# 2SD2185

## Silicon NPN epitaxial planar type

For low-frequency output amplification Complementary to 2SB1440

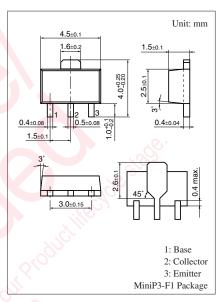
#### ■ Features

- Low collector-emitter saturation voltage V<sub>CE(sat)</sub>
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	$V_{CBO}$	50	V	
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	50	V	
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V	
Collector current	$I_{C}$	3	A	
Peak collector current	$I_{CP}$	4	A	
Collector power dissipation *	P <sub>C</sub>	1	W	
Junction temperature	$T_{j}$	150	°C	
Storage temperature	$T_{stg}$	-55 to +150	°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



Marking Symbol: 1H

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

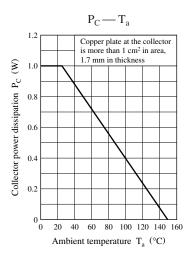
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A},  I_E = 0$	50			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_C = 1 \text{ mA}, I_B = 0$	50			V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	$I_E = 10 \mu\text{A},  I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 20 \text{ V}, I_{E} = 0$			0.1	μΑ
Forward current transfer ratio	h <sub>FE1</sub> *	$V_{CE} = 2 \text{ V}, I_{C} = 200 \text{ mA}$	120		340	_
	h <sub>FE2</sub>	$V_{CE} = 2 \text{ V}, I_{C} = 1.0 \text{ A}$	80			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = 1 \text{ A}, I_B = 50 \text{ mA}$		0.15	0.30	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	$I_C = 1 \text{ A}, I_B = 50 \text{ mA}$		0.85	1.20	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		120		MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		20	35	pF
(Common base, input open circuited)						

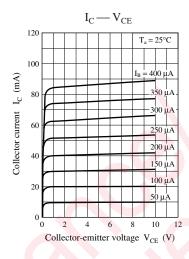
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

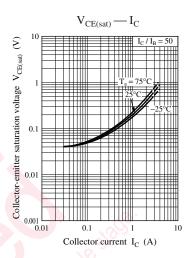
#### 2. \*: Rank classification

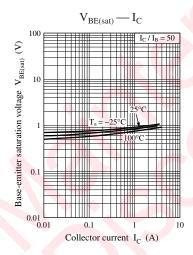
Rank	R	S
$h_{FE1}$	120 to 240	170 to 340

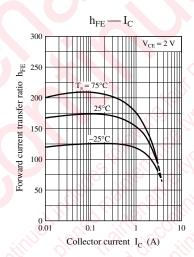
## **Panasonic**

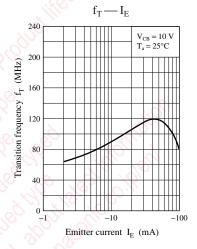


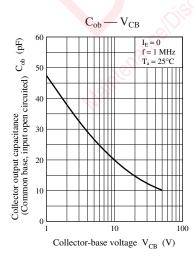












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