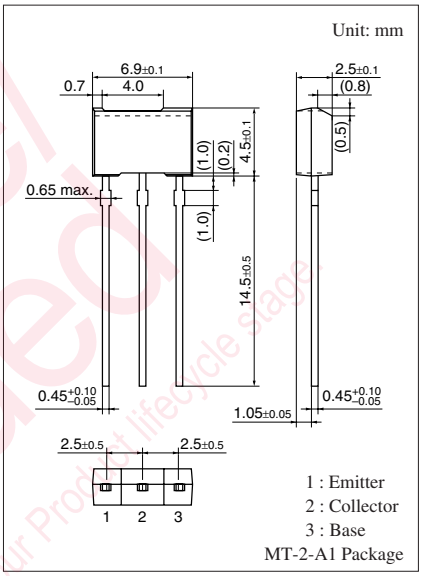
This product complies with the RoHS Directive (EU 2002/95/EC).

2SD2179

Silicon NPN epitaxial planar type

For low-frequency output amplification
Complementary to 2SB1446



■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Allowing supply with the radial taping

■ 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_{CEO}	50	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	5	A
Peak collector current	I_{CP}	7	A
Collector power dissipation *	P_C	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 cm² or more, and the board thickness of 1.7 mm for the collector portion

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1$ mA, $I_B = 0$	50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20$ V, $I_E = 0$			0.1	µA
Forward current transfer ratio	h_{FE1} *2	$V_{CE} = 2$ V, $I_C = 500$ mA	120		340	—
	h_{FE2} *1	$V_{CE} = 2$ V, $I_C = 2.5$ A	60			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 2$ A, $I_B = 100$ mA		0.19	0.30	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 2$ A, $I_B = 100$ mA		0.85	1.20	V
Transition frequency	f_T	$V_{CB} = 10$ V, $I_E = -50$ mA, f = 200 MHz		80		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, f = 1 MHz		60	70	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	R	S
h_{FE1}	120 to 240	170 to 340

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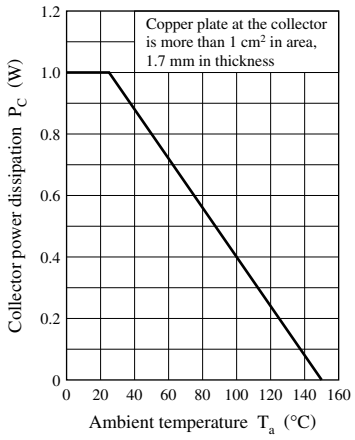
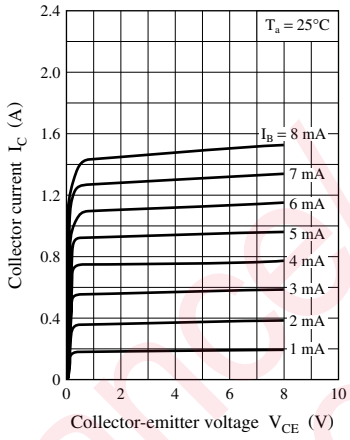
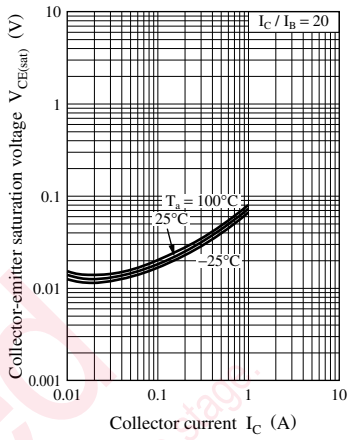
P_C — T_a



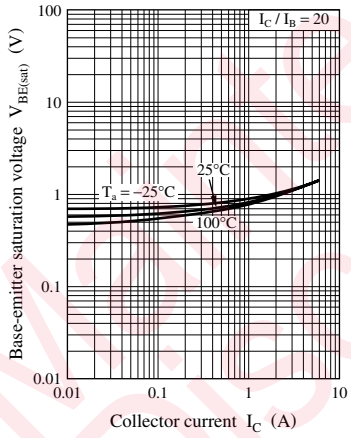
I_C — V_{CE}



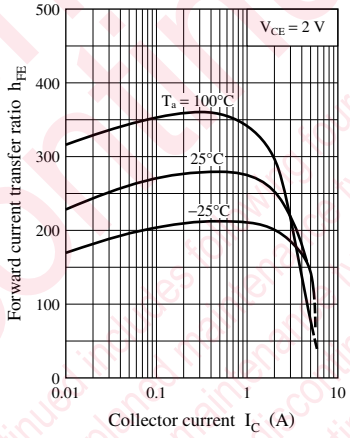
$V_{CE(sat)}$ — I_C



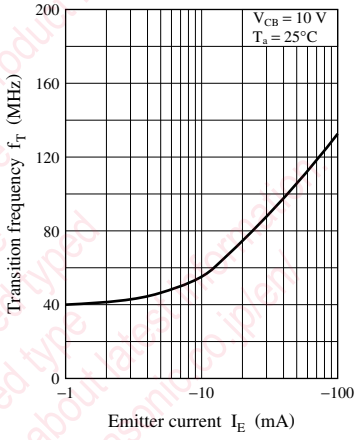
$V_{BE(sat)}$ — I_C



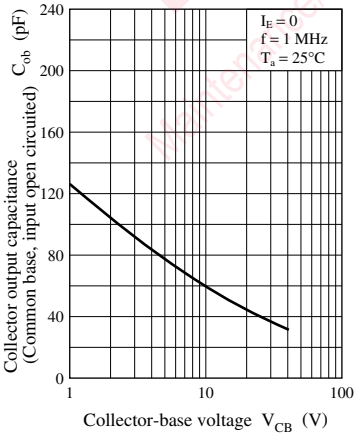
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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