

2SD2029

Silicon NPN triple diffusion planar type

For high power amplification

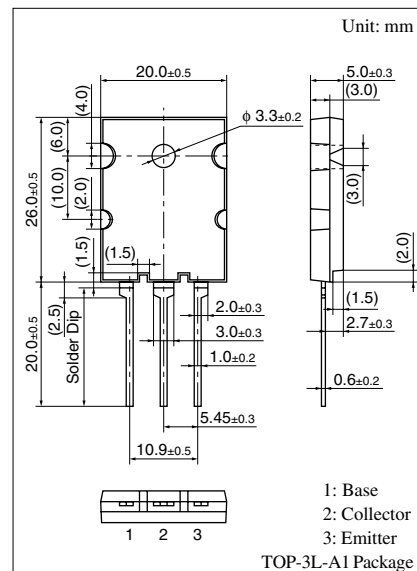
Complementary to 2SB1347

■ Features

- Excellent current I_C characteristics of forward current transfer ratio h_{FE} vs. collector
- Wide area of safe operation (ASO)
- High transition frequency f_T
- Optimum for the output stage of a Hi-Fi audio amplifier

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector to base voltage	V_{CBO}	160	V	
Collector to emitter voltage	V_{CEO}	160	V	
Emitter to base voltage	V_{EBO}	5	V	
Peak collector current	I_{CP}	20	A	
Collector current	I_C	12	A	
Collector power dissipation	$T_C = 25^\circ\text{C}$	P_C	120	W
	$T_a = 25^\circ\text{C}$		3.5	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

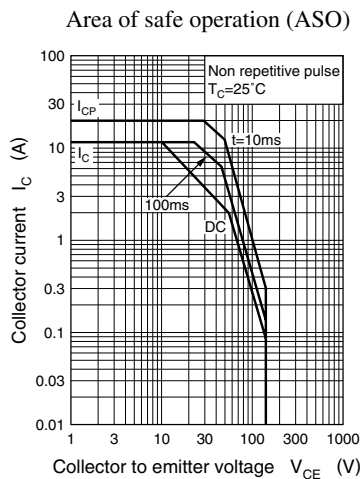
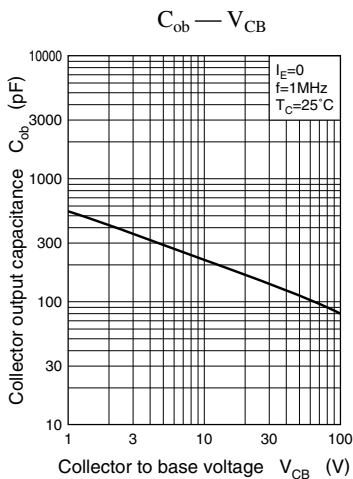
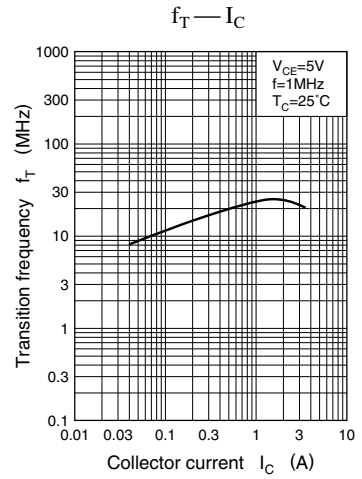
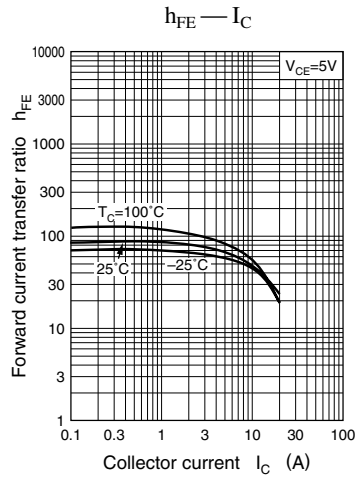
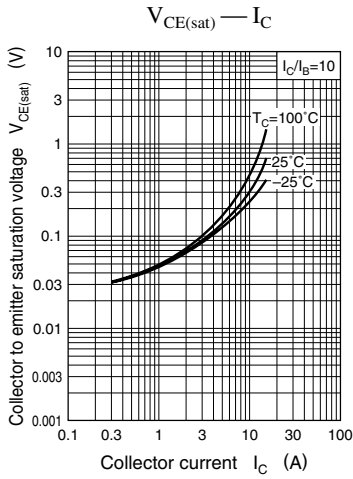
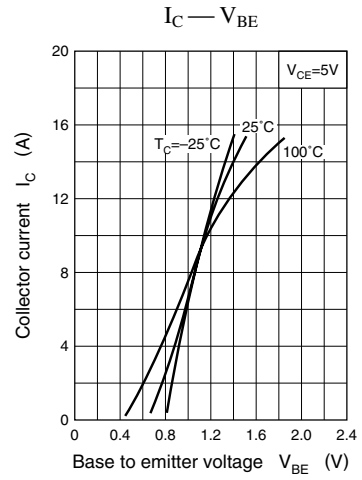
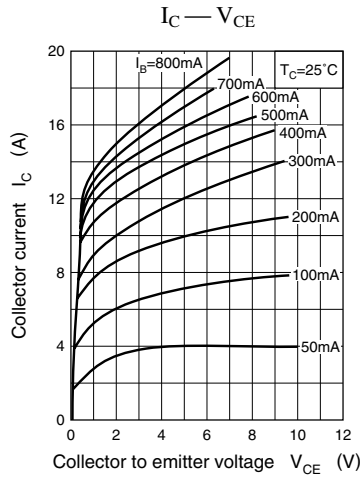
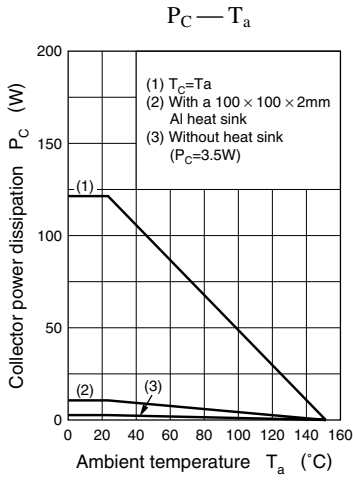


