

2SD1633

Silicon PNP Triple-Diffused Planar Darlington Type

Power Switching

Complementary Pair with 2SB1174

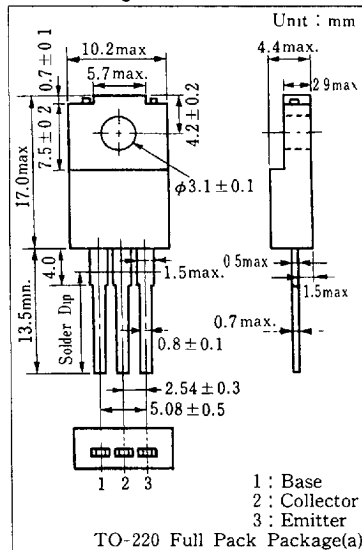
■ Features

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

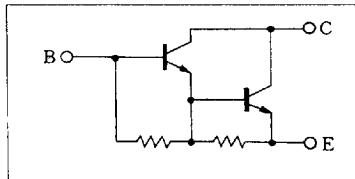
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	100	V
Collector-emitter voltage	V_{CEO}	100	V
Emitter-base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	8	A
Collector current	I_C	5	A
Base current	I_B	0.5	A
Collector power dissipation	$T_c=25^\circ\text{C}$	P_C	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

■ Package Dimensions



■ Inner Circuit



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=100\text{ V}, I_E=0$			100	μA
		$V_{EB}=100\text{ V}, I_C=0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=7\text{ V}, I_C=0$			5	mA
Collector-emitter voltage	$V_{CEO(sus)}$	$I_C=0.2\text{ A}$	100			V
DC current gain	h_{FE}^*	$V_{CE}=3\text{ V}, I_C=3\text{ A}$	1500		10000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{ A}, I_B=3\text{ mA}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=3\text{ A}, I_B=3\text{ mA}$			2	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=1\text{ A}, f=1\text{ MHz}$		15		MHz
Turn-on time	t_{on}	$I_C=3\text{ A}, I_{B1}=3\text{ mA}, I_{B2}=-3\text{ mA}$ $V_{CC}=50\text{ V}$			3	μs
Storage time	t_{stg}				5	μs
Fall time	t_f				3	μs

* h_{FE} Classifications

Class	Q	P
h_{FE}	1500 ~ 6000	5000 ~ 10000

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