

# 2SC3941

## Silicon NPN triple diffusion planar type

For high breakdown voltage general amplification

For small TV video output

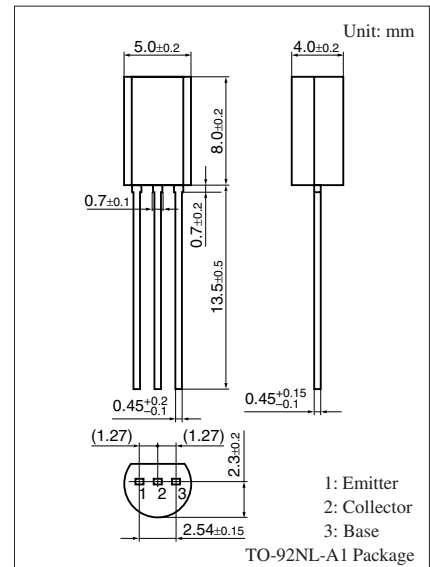
Complementary to 2SA1858

### ■ Features

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

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

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	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



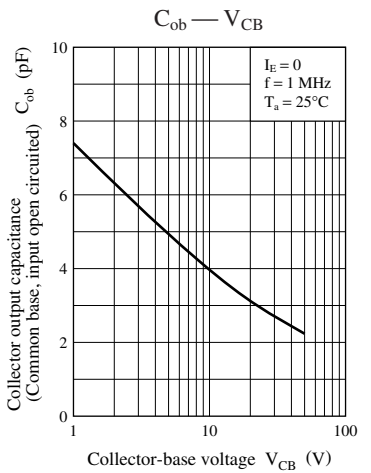
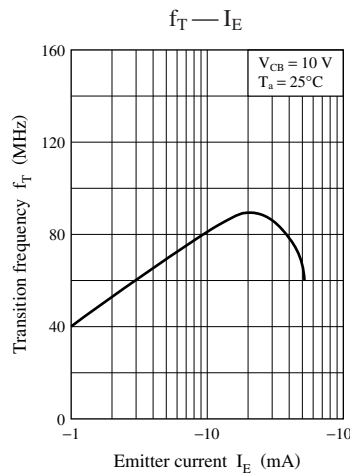
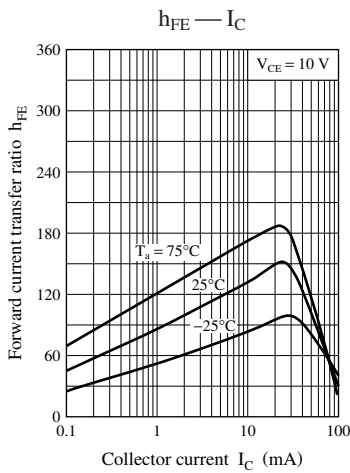
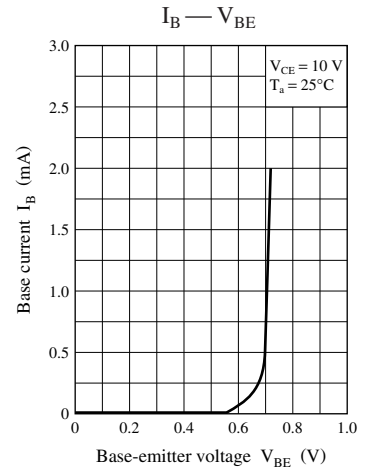
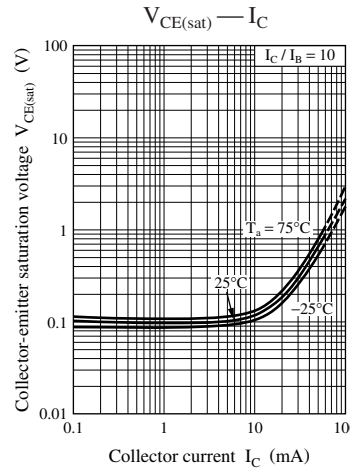
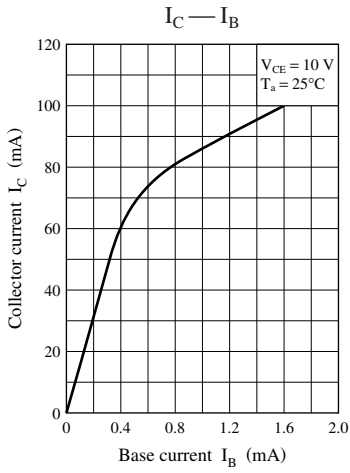
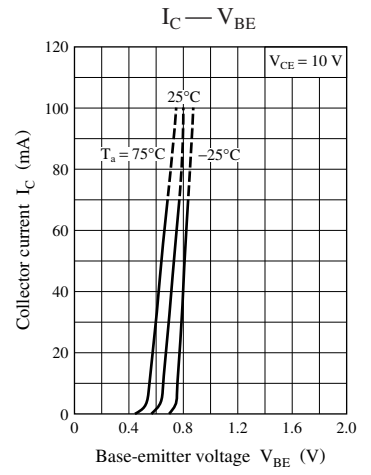
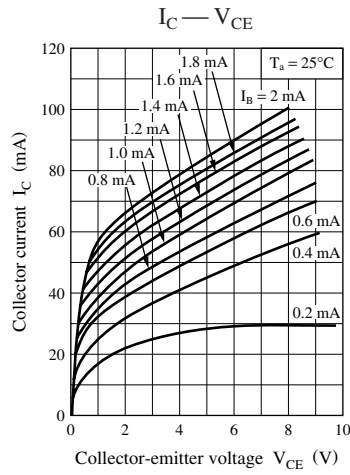
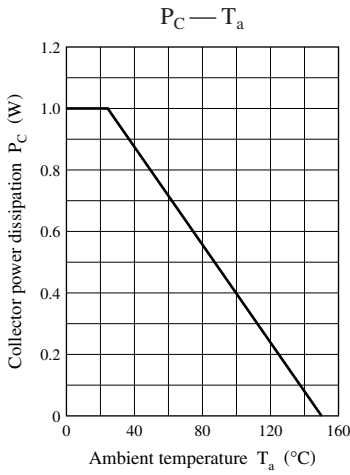
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

