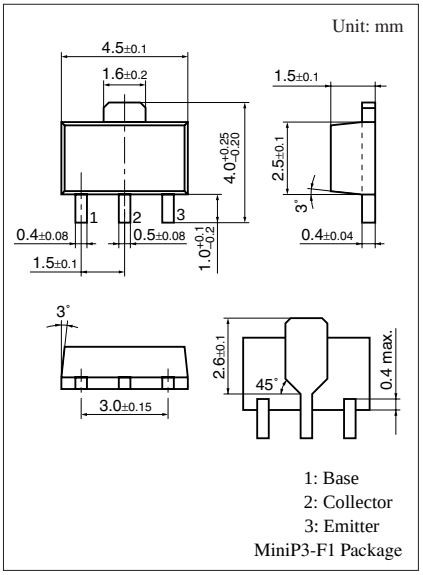
2SD0968A (2SD968A)

Silicon NPN epitaxial planar type

For low-frequency driver amplification
Complementary to 2SB0789A (2SB789A)



Marking symbol: V

■ Features

- High collector to emitter voltage V_{CEO}
- Large collector power dissipation P_C
- 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 to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1	A
Collector current	I_C	0.5	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 cm^2 or more, and the board thickness of 1.7 mm for the collector portion

■ Electrical Characteristics $T_a = 25°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to emitter voltage	V_{CEO}	I_C = 100 µA, I_B = 0	120			V
Emitter to base voltage	V_{EBO}	I_E = 10 µA, I_C = 0	5			V
Forward current transfer ratio *1	h_{FE1} *2	V_{CE} = 10 V, I_C = 150 mA	130		330	
	h_{FE2}	V_{CE} = 5 V, I_C = 500 mA	50	100		
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	I_C = 500 mA, I_B = 50 mA		0.2	0.6	V
Base to emitter saturation voltage *1	$V_{BE(sat)}$	I_C = 500 mA, I_B = 50 mA		0.85	1.2	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = −50 mA, f = 200 MHz		120		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		11	20	pF

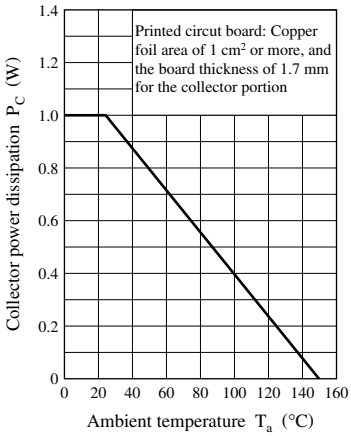
Note) *1: Pulse measurement

*2: h_{FE} Rank classification

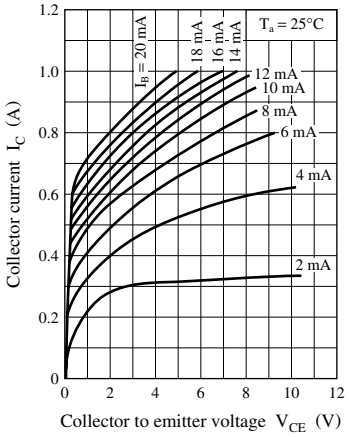
Rank	R	S
h_{FE1}	130 to 220	185 to 330
Marking symbol	VR	VS

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

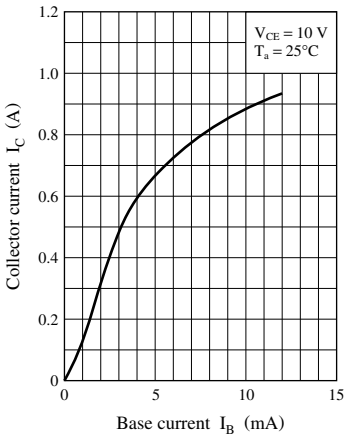
P_C — T_a



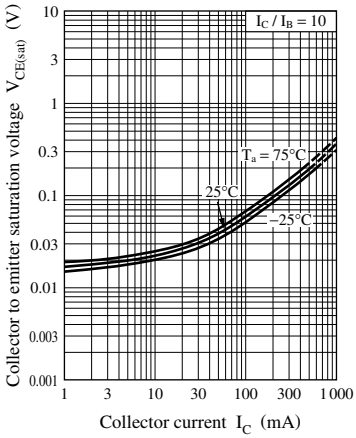
I_C — V_{CE}



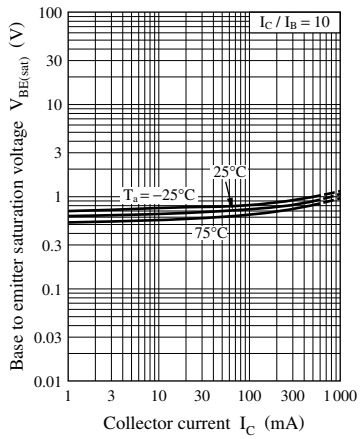
I_C — I_B



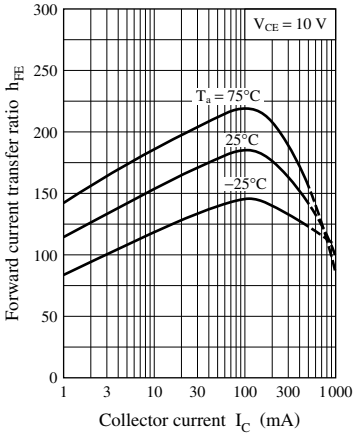
$V_{CE(sat)}$ — I_C



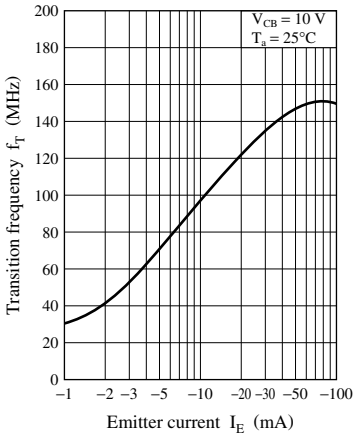
$V_{BE(sat)}$ — I_C



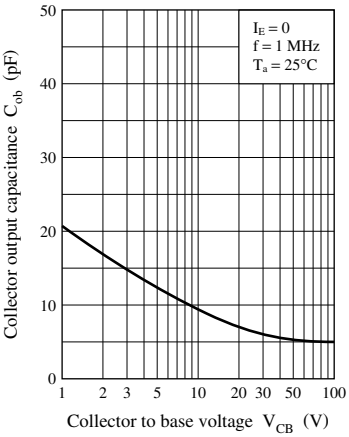
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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