

# 2SD1119

## Silicon NPN epitaxial planar type

For low-frequency power amplification

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Satisfactory operation performances at high efficiency with the low-voltage power supply.
- Mini power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	40	V
Collector-emitter voltage (Base open)	$V_{CEO}$	25	V
Emitter-base voltage (Collector open)	$V_{EBO}$	7	V
Collector current	$I_C$	3	A
Peak collector current	$I_{CP}$	5	A
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) \*: Printed circuit board: Copper foil area of 1 cm<sup>2</sup> or more, and the board thickness of 1.7 mm for the collector portion

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

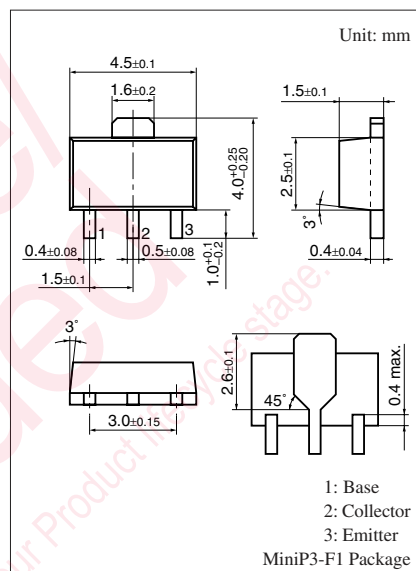
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	25			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
Forward current transfer ratio *1	$h_{FE1}$ *2	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	230		600	—
	$h_{FE2}$	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	150			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.1 \text{ A}$			1	V
Transition frequency	$f_T$	$V_{CB} = 6 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			50	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

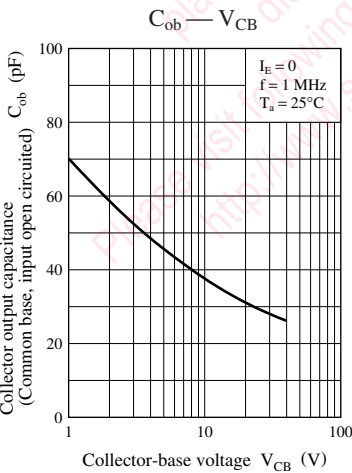
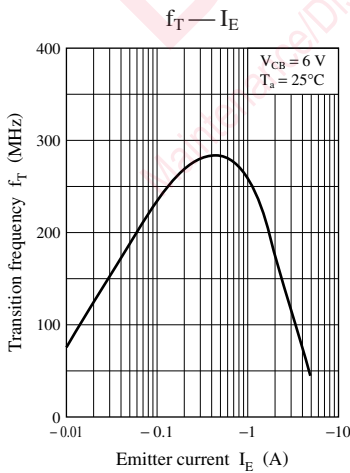
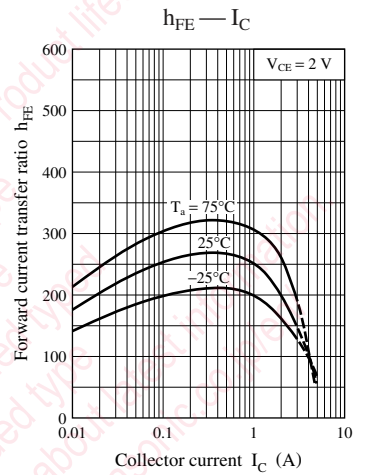
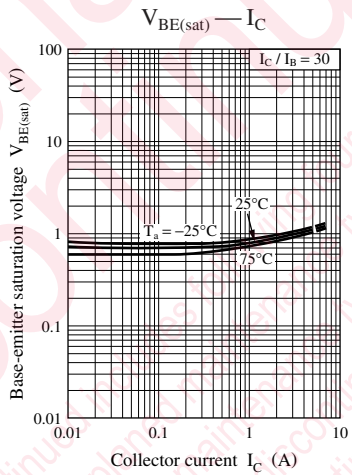
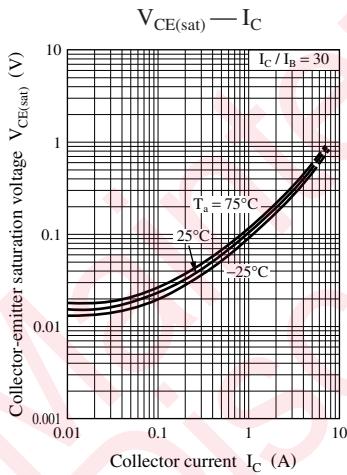
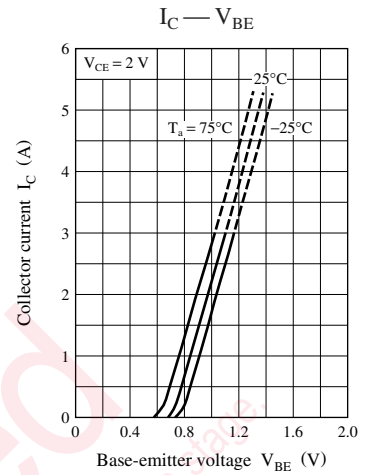
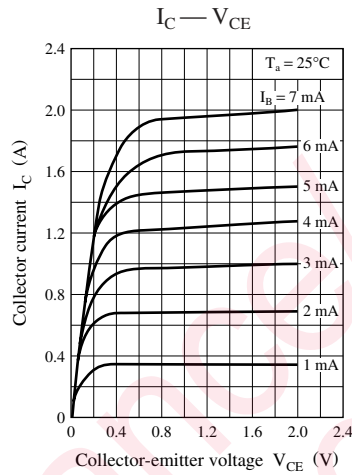
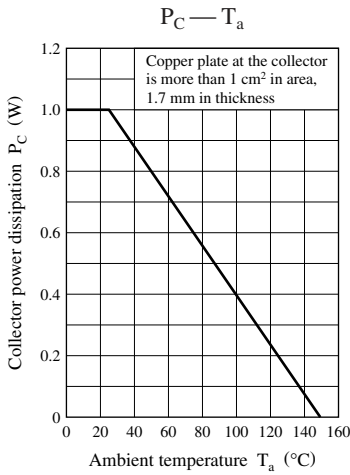
2. \*1: Pulse measurement

\*2: Rank classification

Rank	Q	R
$h_{FE1}$	230 to 380	340 to 600



Marking Symbol: T



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