

2SD1274A, 2SD1274B

Silicon NPN triple diffusion planar type

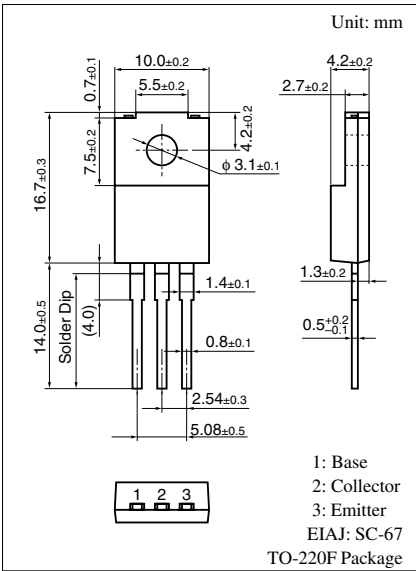
For power amplification

■ 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 $T_C = 25^\circ\text{C}$

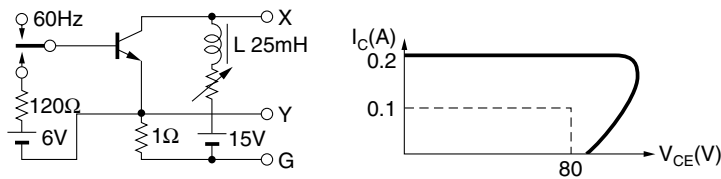
Parameter		Symbol	Rating	Unit
Collector to base voltage	2SD1274A	V_{CBO}	200	V
	2SD1274B		250	
Collector to emitter voltage	2SD1274A	V_{CES}	200	V
	2SD1274B		250	
Collector to emitter voltage		V_{CEO}	80	V
Emitter to base voltage		V_{EBO}	6	V
Collector current		I_C	5	A
Collector power dissipation	$T_C = 25^{\circ}\text{C}$	P_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	$^{\circ}\text{C}$

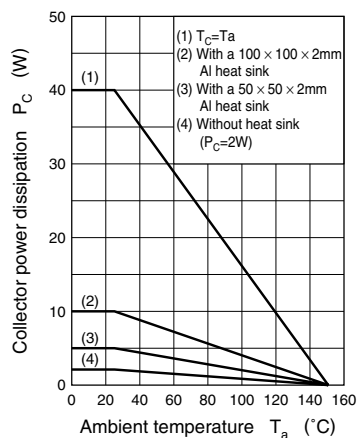
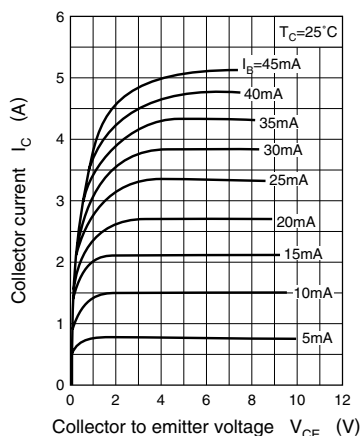
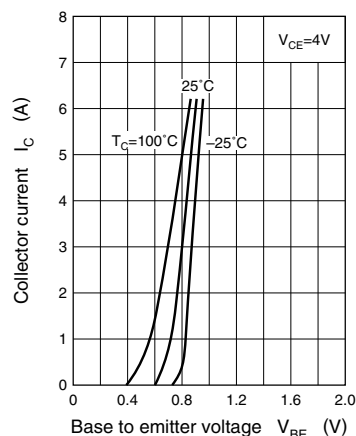
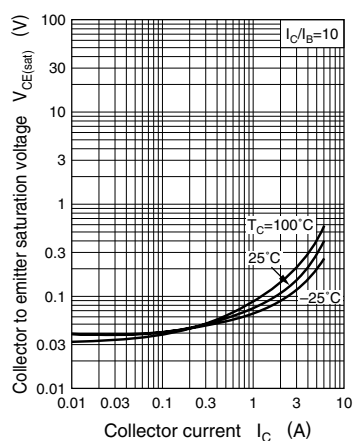
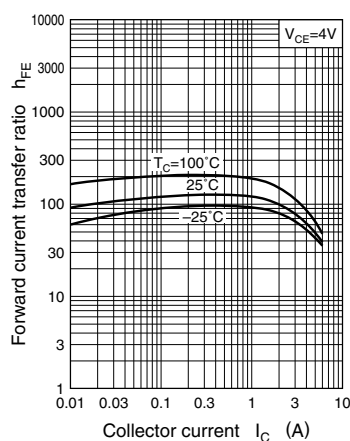
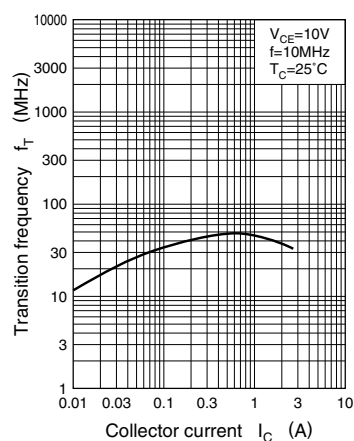
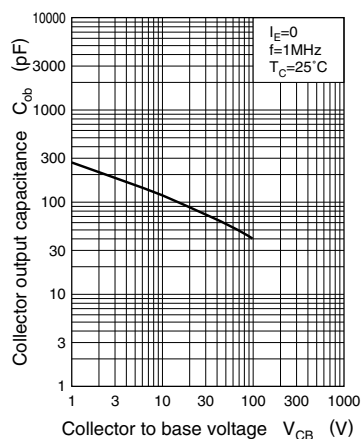


