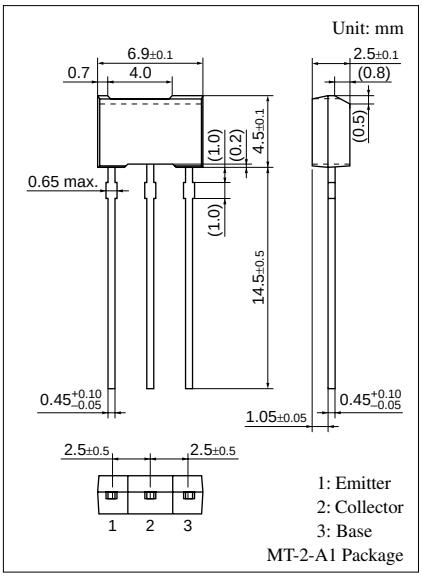
2SC5419

Silicon NPN triple diffusion planar type

For low-frequency output amplification



■ Features

- High collector to emitter voltage V_{CEO}
- High transition frequency f_T
- Allowing supply with the radial taping

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	300	V
Collector to emitter voltage	V_{CEO}	300	V
Emitter to base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	100	mA
Collector current	I_C	70	mA
Collector power dissipation *	P_C	1.0	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

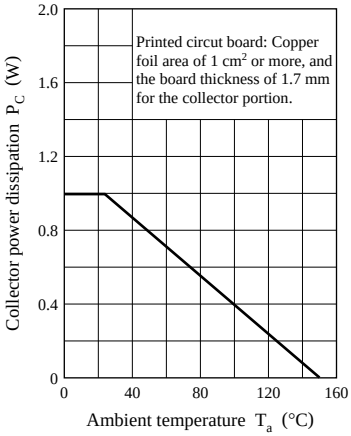
■ Electrical Characteristics $T_a = 25°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CEO}	V_{CE} = 120 V, I_B = 0			1	μA
Collector to emitter voltage	V_{CEO}	I_C = 100 μA, I_B = 0	300			V
Emitter to base voltage	V_{EBO}	I_E = 1 μA, I_C = 0	7			V
Forward current transfer ratio *	h_{FE}	V_{CE} = 10 V, I_C = 5 mA	30		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 50 mA, I_B = 5 mA			1.2	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = −10 mA, f = 200 MHz		50		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz			10	pF

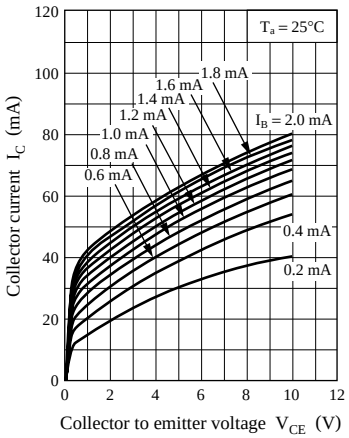
Note) ∗: h_{FE} Rank classification

Rank	P	Q	R
h_{FE}	30 to 100	60 to 150	100 to 220

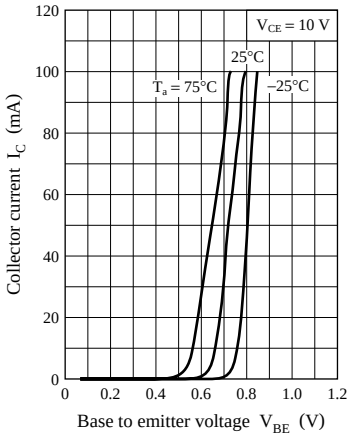
P_C — T_a



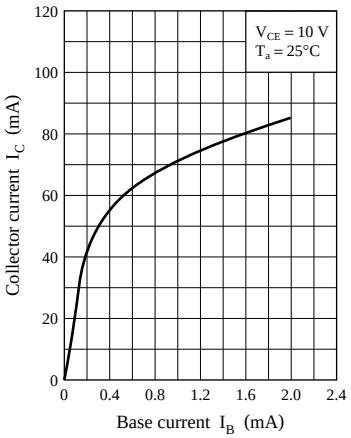
I_C — V_{CE}



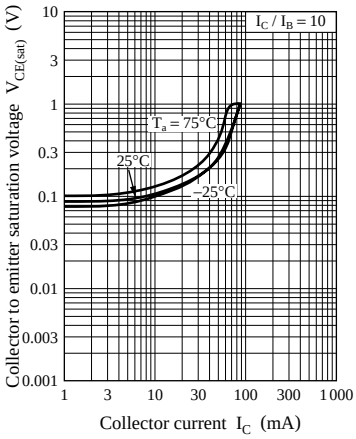
I_C — V_{BE}



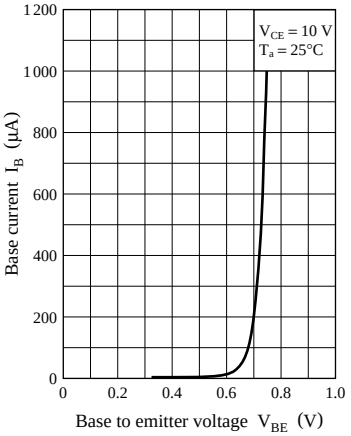
I_C — I_B



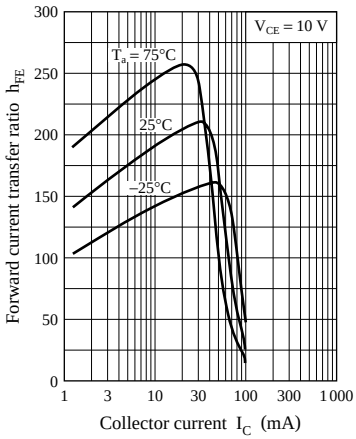
$V_{CE(sat)}$ — I_C



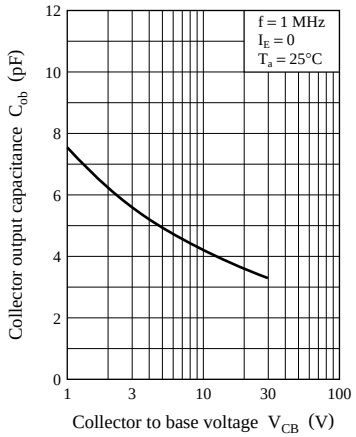
I_B — V_{BE}



h_{FE} — I_C



C_{ob} — V_{CB}



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