

# 2SD0875 (2SD875)

## Silicon NPN epitaxial planar type

For low-frequency power amplification  
Complementary to 2SB0767 (2SB767)

### ■ Features

- Large collector power dissipation  $P_C$
- High collector-emitter voltage (Base open)  $V_{CEO}$
- 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)	$V_{CBO}$	80	V
Collector-emitter voltage (Base open)	$V_{CEO}$	80	V
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	0.5	A
Peak collector current	$I_{CP}$	1	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 $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

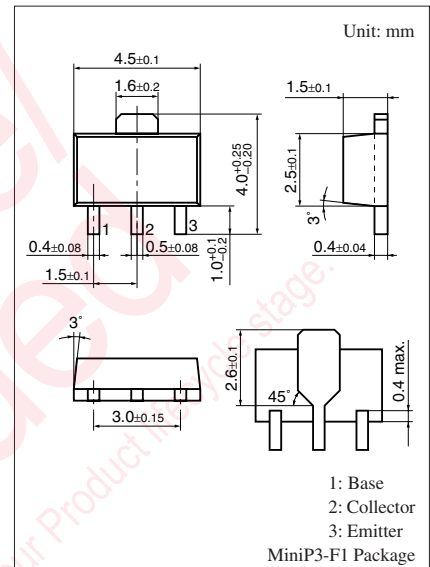
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	80			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 100 \mu\text{A}, I_B = 0$	80			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 20 \text{V}, I_E = 0$			0.1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}$ *	$V_{CE} = 10 \text{V}, I_C = 150 \text{mA}$	130		330	—
	$h_{FE2}$	$V_{CE} = 50 \text{V}, I_C = 500 \text{mA}$	50	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$		0.2	0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300 \text{mA}, I_B = 30 \text{mA}$		0.85	1.2	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{V}, I_E = -50 \text{mA}, f = 200 \text{MHz}$		120		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		11	20	pF

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

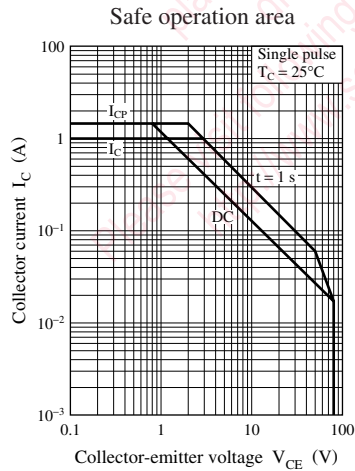
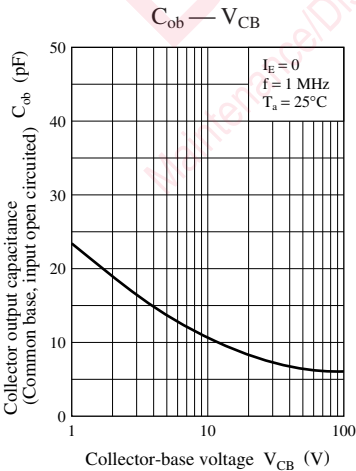
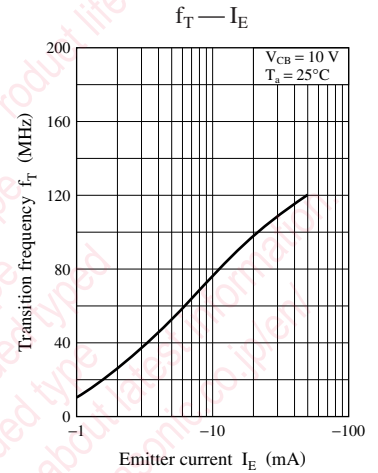
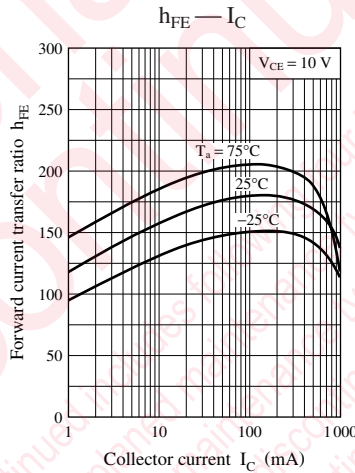
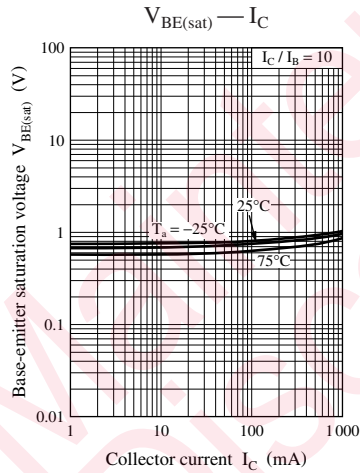
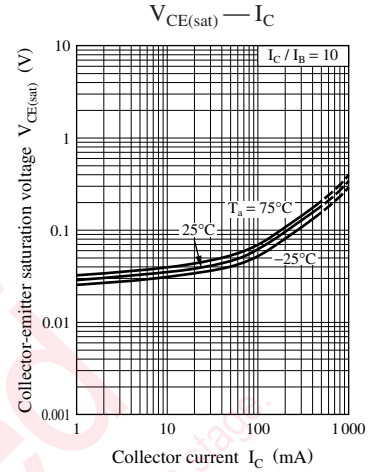
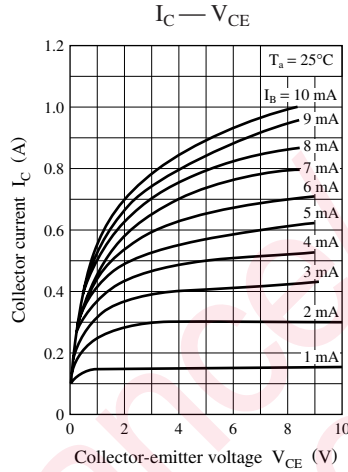
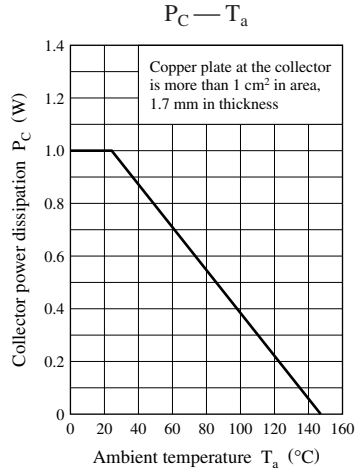
2. \*: Rank classification

Rank	R	S
$h_{FE1}$	130 to 220	185 to 330

Note) The part number in the parenthesis shows conventional part number.



Marking Symbol: X



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