

2SD1322

Silicon NPN Triple-Diffused Planar Darlington Type

Medium Speed Power Switching

Features

- 30V Zener diode built-in between C and B
- Very small fluctuation in breakdown voltages
- Large energy handling capability
- High speed switching
- "Full Pack" package for simplified mounting on a heat sink with one screw

Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	30 ± 5	V
Collector-emitter voltage	V_{CE0}	30 ± 5	V
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	4	A
Collector current	I_C	2	A
Collector power dissipation	P_C	35	W
		2	W
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

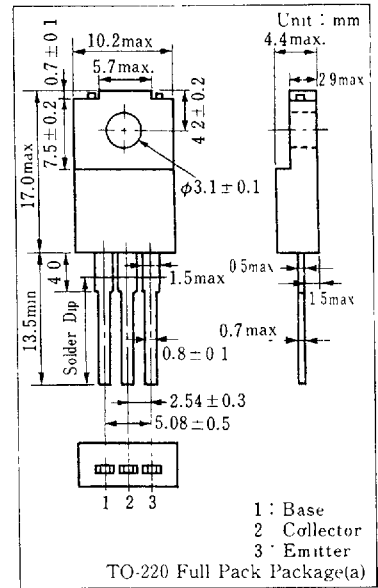
Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min	typ	max	Unit	
Collector cutoff current	I_{CB0}	$V_{CB} = -25V, I_E = 0$			100	μA	
Emitter cutoff current	I_{EB0}	$V_{EB} = 5V, I_C = 0$			2	mA	
Collector-emitter voltage	V_{CE0}	$I_C = 5mA, I_B = 0$	25		35	V	
DC current gain	h_{FE1}	$V_{CE} = 4V, I_C = 1A$	1000				
	h_{FE2}^{*1}	$V_{CE} = 4V, I_C = 2A$	1000		10000		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 8mA$			2.5	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 8mA$			2.5	V	
Transition frequency	f_T	$V_{CE} = 10V, I_C = 0.5A, f = 1MHz$		20		MHz	
Turn-on time	t_{on}	$I_C = 2A, I_{B1} = 8mA, I_{B2} = -8mA, V_{CC} = 20V$		0.4		μs	
Storage time	t_{stg}				3		μs
Fall time	t_f				1		μs
Energy handling capability	E_{av}^{*2}	$I_C = 1.45A, L = 100mH, R_{B1} = 100\Omega$	100			mJ	

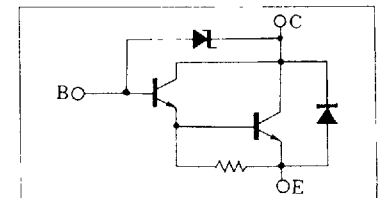
¹h_{FE2} Classifications

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

Package Dimensions



Inner Circuit



*²E_{av} Test method

