

2SD1273, 2SD1273A

Silicon NPN Triple-Diffused Planar Type

High DC Current Gain (h_{FE}), Power Amplifier

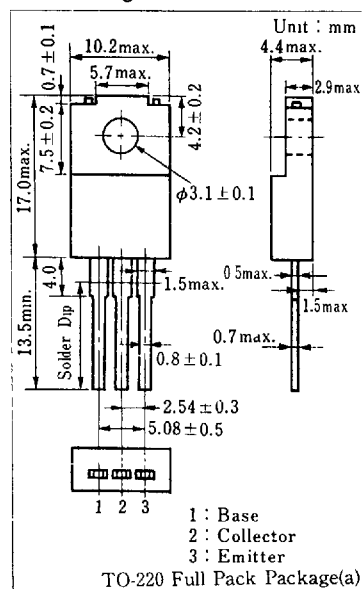
■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- "Full Pack" package for simplified mounting on a heat sink with one screw

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

Item		Symbol	Value	Unit
Collector-base voltage	2SD1273	V_{CBO}	80	V
	2SD1273A		100	
Collector-emitter voltage	2SD1273	V_{CLO}	60	V
	2SD1273A		80	
Emitter-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	$T_C = 25^{\circ}C$	P_C	40	W
	$T_A = 25^{\circ}C$		2	
Junction temperature		T_J	150	$^{\circ}C$
Storage temperature		T_{stg}	$-55 \sim +150$	$^{\circ}C$

■ Package Dimensions

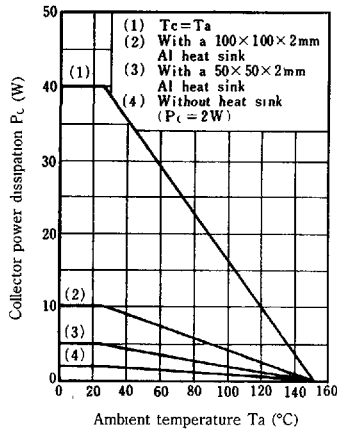
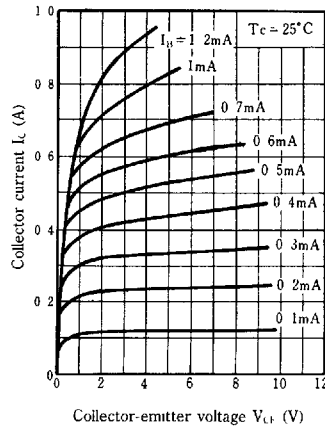
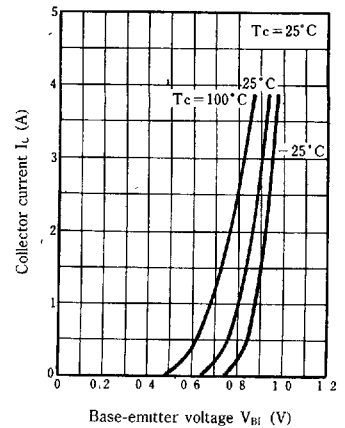
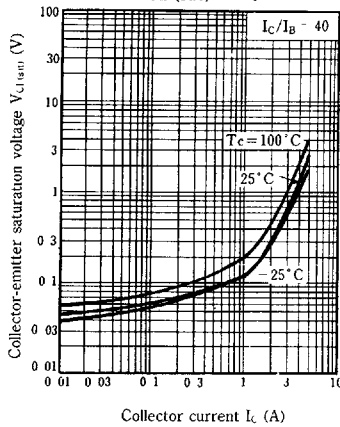
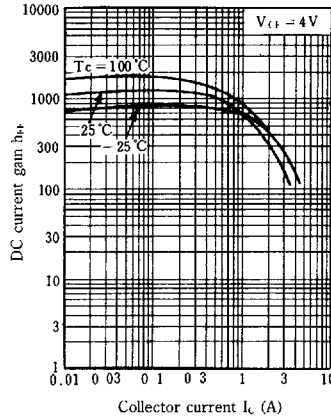
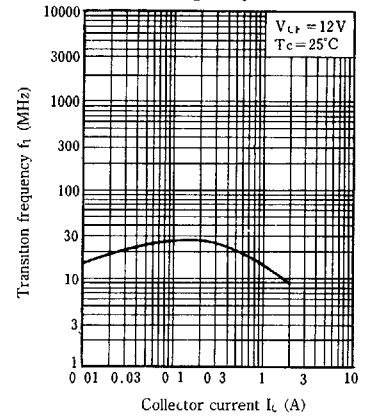
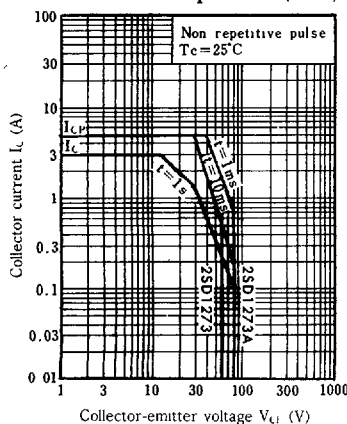


■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD1273 2SD1273A	I_{CBO} $V_{CB} = 80\text{ V}, I_E = 0$ $V_{CB} = 100\text{ V}, I_E = 0$			100	μA
					100	μA
Collector cutoff current	I_{CBO}	$V_{CB} = 40\text{ V}, I_E = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 6\text{ V}, I_C = 0$			100	μA
Collector-emitter voltage	2SD1273 2SD1273A	V_{CEO} $I_C = 25\text{ mA}, I_B = 0$	60			V
			80			V
DC current gain	h_{FE}^*	$V_{CE} = 4\text{ V}, I_C = 0.5\text{ A}$	500		2500	
Collector-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

* h_{FE} Classifications

Class	Q	P	O
h_{11}	500 ~ 1000	800 ~ 1500	1200 ~ 2500

$P_C - T_a$  **$I_C - V_{CE}$**  **$I_C - V_{BE}$**  **$V_{CE(sat)} - I_C$**  **$h_{FE} - I_C$**  **$f_T - I_C$** **Area of safe operation (ASO)** **$R_{th(t)} - t$** 