

2SD1528

Silicon NPN Epitaxial Planar Type

Power Switching

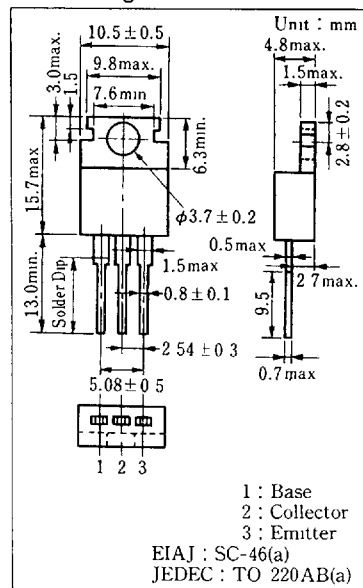
■ Features

- High speed switching
- High collector-base voltage (V_{CB0})
- Good linearity of DC current gain (h_{FE})

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	130	V
Collector-emitter voltage	V_{CE0}	80	V
Emitter-base voltage	V_{EB0}	7	V
Peak collector current	I_{CP}	6	A
Collector current	I_C	3	A
Collector power dissipation	$T_c=25^\circ\text{C}$	P_C 30	W
	$T_a=25^\circ\text{C}$	1.4	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	- 55 ~ + 150	$^\circ\text{C}$

■ Package Dimensions



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=100\text{ V}, I_F=0$			10	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			50	μA
Collector-emitter voltage	V_{CE0}	$I_C=10\text{ mA}, I_B=0$	80			V
DC current gain	h_{FE1}	$V_{CE}=2\text{ V}, I_C=0.1\text{ A}$	45			
	h_{FE2}^*	$V_{CE}=2\text{ V}, I_C=1\text{ A}$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{ A}, I_B=0.1\text{ A}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2\text{ A}, I_B=0.1\text{ A}$			1.2	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=10\text{ MHz}$		25		MHz
Turn-on time	t_{on}	$I_C=2\text{ A}$			0.5	μs
Storage time	t_{stg}	$I_{B1}=0.1\text{ A}, I_{B2}=-0.1\text{ A}$			1.5	μs
Fall time	t_f	$V_{CE}=50\text{ V}$			0.5	μs

* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	60 ~ 120	90 ~ 180	130 ~ 260