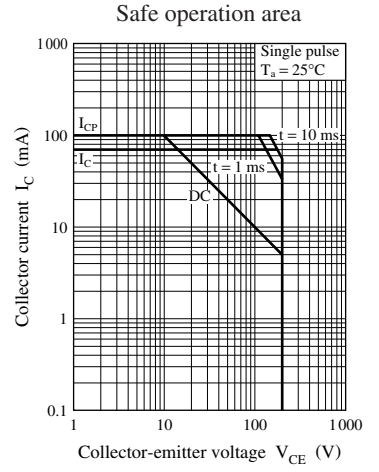
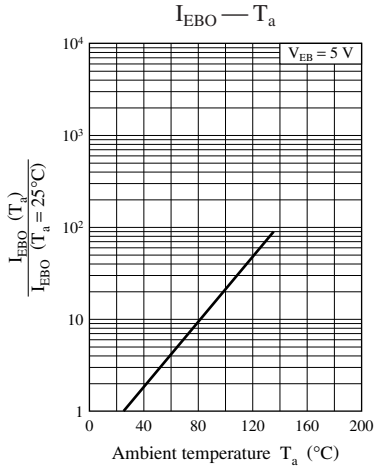
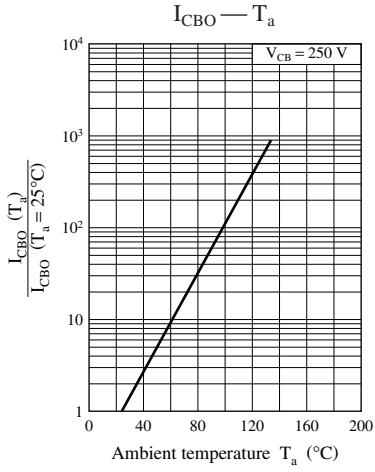
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 100 \mu\text{A}$ , $I_B = 0$	300			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 1 \mu\text{A}$ , $I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 100 \text{V}$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

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





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