

# 2SD1274, 2SD1274A, 2SD1274B

Silicon NPN triple diffusion planar type

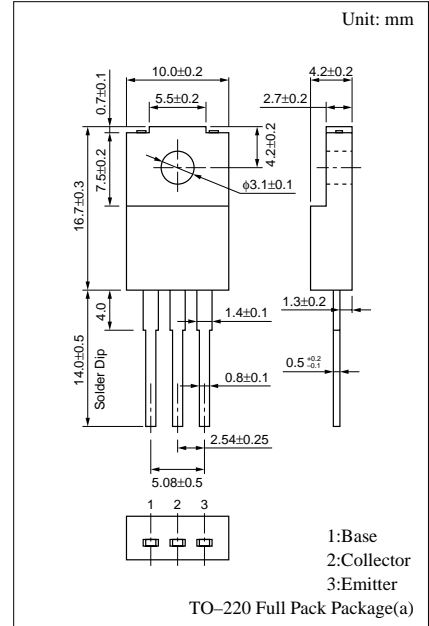
For power amplification

## ■ Features

- High collector to base voltage  $V_{CBO}$
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

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

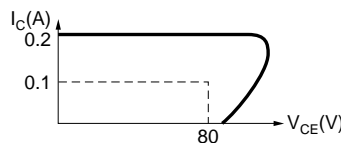
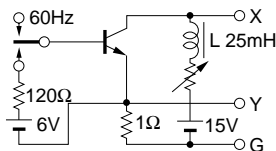
Parameter	Symbol	Rated	Unit	
Collector to base voltage	$V_{CBO}$	150	V	
		200		
		250		
Collector to emitter voltage	$V_{CES}$	150	V	
		200		
		250		
Collector to emitter voltage	$V_{CEO}$	80	V	
Emitter to base voltage	$V_{EBO}$	6	V	
Collector current	$I_C$	5	A	
Collector power dissipation	$P_C$	$T_C=25^\circ\text{C}$	40	W
		$T_a=25^\circ\text{C}$	2	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	



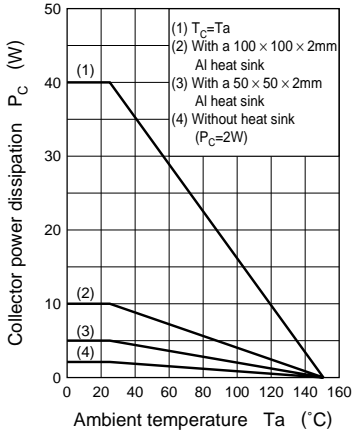
## ■ Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 150\text{V}, I_E = 0$			1	mA
		$V_{CB} = 200\text{V}, I_E = 0$			1	
		$V_{CB} = 250\text{V}, I_E = 0$			1	
Collector to emitter voltage	$V_{CEO(sus)}^*$	$I_C = 0.2\text{A}, L = 25\text{mH}$	80			V
Emitter to base voltage	$V_{EBO}$	$I_E = 1\text{mA}, I_C = 0$	6			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 4\text{V}, I_C = 5\text{A}$	14			
Base to emitter voltage	$V_{BE}$	$V_{CE} = 4\text{V}, I_C = 5\text{A}$			1.5	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 1\text{A}$			1.6	V
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}, f = 10\text{MHz}$		40		MHz
Fall time	$t_f$	$I_C = 5\text{A}, I_{B1} = 0.8\text{A}, V_{EB} = -5\text{V}$			1	$\mu\text{s}$

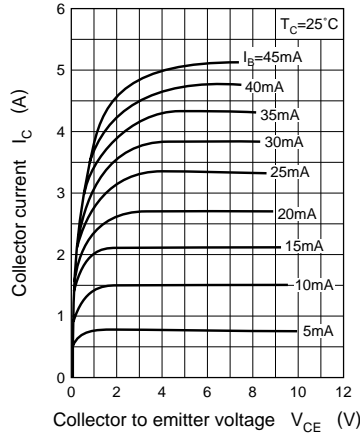
\* $V_{CEO(sus)}$  Test circuit



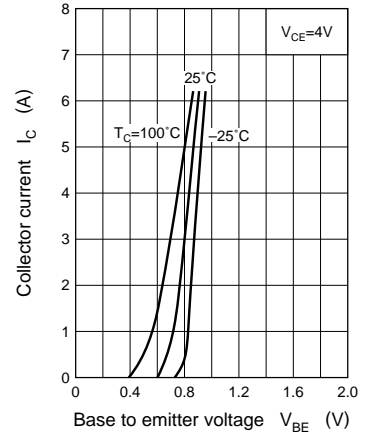
$P_C - T_a$



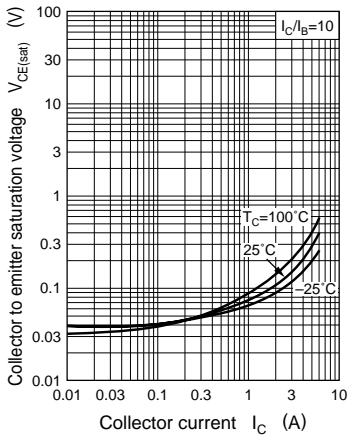
$I_C - V_{CE}$



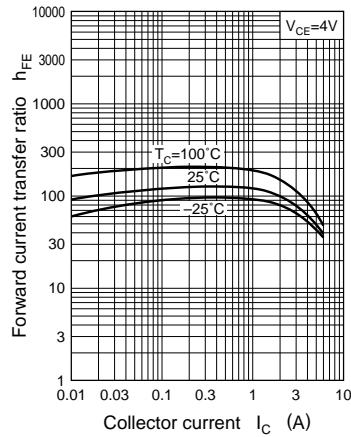
$I_C - V_{BE}$



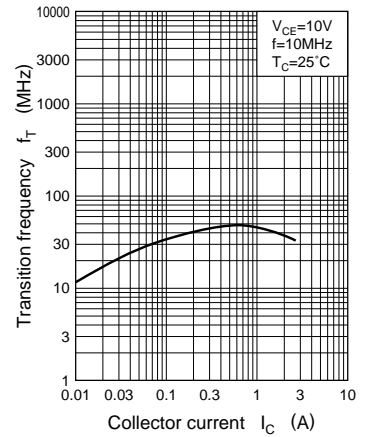
$V_{CE(sat)} - I_C$



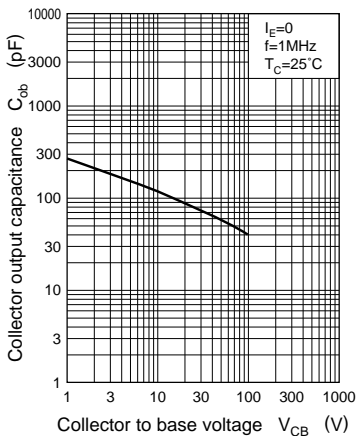
$h_{FE} - I_C$



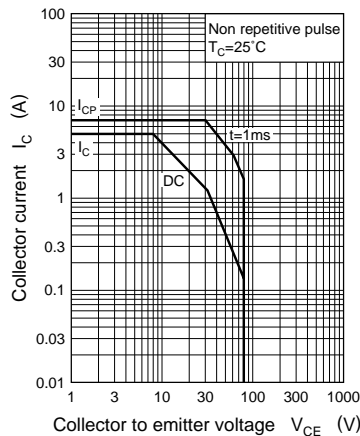
$f_T - I_C$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO

