

2SD1275, 2SD1275A

Silicon NPN Triple-Diffused Planar Darlington Type

Power Amplifier

Complementary Pair with 2SB949, 2SB949A

■ Features

- High DC current gain (h_{FE})
- High speed switching
- "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	2SD1275	60	V
	2SD1275A	80	
Collector-emitter voltage	2SD1275	60	V
	2SD1275A	80	
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	4	A
Collector current	I_C	2	A
Collector power dissipation	$T_c=25^\circ\text{C}$	35	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

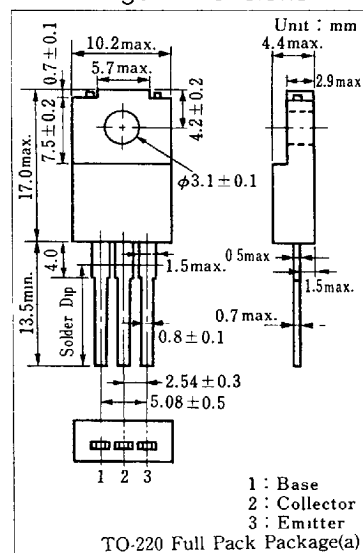
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=60\text{ V}, I_E=0$			1	mA
		$V_{CB}=80\text{ V}, I_F=0$			1	
Collector cutoff current	I_{CEO}	$V_{CE}=30\text{ V}, I_B=0$			2	mA
		$V_{CE}=40\text{ V}, I_B=0$			2	
Emitter cutoff current	I_{FBO}	$V_{EB}=5\text{ V}, I_C=0$			2	mA
Collector-emitter voltage	V_{CE0}	$I_C=30\text{ mA}, I_B=0$	60			V
			80			
DC current gain	h_{FE1}	$V_{CE}=4\text{ V}, I_C=1\text{ A}$	1000			
	h_{FE2}^*	$V_{CE}=4\text{ V}, I_C=2\text{ A}$	1000		10000	
Base-emitter voltage	V_{BE}	$V_{CE}=4\text{ V}, I_C=2\text{ A}$			2.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{ A}, I_B=8\text{ mA}$			2.5	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=1\text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C=2\text{ A}, I_{B1}=8\text{ mA}, I_{B2}=-8\text{ mA}$ $V_{CC}=50\text{ V}$		0.5		μs
Storage time	t_{stg}			4		μs
Fall time	t_f			1		μs

* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	1000~2500	2000~5000	4000~10000

■ Package Dimensions



■ Inner Circuit

