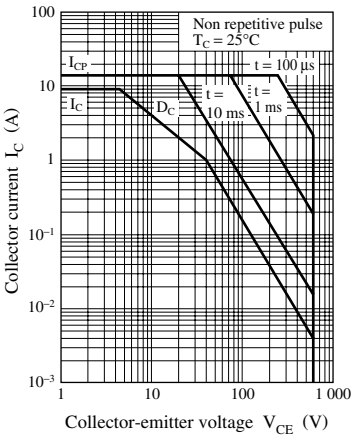
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 500$ mA, $I_C = 0$	7			V
Forward voltage	V_F	$I_F = 4.5$ A			−2	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 1\,000$ V, $I_E = 0$			50	μA
		$V_{CB} = 1\,700$ V, $I_E = 0$			1	mA
Forward 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	μs
Fall time	t_f	$I_{B1} = 1.13$ A, $I_{B2} = -2.25$ A			0.5	μs

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

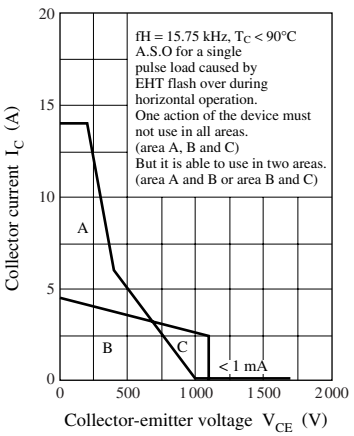
P_C — T_a



Safe operation area



Safe operation area (Horizontal operation)



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