

2SD2375

Silicon NPN triple diffusion planar type

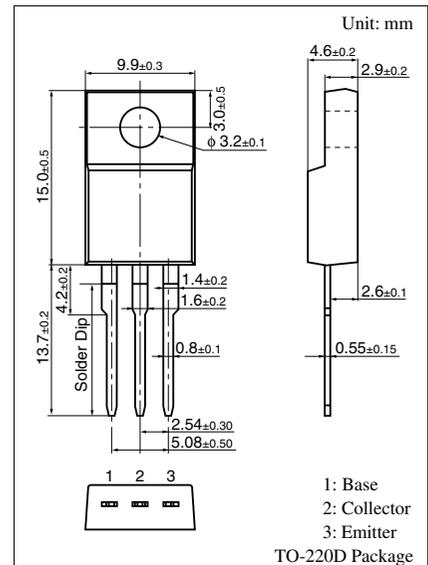
For power amplification with high forward current transfer ratio

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- 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	Rating	Unit	
Collector to base voltage	V_{CBO}	80	V	
Collector to emitter voltage	V_{CEO}	60	V	
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	$T_C = 25^\circ\text{C}$ $T_a = 25^\circ\text{C}$	P_C	25	W
			2	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



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

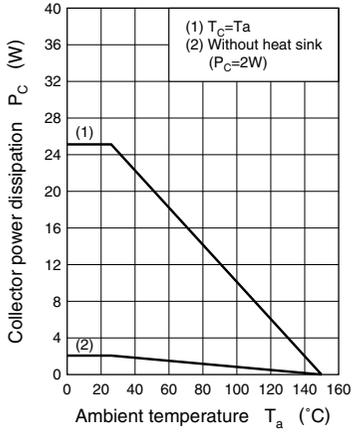
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 80\text{ V}, I_E = 0$			100	μA
	I_{CEO}	$V_{CE} = 40\text{ V}, I_B = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 6\text{ V}, I_C = 0$			100	μA
Collector to emitter voltage	V_{CEO}	$I_C = 25\text{ mA}, I_B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

Note) *: Rank classification

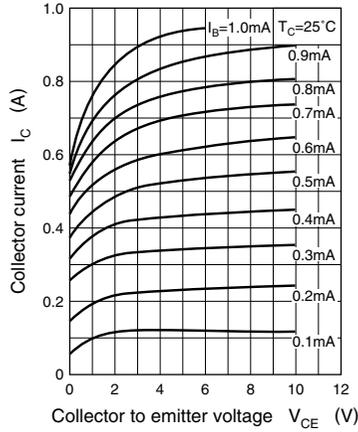
Rank	Q	P
h_{FE}	500 to 1 000	800 to 1 500

Ordering can be made by the common rank (PQ rank $h_{FE} = 500$ to 1 500) in the rank classification.

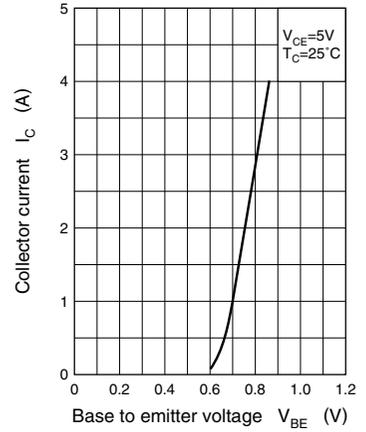
$P_C - T_a$



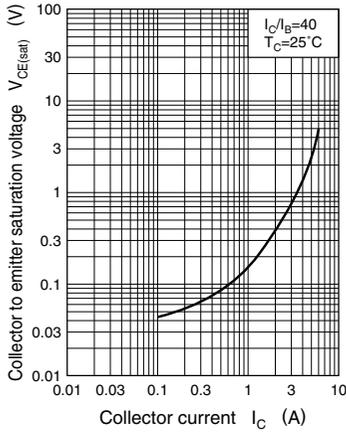
$I_C - V_{CE}$



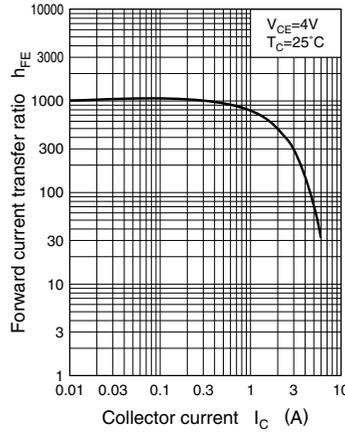
$I_C - V_{BE}$



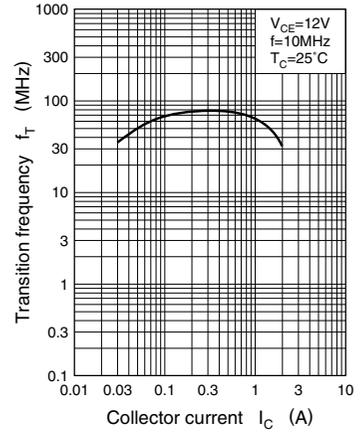
$V_{CE(sat)} - I_C$



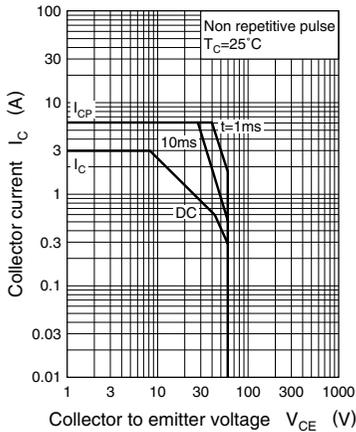
$h_{FE} - I_C$



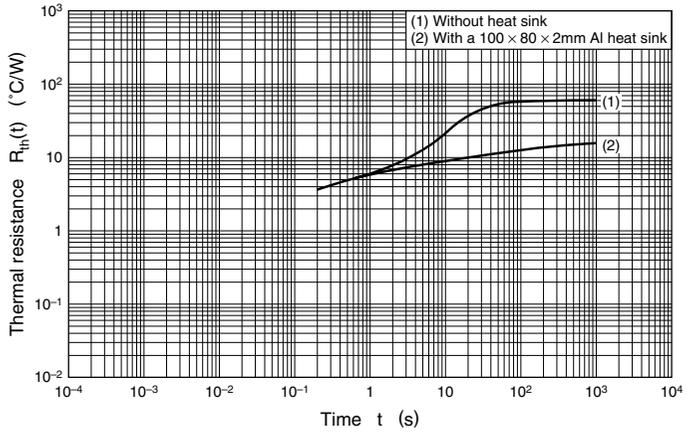
$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$



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