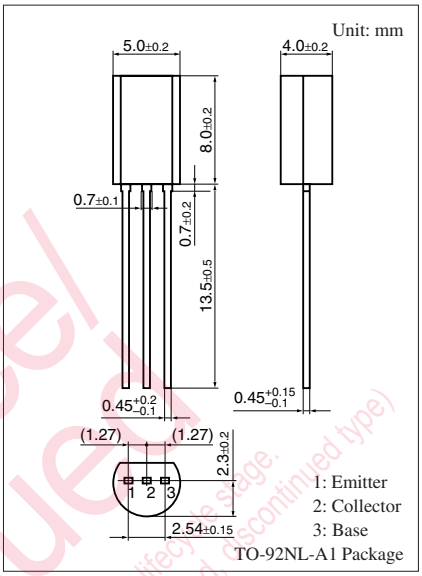
2SC3941

Silicon NPN triple diffusion planar type

For high breakdown voltage general amplification
For small TV video output
Complementary to 2SA1858



■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- High transition frequency f_T
- Allowing supply with the radial taping

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	300	V
Collector-emitter voltage (Base open)	V_{CEO}	300	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_C	70	mA
Peak collector current	I_{CP}	100	mA
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

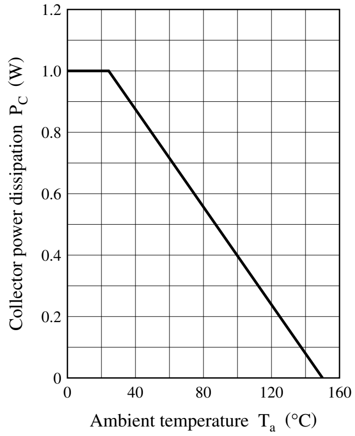
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 100 µA, I_B = 0	300			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 1 µA, I_C = 0	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 100 V, I_E = 0			2	µA
Forward current transfer ratio *	h_{FE}	V_{CE} = 10 V, I_C = 5 mA	30		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 50 mA, I_B = 5 mA			1.2	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = −10 mA, f = 200 MHz	50	80		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		4	8	pF
Storage time	t_{stg}	I_C = 100 mA, I_{B1} = 10 mA, I_{B2} = 0		2.5		µs

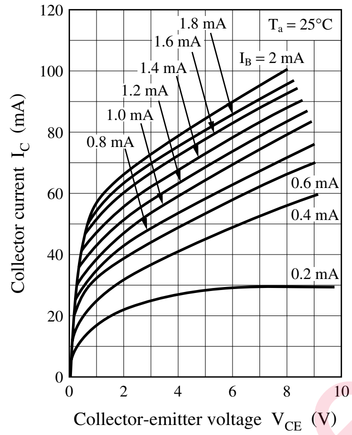
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	P	Q	R
h_{FE}	30 to 100	60 to 150	100 to 220

