# 2SD0958 (2SD958)

## Silicon NPN epitaxial planar type

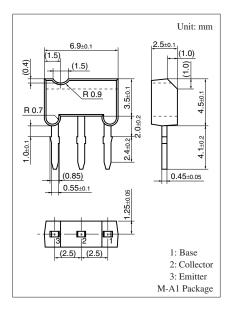
For low-frequency and low-noise amplification Complementary to 2SB0788 (2SB788)

#### ■ Features

- $\bullet$  High collector-emitter voltage (Base open)  $V_{\text{CEO}}$
- Low noise voltage NV
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

### ■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	120	V	
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	120	V	
Emitter-base voltage (Collector open)	$V_{EBO}$	7	V	
Collector current	$I_C$	20	mA	
Peak collector current	$I_{CP}$	50	mA	
Collector power dissipation	P <sub>C</sub>	400	mW	
Junction temperature	$T_{j}$	150	°C	
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	



### ■ Electrical Characteristics $T_a = 25$ °C $\pm 3$ °C

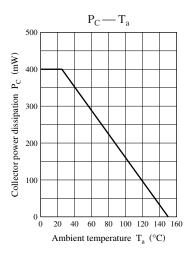
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_C = 10 \mu\text{A},  I_E = 0$	120			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_C = 1 \text{ mA}, I_B = 0$	120			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \ \mu A, I_C = 0$	7			V
Collector-base cut-off current (Emitter open)	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_{E} = 0$			100	nA
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 50 \text{ V}, I_{B} = 0$			1	μΑ
Forward current transfer ratio *	h <sub>FE</sub>	$V_{CE} = 5 \text{ V}, I_{C} = 2 \text{ mA}$	180		700	_
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = 20 \text{ mA}, I_B = 2 \text{ mA}$			0.6	V
Transition frequency	$f_T$	$V_{CB} = 5 \text{ V}, I_{E} = -2 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Noise voltage	NV	$V_{CE}$ = 40 V, $I_{C}$ = 1 mA, $G_{V}$ = 80 dB $R_{\sigma}$ = 100 kΩ, Function = FLAT			150	mV

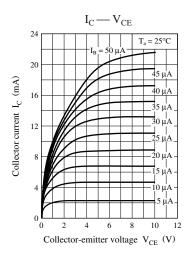
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

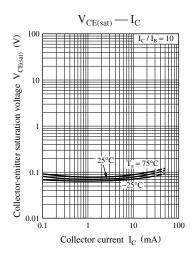
#### 2. \*: Rank classification

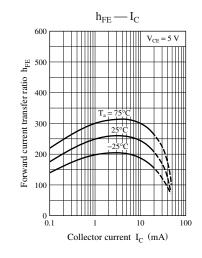
Rank	R	S	Т
h <sub>FE</sub>	180 to 360	260 to 520	360 to 700

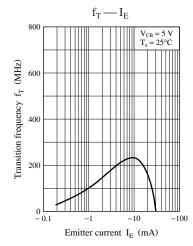
Note) The part number in the parenthesis shows conventional part number.

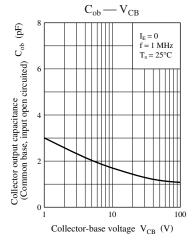


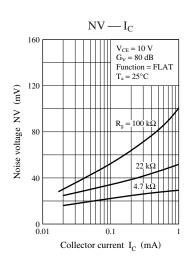












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