

## Silicon NPN Triple Diffusion Planar Type

## 2SD1250

## ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector-emitter saturation voltage  $V_{CE(sat)}$

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	200	V
Collector-emitter voltage	$V_{CE0}$	150	V
Emitter-base voltage	$V_{EB0}$	6	V
Collector current	$I_C$	2	A
Peak collector current	$I_{CP}$	3	
Collector power dissipation $T_C = 25^\circ\text{C}$	$P_C$	1.3	W
		30	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CB0}$	$I_C = 500 \mu\text{A}, I_E = 0$	200			V
Collector-emitter voltage (Base open)	$V_{CE0}$	$I_C = 5 \text{ mA}, I_B = 0$	150			V
Emitter-base voltage (Collector open)	$V_{EB0}$	$I_E = 500 \mu\text{A}, I_C = 0$	6			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 200 \text{ V}, I_E = 0$			50	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 4 \text{ V}, I_C = 0$			50	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 \text{ V}, I_C = 150 \text{ mA}$	60		240	
		$V_{CE} = 10 \text{ V}, I_C = 400 \text{ mA}$	50			
Base-emitter voltage	$V_{BE}$	$V_{CE} = 10 \text{ V}, I_C = 400 \text{ mA}$			1.0	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			1.0	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}, f = 1 \text{ MHz}$		20		MHz

■  $h_{FE}$  Classification

Rank	Q	P
$h_{FE}$	60 to 140	100 to 240