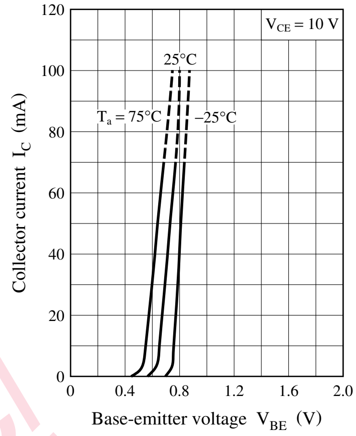
P_C — T_a



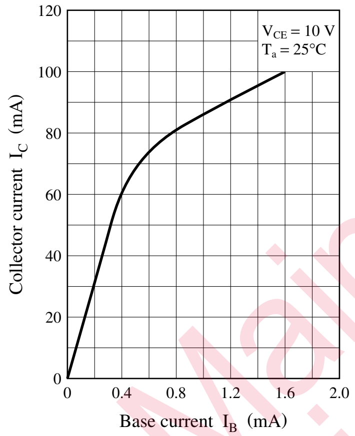
I_C — V_{CE}



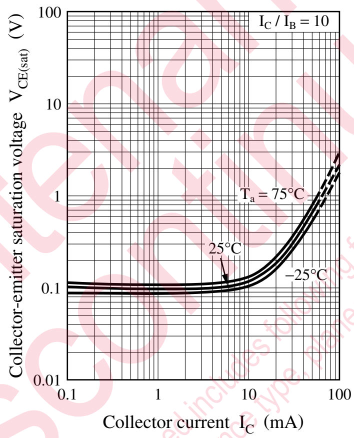
I_C — V_{BE}



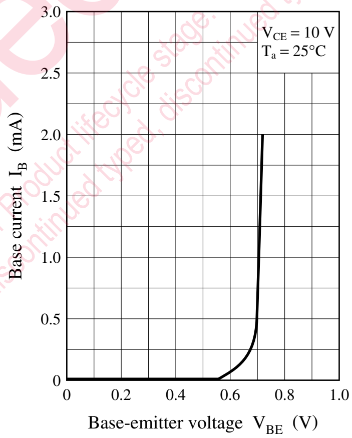
I_C — I_B



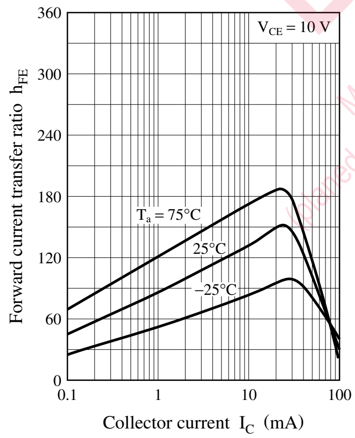
$V_{CE(sat)}$ — I_C



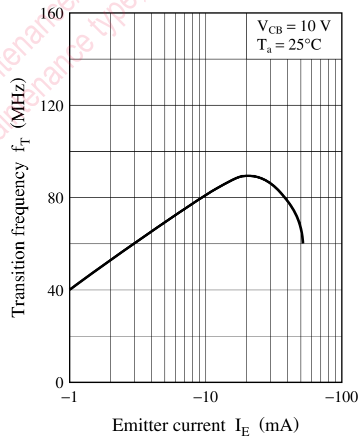
I_B — V_{BE}



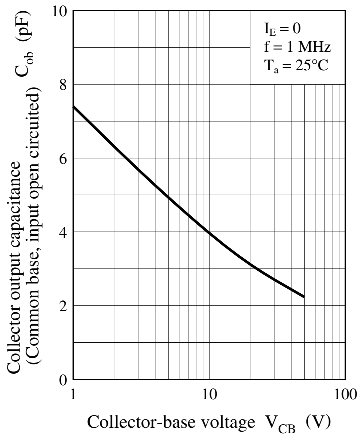
h_{FE} — I_C



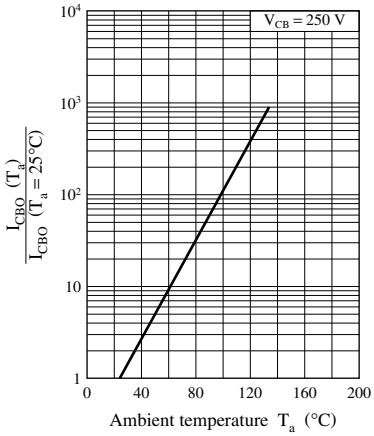
f_T — I_E



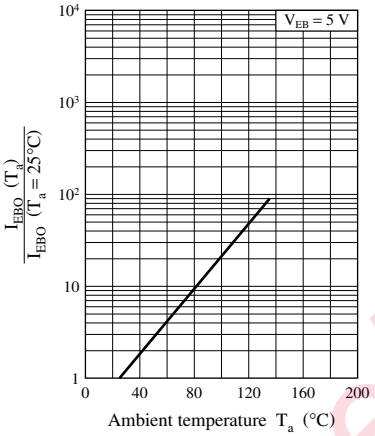
C_{ob} — V_{CB}



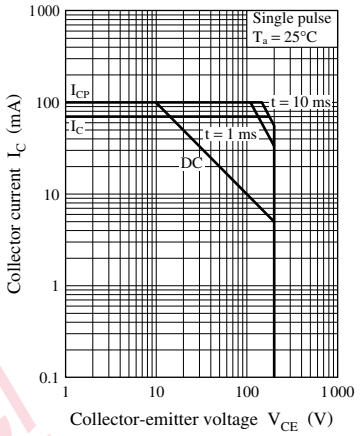
I_{CBO} — T_a



I_{EBO} — T_a



Safe operation area



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