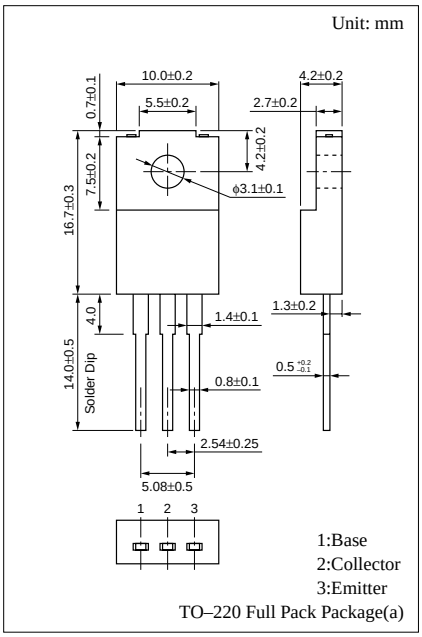
2SD1499

Silicon NPN triple diffusion planar type

For high power amplification
Complementary to 2SB1063



Features

- Extremely satisfactory linearity of the forward current transfer ratio h_{FE}
- Wide area of safe operation (ASO)
- High transition frequency f_T
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	100	V
Collector to emitter voltage		V_{CEO}	100	V
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	8	A
Collector current		I_C	5	A
Collector power dissipation	T_C=25°C	P_C	40	W
	Ta=25°C		2	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +155	˚C

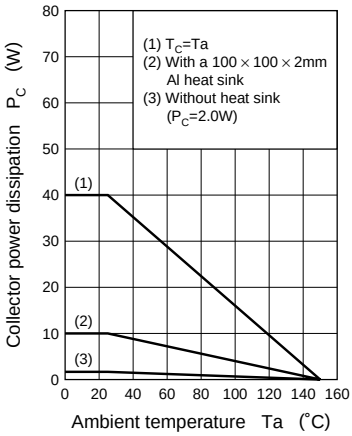
Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 100V, I_E = 0			50	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 3V, I_C = 0			50	μA
Forward current transfer ratio	h_{FE1}	V_{CE} = 5V, I_C = 20mA	20			
	h_{FE2}*	V_{CE} = 5V, I_C = 1A	60		200	
	h_{FE3}	V_{CE} = 5V, I_C = 3A	20			
Base to emitter voltage	V_{BE}	V_{CE} = 5V, I_C = 3A			1.8	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 3A, I_B = 0.3A			2.0	V
Transition frequency	f_T	V_{CE} = 5V, I_C = 0.5A, f = 1MHz		20		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz		90		pF

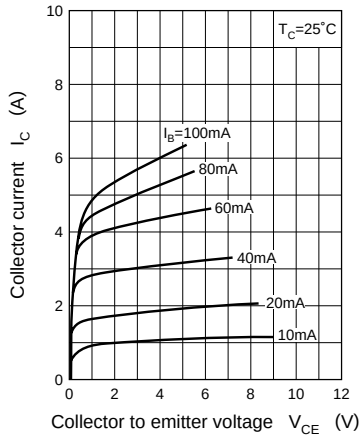
*h_{FE2} Rank classification

Rank	Q	P
h_{FE2}	60 to 120	100 to 200

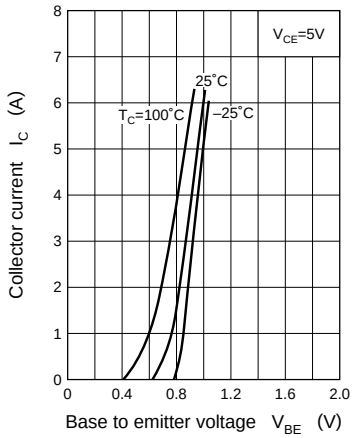
P_C — Ta



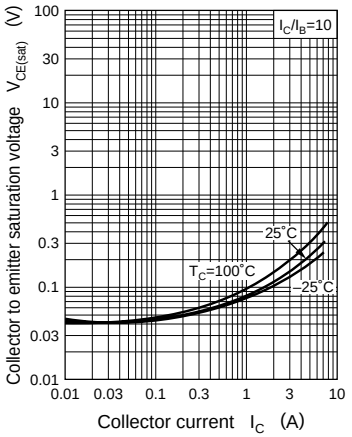
I_C — V_{CE}



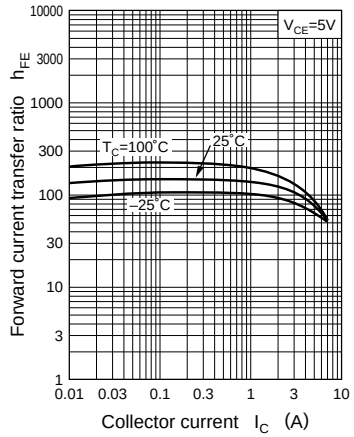
I_C — V_{BE}



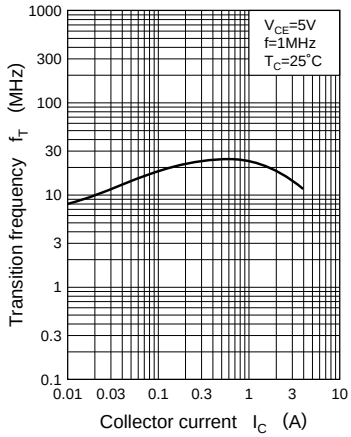
$V_{CE(sat)}$ — I_C



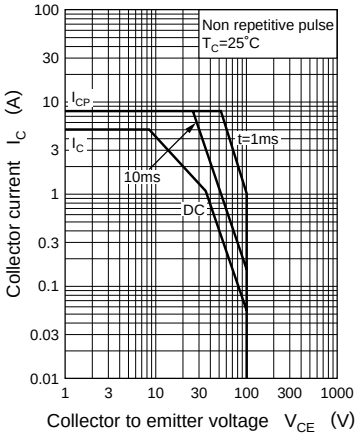
h_{FE} — I_C



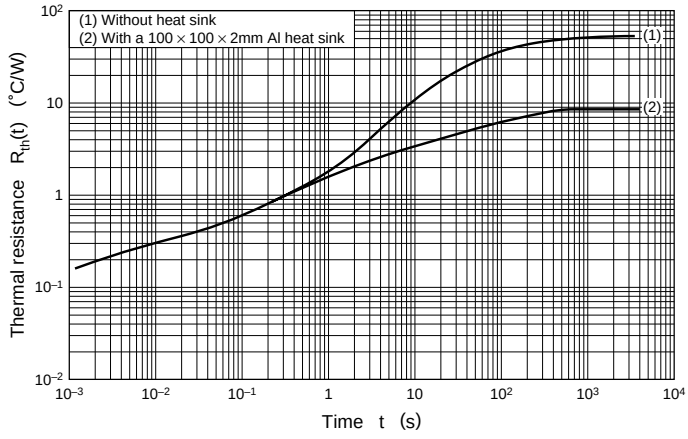
f_T — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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