■ Electrical Characteristics $T_C = 25^\circ\text{C}$

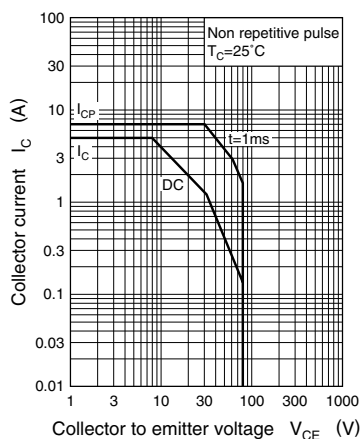
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	2SD1274A	$V_{CB} = 200\text{ V}, I_E = 0$			1	mA
	2SD1274B				1	
Collector to emitter voltage *	$V_{CEO(sus)}$	$I_C = 0.2\text{ A}, L = 25\text{ mH}$	80			V
Emitter to base voltage	V_{EBO}	$I_E = 1\text{ mA}, I_C = 0$	6			V
Forward 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	μs

Note) *: $V_{CEO(sus)}$ Test circuit

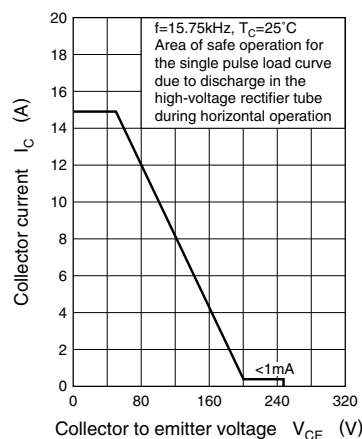


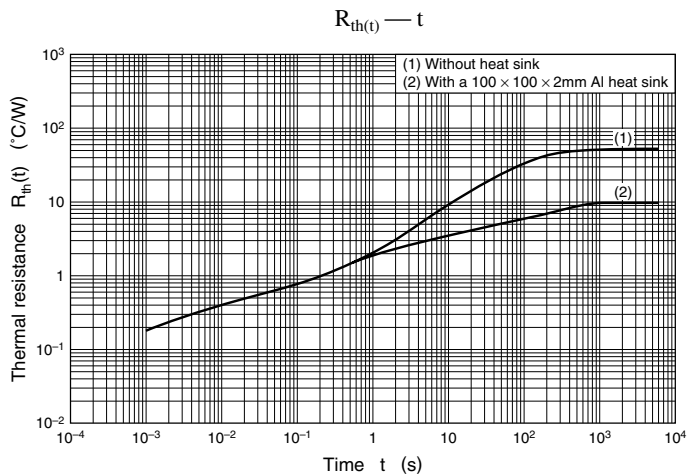
$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$ 

Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO





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