

2SD1499

Silicon NPN triple diffusion planar type

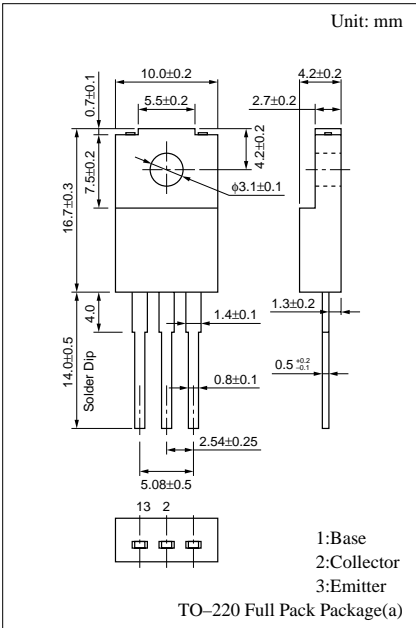
For high power amplification
Complementary to 2SB1063

■ 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 ($T_C=25^\circ\text{C}$)

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	P_C	40	W
		2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +155	$^\circ\text{C}$

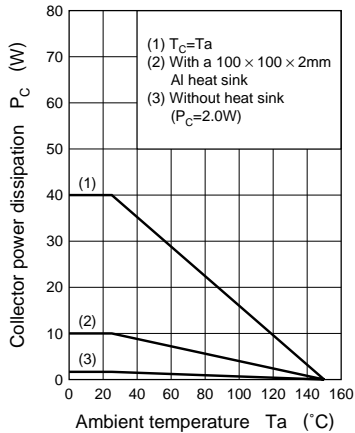
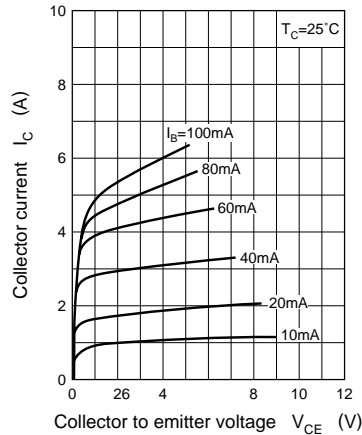
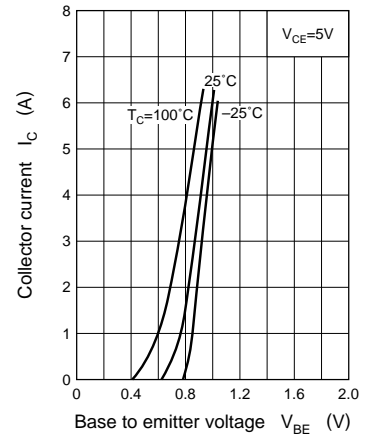
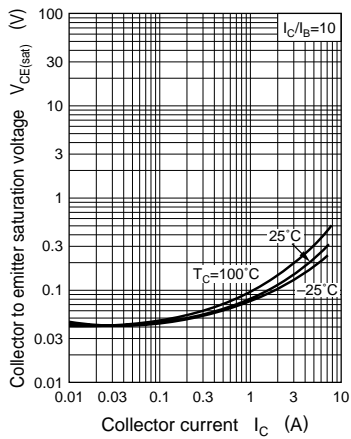
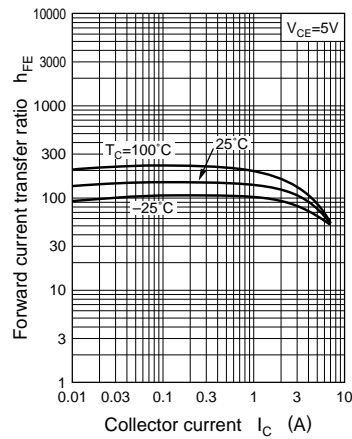
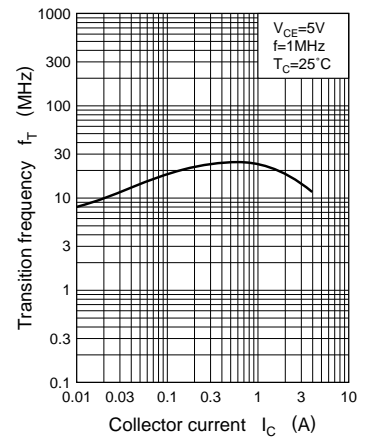


■ Electrical Characteristics ($T_C=25^\circ\text{C}$)

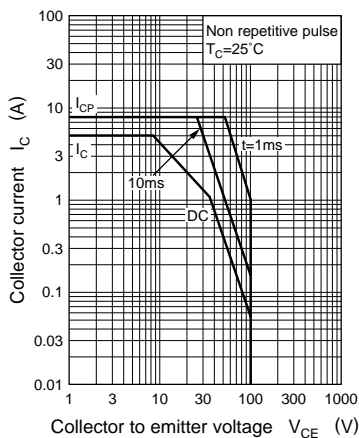
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 100V, I_E = 0$			50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 5V, I_C = 20\text{mA}$	20			
	h_{FE2}^*	$V_{CE} = 5V, I_C = 1A$	60		200	
	h_{FE3}	$V_{CE} = 5V, I_C = 3A$	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	$V_{CE} = 5V, I_C = 0.5A, f = 1\text{MHz}$		20		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, f = 1\text{MHz}$		90		pF

* h_{FE2} Rank classification

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

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(\text{sat})} - I_C$  $h_{FE} - I_C$  $f_T - I_C$ 

Area of safe operation (ASO)

 $R_{th(t)} - t$ 