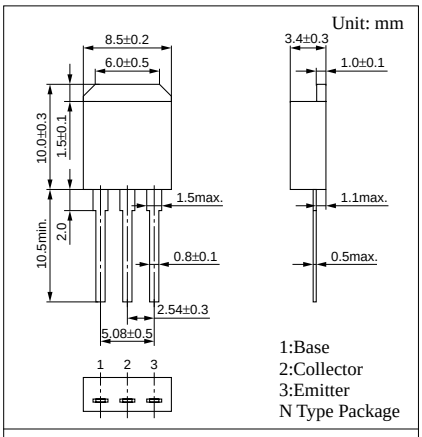
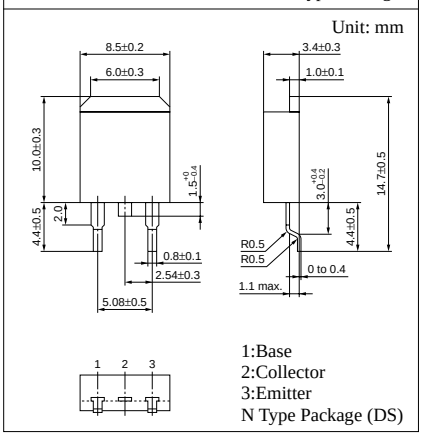
2SD1259, 2SD1259A

Silicon NPN triple diffusion planar type

For power amplification with high forward current transfer ratio





Features

- High foward current transfer ratio h_{FE}
- Satisfactory linearity of foward current transfer ratio h_{FE}
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SD1259	V_{CBO}	80	V
	2SD1259A		100	
Collector to emitter voltage	2SD1259	V_{CEO}	60	V
	2SD1259A		80	
Emitter to base voltage		V_{EBO}	6	V
Peak collector current		I_{CP}	6	A
Collector current		I_C	3	A
Base current		I_B	1	A
Collector power dissipation	T_C=25°C	P_C	40	W
	Ta=25°C		1.3	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

Electrical Characteristics (T_C=25˚C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SD1259	I_{CES}	V_{CE} = 80V, I_E = 0			100	µA
	2SD1259A		V_{CE} = 100V, I_E = 0			100	
Collector cutoff current		I_{CEO}	V_{CE} = 40V, I_B = 0			100	µA
Emitter cutoff current		I_{EBO}	V_{CB} = 6V, I_C = 0			100	µA
Collector to emitter voltage	2SD1259	V_{CEO}	I_C = 25mA, I_B = 0	60			V
	2SD1259A			80			
Forward current transfer ratio		h_{FE}*	V_{CE} = 4V, I_C = 0.5A	500		2500	
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = 2A, I_B = 0.05A			1	V
Transition frequency		f_T	V_{CE} = 12V, I_C = 0.2A, f = 10MHz		50		MHz

*h_{FE} Rank classification

Rank	Q	P	O
h_{FE}	500 to 1000	800 to 1500	1200 to 2500

Note: Ordering can be made by the common rank (PQ rank h_{FE} = 500 to 1500) in the rank classification.

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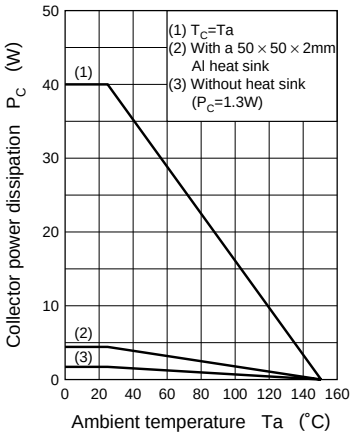
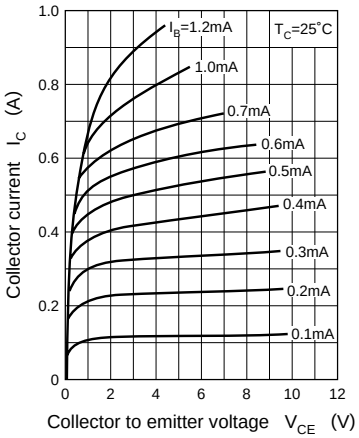
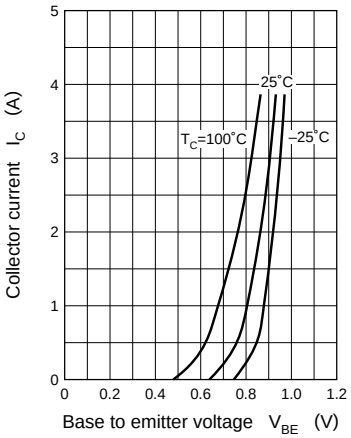
P_C — Ta



