

2SD2530

Silicon NPN triple diffusion planar type Darlington

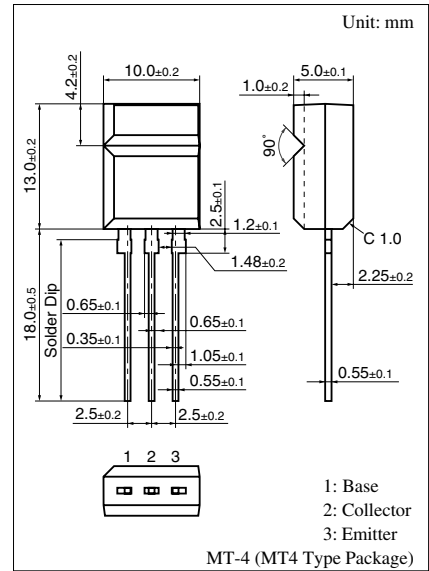
For power amplification

■ Features

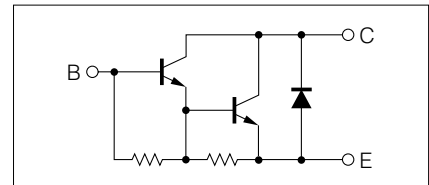
- High forward current transfer ratio h_{FE}
- Allowing supply with the radial taping
- Low collector to emitter saturation voltage $V_{CE(sat)} < 2.5 \text{ V}$

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector to base voltage	V_{CBO}	100	V	
Collector to emitter voltage	V_{CEO}	100	V	
Emitter to base voltage	V_{EBO}	5	V	
Peak collector current	I_{CP}	10	A	
Collector current	I_C	5	A	
Collector power dissipation	P_C	$T_C = 25^\circ\text{C}$	15	W
		$T_a = 25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



Internal Connection



■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 2^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 100 \text{ V}, I_E = 0$			100	μA
	I_{CEO}	$V_{CE} = 80 \text{ V}, I_B = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$			5	mA
Collector to emitter voltage	V_{CEO}	$I_C = 10 \text{ mA}, I_B = 0$	100			V
Forward current transfer ratio	h_{FE1}	$V_{CE} = 4 \text{ V}, I_C = 2 \text{ A}$	2 000		15 000	
	h_{FE2}	$V_{CE} = 4 \text{ V}, I_C = 4 \text{ A}$	500			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}, I_B = 2 \text{ mA}$			1.5	V
		$I_C = 4 \text{ A}, I_B = 16 \text{ mA}$			2.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 4 \text{ A}, I_B = 16 \text{ mA}$			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}	$I_C = 4 \text{ A}, I_{B1} = 16 \text{ mA}, I_{B2} = -16 \text{ mA}$		0.27		μs
Storage time	t_{stg}	$V_{CC} = 50 \text{ V}$		2.9		μs
Fall time	t_f			1.0		μs

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