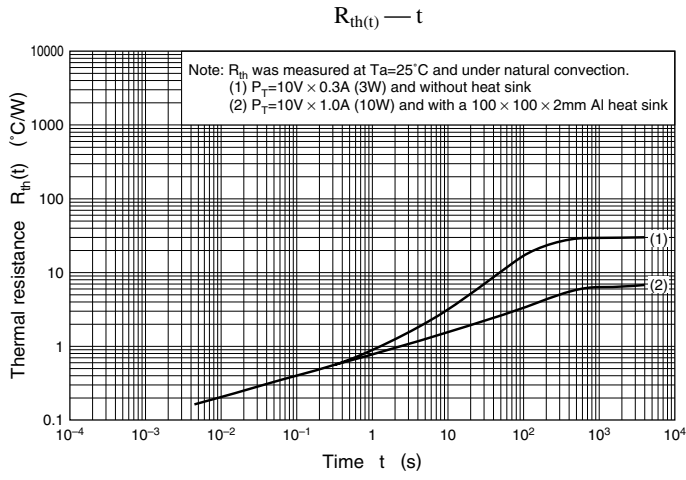
■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 160\text{ V}, I_E = 0$			50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 3\text{ V}, I_C = 0$			50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	20			
	h_{FE2}^*	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	60		200	
	h_{FE3}	$V_{CE} = 5\text{ V}, I_C = 8\text{ A}$	20			
Base to emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_C = 8\text{ A}$			1.8	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 8\text{ A}, I_B = 0.8\text{ A}$			2.0	V
Transition frequency	f_T	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		210		pF

Note) *: Rank classification

Rank	Q	S	P
h_{FE2}	60 to 120	80 to 160	100 to 200





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