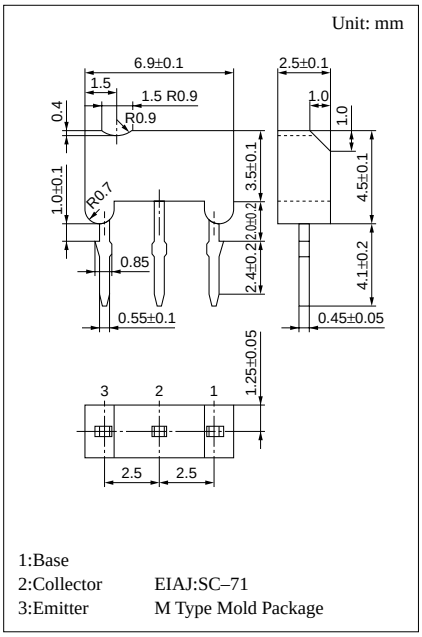
2SD1458

Silicon NPN epitaxial planer type

For low-frequency amplification



Features

- High foward current transfer ratio h_{FE}.
- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	15	V
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	0.7	A
Collector power dissipation	P_C*	1	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

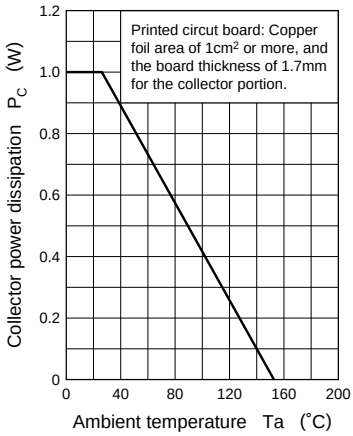
* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25˚C)

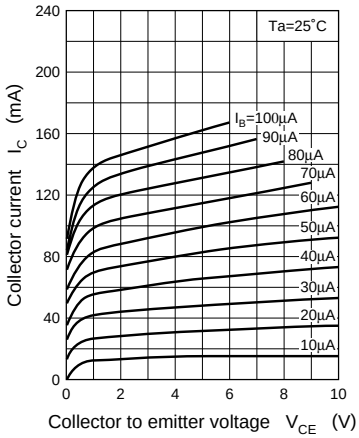
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 15V, I_E = 0			1	µA
	I_{CEO}	V_{CE} = 15V, I_B = 0			10	µA
Collector to base voltage	V_{CBO}	I_C = 10µA, I_E = 0	20			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Emitter to base voltage	V_{EBO}	I_E = 10µA, I_C = 0	15			V
Forward current transfer ratio	h_{FE}	V_{CE} = 10V, I_C = 150mA*	1000		2500	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA*			0.4	V
Transition frequency	f_T	V_{CB} = 20V, I_E = –20mA, f = 200MHz		55		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		11	15	pF

*2 Pulse measurement

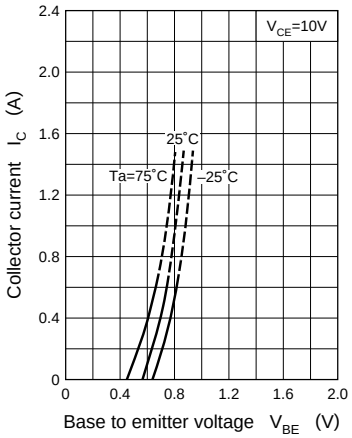
P_C — Ta



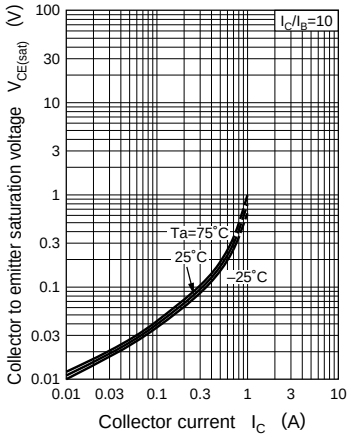
I_C — V_{CE}



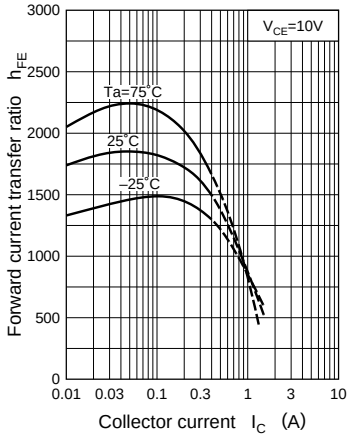
I_C — V_{BE}



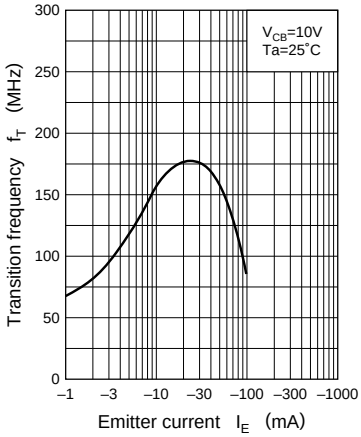
$V_{CE(sat)}$ — I_C



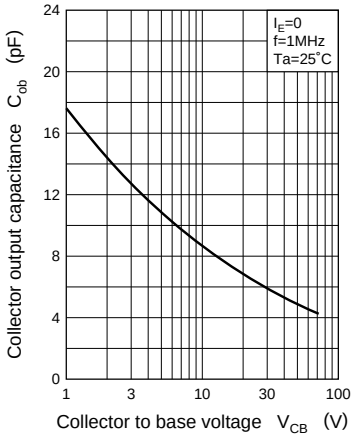
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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