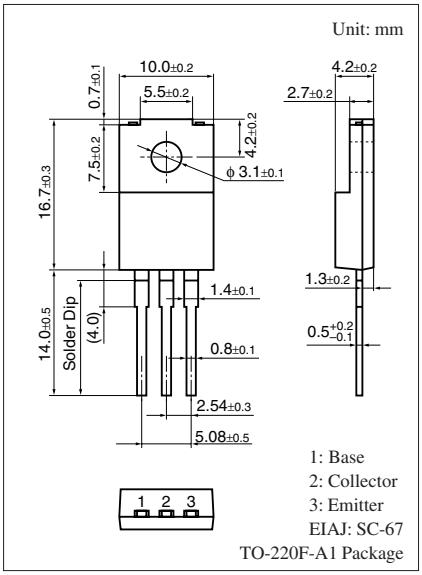
2SD1272

Silicon NPN epitaxial planar type

For high-speed switching and high current amplification ratio



■ Features

- High forward current transfer ratio h_{FE}
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Full-pack package which can be installed to the heat sink with one screw

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)		V_{CBO}	200	V
Collector-emitter voltage (Base open)		V_{CEO}	150	V
Emitter-base voltage (Collector open)		V_{EBO}	6	V
Collector current		I_C	2.5	A
Peak collector current		I_{CP}	1	A
Collector power dissipation	$T_C = 25°C$	P_C	40	W
			2.0	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

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

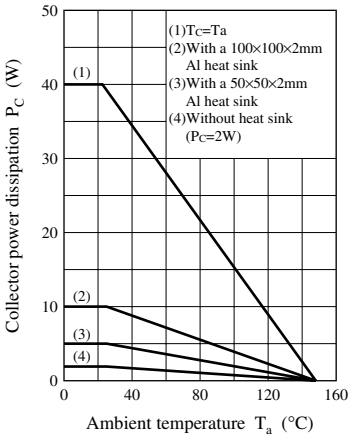
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 25 mA, I_B = 0	150			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 200 V, I_E = 0			100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	V_{EB} = 6 V, I_C = 0			100	μA
Forward current transfer ratio *	h_{FE}	V_{CE} = 4 V, I_C = 0.2 A	500		2000	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 0.5 A, I_B = 0.02 A			1	V
Transition frequency	f_T	V_{CE} = 4 V, I_C = 0.1 A, f = 10 MHz		25		MHz

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

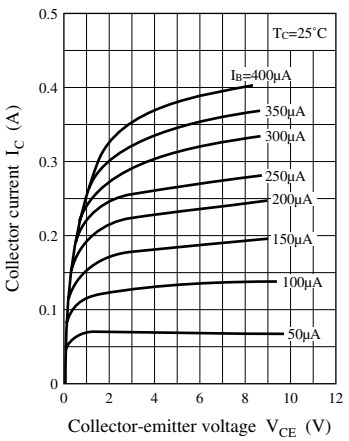
2. *: Rank classification

Rank	Q	P
h_{FE}	500 to 1200	800 to 2000

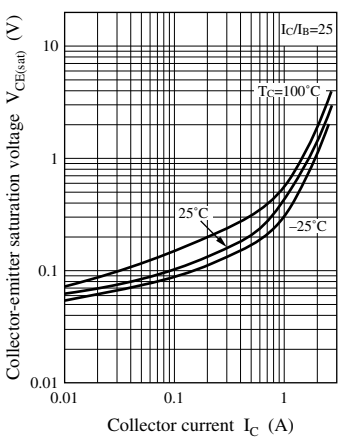
P_C — T_a



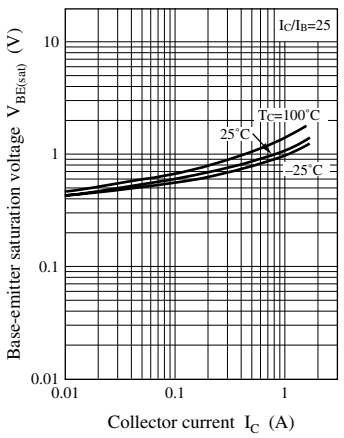
I_C — V_{CE}



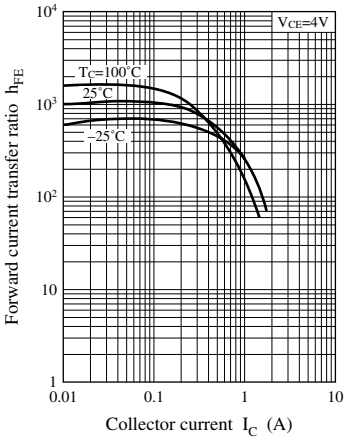
$V_{CE(sat)}$ — I_C



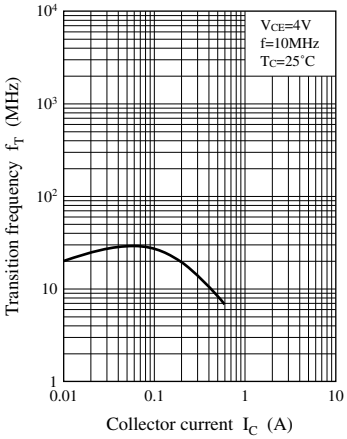
$V_{BE(sat)}$ — I_C



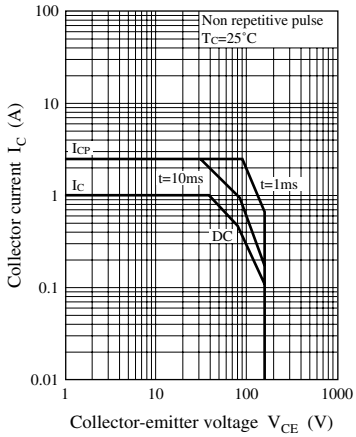
h_{FE} — I_C



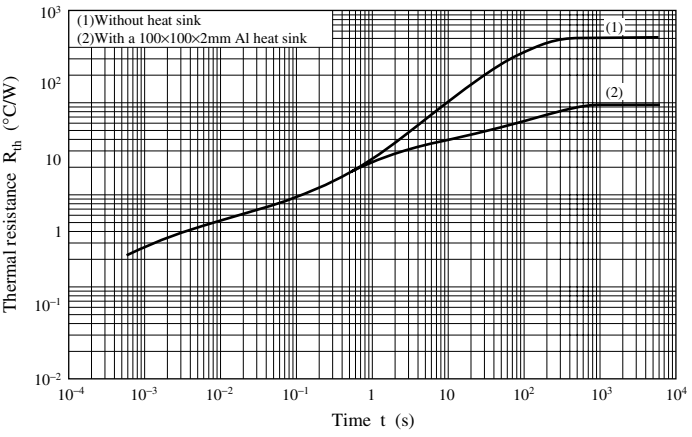
f_T — I_C



Safe operation area



R_{th} — t



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