

# 2SD2556

## Silicon NPN epitaxial planer type

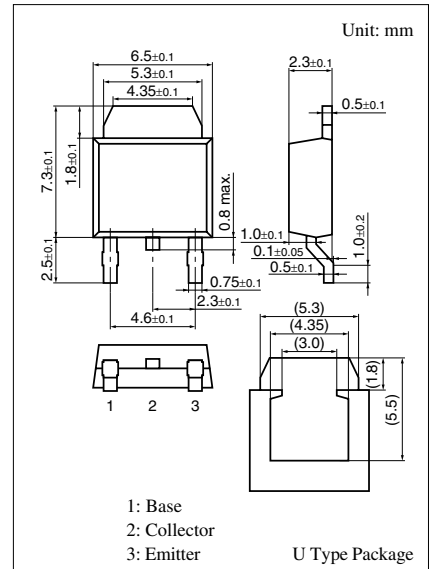
For power switching

### ■ Features

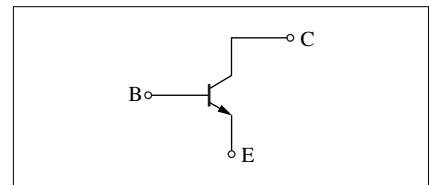
- High forward current transfer ratio  $h_{FE}$
- Allowing supply with the radial taping
- Low collector to emitter saturation voltage  $V_{CE(sat)}: < 0.5 \text{ V}$

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

Parameter	Symbol	Rating	Unit	
Collector to base voltage	$V_{CBO}$	130	V	
Collector to emitter voltage	$V_{CEO}$	80	V	
Emitter to base voltage	$V_{EBO}$	7	V	
Peak collector current	$I_{CP}$	10	A	
Collector current	$I_C$	5	A	
Collector power dissipation	$T_C = 25^\circ\text{C}$	$P_C$	10	W
	$T_a = 25^\circ\text{C}$		1	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	



### Internal Connection



### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 100 \text{ V}, I_E = 0$			10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$			50	$\mu\text{A}$
Collector to emitter voltage	$V_{CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	80			V
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}$	45			
	$h_{FE2}^*$	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	90		260	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4 \text{ A}, I_B = 0.2 \text{ A}$			0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 4 \text{ A}, I_B = 0.2 \text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = -0.5 \text{ A}, f = 10 \text{ MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = 2 \text{ A}, I_{B1} = 0.2 \text{ A}, I_{B2} = -0.2 \text{ A}$		0.5		$\mu\text{s}$
Storage time	$t_{stg}$	$V_{CC} = 50 \text{ V}$		1.5		$\mu\text{s}$
Fall time	$t_f$			0.15		$\mu\text{s}$

Note) \*: Rank classification

Rank	P	Q
$h_{FE2}$	130 to 260	90 to 180