Unit: mm

# 2SD2258

### Silicon NPN epitaxial planar type

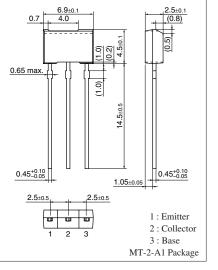
For low-frequency output amplification

#### Features

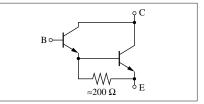
- Darlington connection
- $\bullet$  High forward current transfer ratio  $h_{FE}$
- Allowing supply with the radial taping

Parameter	Symbol	Rating	Unit			
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	60	V			
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	50	V			
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	5	V			
Collector current	I <sub>C</sub>	1	А			
Peak collector current	I <sub>CP</sub>	1.5	А			
Collector power dissipation *	P <sub>C</sub>	1	W			
Junction temperature	Tj	150	°C			
Storage temperature	T <sub>stg</sub>	-55 to +150	°C			

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



#### Internal Connection



## 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 $T_a = 25^{\circ}C \pm 3^{\circ}C$

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_{\rm C} = 100 \ \mu A, \ I_{\rm E} = 0$	60			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{\rm C} = 1  {\rm mA},  I_{\rm B} = 0$	50			V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	$I_E = 100 \ \mu A, \ I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I <sub>CBO</sub>	$V_{CB} = 45 \text{ V}, I_E = 0$			0.1	μΑ
Emitter-base cutoff current (Collector open)	I <sub>EBO</sub>	$V_{EB} = 4 V, I_C = 0$			0.1	μΑ
Forward current transfer ratio *1, 2	h <sub>FE</sub>	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ A}$	4000		40 000	
Collector-emitter saturation voltage *1	V <sub>CE(sat)</sub>	$I_{\rm C} = 1  {\rm A},  I_{\rm B} = 1  {\rm mA}$			1.8	V
Base-emitter saturation voltage *1	V <sub>BE(sat)</sub>	$I_{\rm C} = 1 \text{ A}, I_{\rm B} = 1 \text{ mA}$			2.2	V
Transition frequency	f <sub>T</sub>	$V_{CB} = 25 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		150		MHz

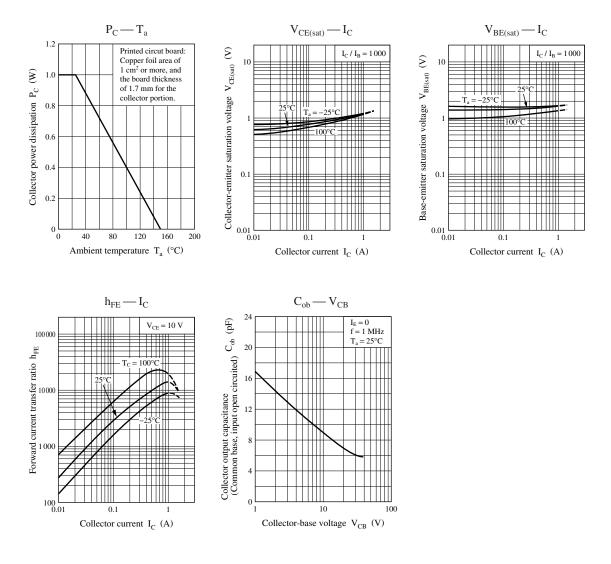
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*1: Pulse measurement

\*2: Rank classification

Rank	Q	R	S
$h_{\rm FE}$	4000 to 10000	8000 to 20000	16000 to 40000

### **Panasonic**



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