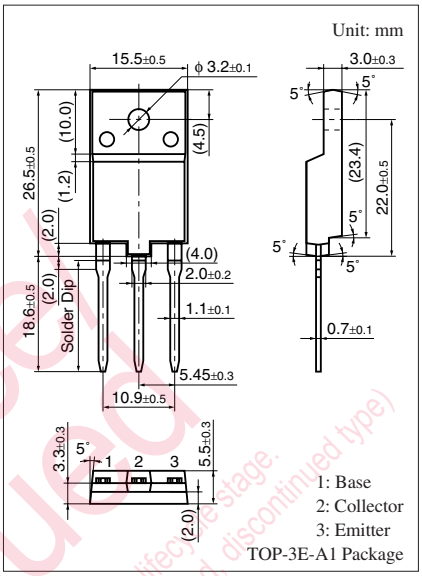
2SC5904

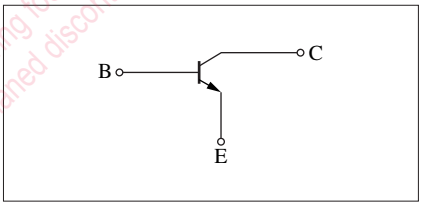
Silicon NPN triple diffusion mesa type

For Horizontal deflection output for TV, CRT monitor



Marking Symbol: C5904

Internal Connection



■ Features

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

■ 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
Collector-emitter voltage (Base open)	V_{CEO}	600	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Base current	I_B	8	A
Collector current	I_C	17	A
Peak collector current *	I_{CP}	27	A
Collector power dissipation	P_C	65	W
$T_a = 25°C$		3.5	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

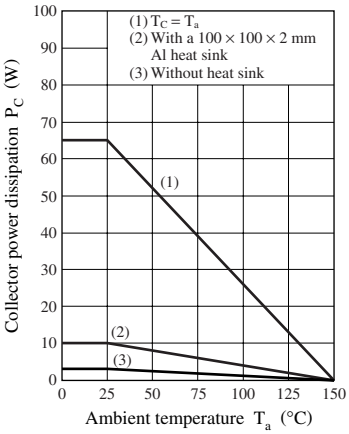
Note) *: Non-repetitive peak collector current

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

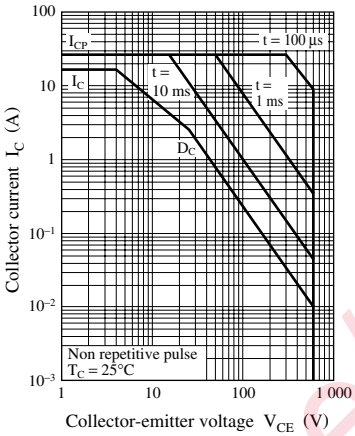
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 1\,000$ V, $I_E = 0$			50	μA
		$V_{CB} = 1\,700$ V, $I_E = 0$			1	mA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 7$ V, $I_C = 0$			50	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 5$ V, $I_C = 8.5$ A	5		12	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 8.5$ A, $I_B = 2.13$ A			3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 8.5$ A, $I_B = 2.13$ 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}	$I_C = 8.5$ A, Resistance loaded			3.0	μs
Fall time	t_f	$I_{B1} = 2.13$ A, $I_{B2} = -4.25$ A			0.2	μs

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

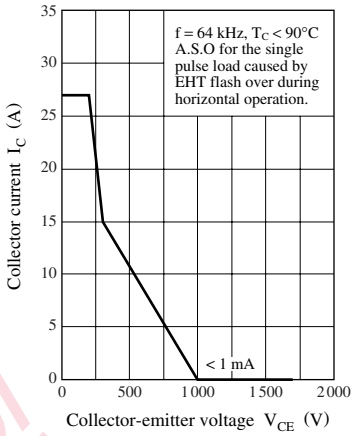
P_C — T_a



Safe operation area



Safe operation area (Horizontal operation)



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