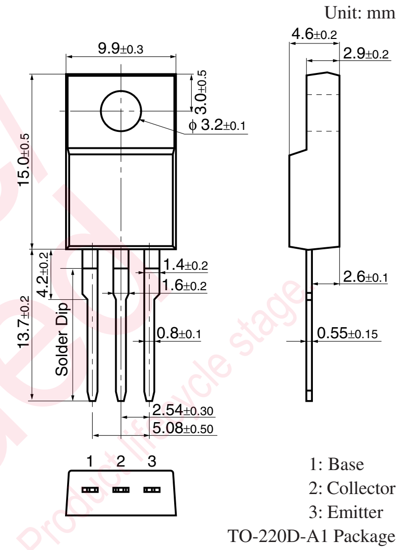
2SC5993

Silicon NPN epitaxial planar type

For power amplification
For TV VM circuit



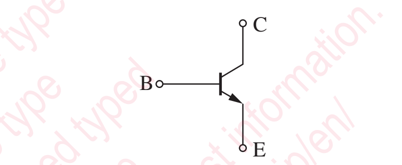
■ Features

- Satisfactory linearity of forward current transfer ratio h_{FE}
- High transition frequency (f_T)
- Full-pack package which can be installed to the heat sink with one screw.

■ Absolute Maximum Ratings $T_C = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	180	V
Collector-emitter voltage (Base open)	V_{CEO}	180	V
Emitter-base voltage (Collector open)	V_{EBO}	6	V
Collector current	I_C	1.5	A
Peak collector current	I_{CP}	3	A
Collector power dissipation	P_C	20	W
$T_a = 25°C$		2.0	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Internal Connection



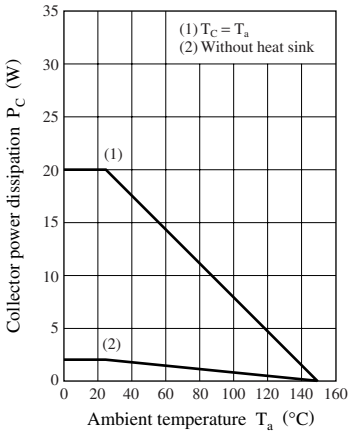
■ Electrical Characteristics $T_C = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 10$ mA, $I_B = 0$	180			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 180$ V, $I_E = 0$			100	µA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6$ V, $I_C = 0$			100	µA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 5$ V, $I_C = 0.1$ A	60		240	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1$ A, $I_B = 0.1$ A			0.5	V
Transition frequency	f_T	$V_{CE} = 10$ V, $I_C = 0.2$ A, f = 10 MHz		130		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, f = 1 MHz		10		pF
Turn-on time	t_{on}	$I_C = 0.4$ A, Resistance loaded		0.1		µs
Storage time	t_{stg}	$I_{B1} = 0.04$ A, $I_{B2} = -0.04$ A		1.5		µs
Fall time	t_f	$V_{CC} = 100$ V		0.1		µs

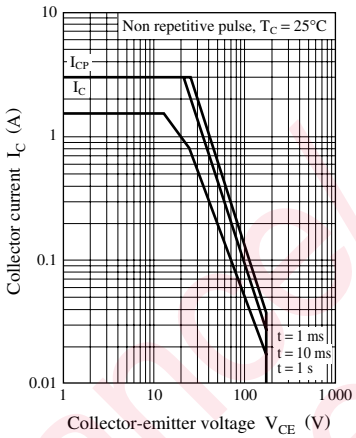
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	Q	P
h_{FE}	60 to 140	120 to 240

P_C — T_a



Safe operation area



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