

# 2SC5419

## Silicon NPN triple diffusion planar type

For low-frequency output amplification

### ■ 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	$^\circ\text{C}$

Note) \*: Copper plate at the collector is more than  $1\text{ cm}^2$  in area, 1.7 mm in thickness

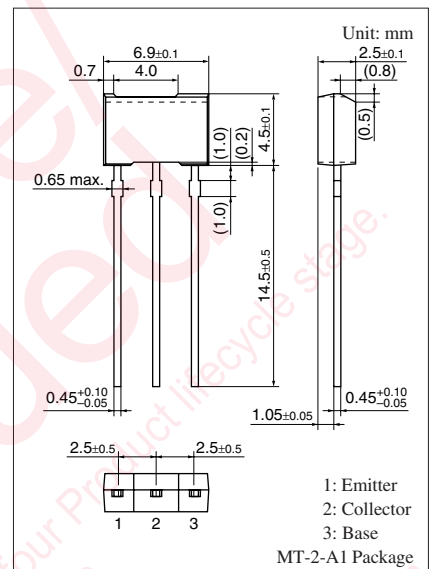
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

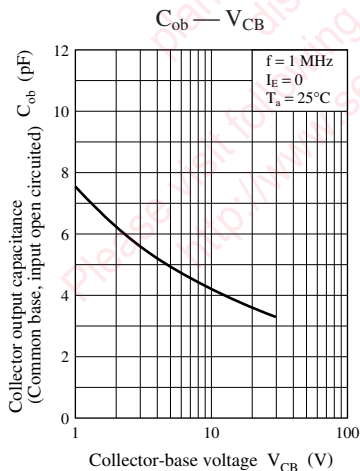
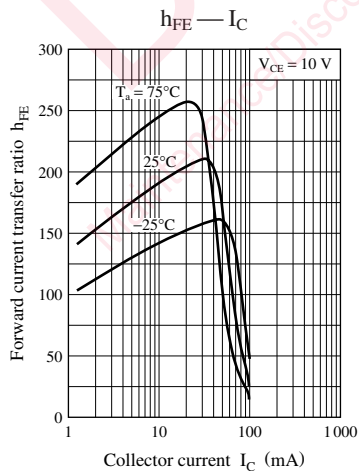
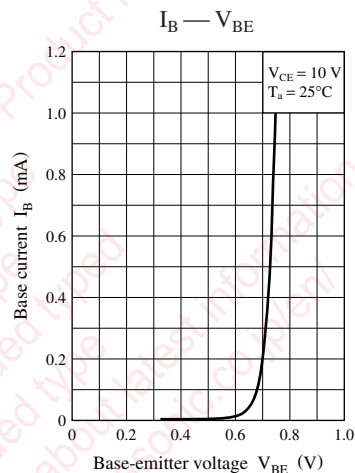
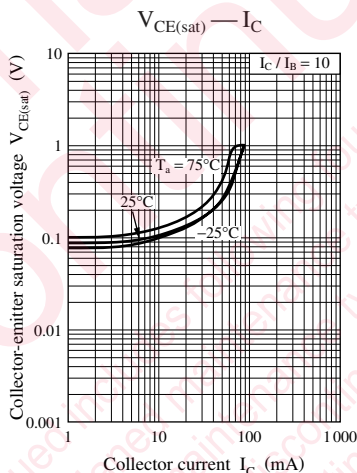
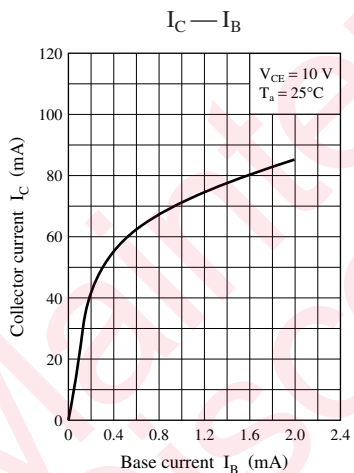
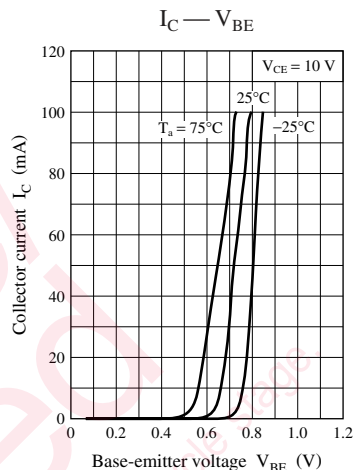
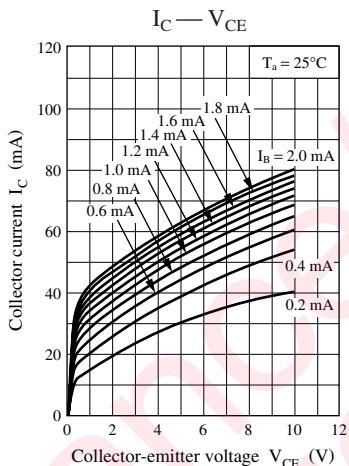
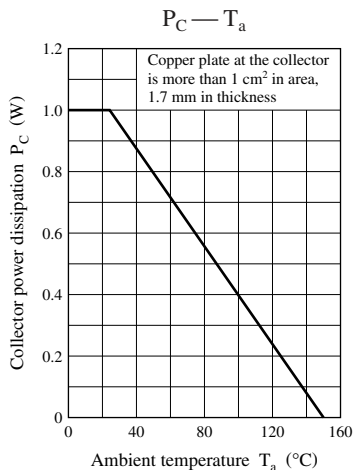
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 100\ \mu\text{A}$ , $I_B = 0$	300			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 1\ \mu\text{A}$ , $I_C = 0$	7			V
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 120\text{ V}$ , $I_B = 0$			1	$\mu\text{A}$
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			MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$			10	pF

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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