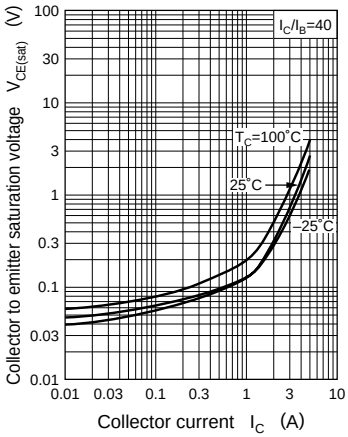
I_C — V_{CE}



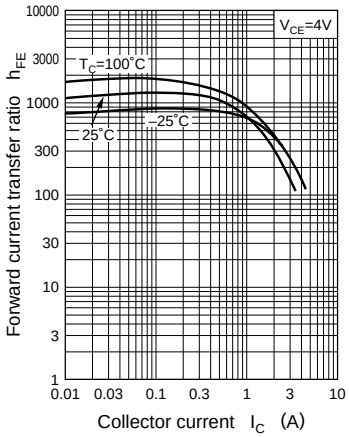
I_C — V_{BE}



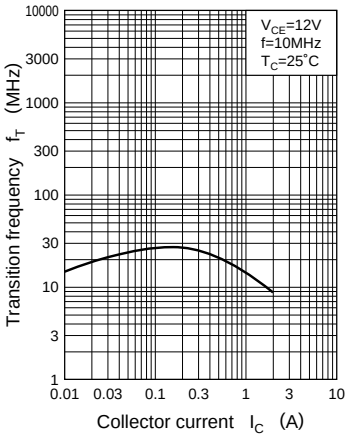
$V_{CE(sat)}$ — I_C



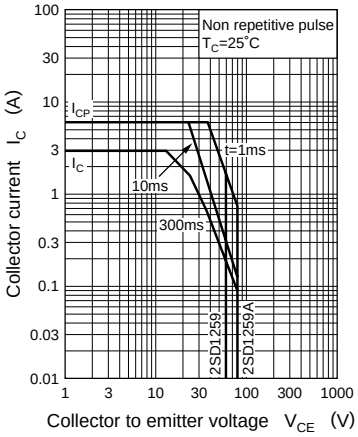
h_{FE} — I_C



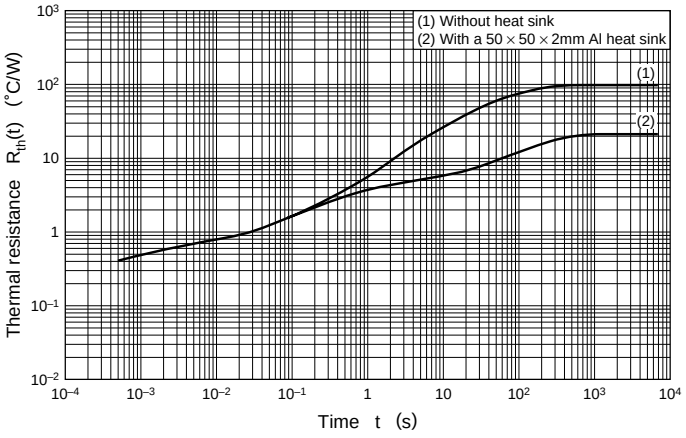
f_T — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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