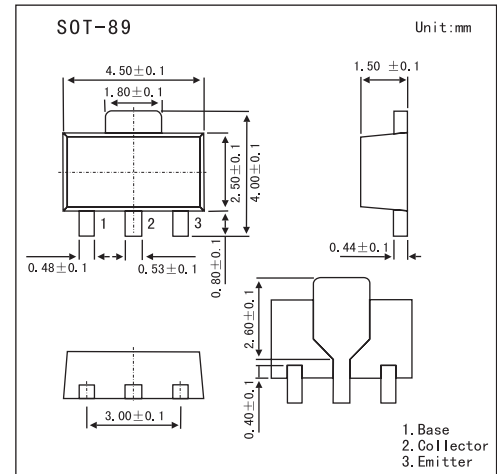


## Silicon NPN Epitaxial Planar Type

## 2SD1280

## ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$ .
- Satisfactory operation performances at high efficiency with the lowvoltage power supply.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	20	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	1	A
Peak collector current	$I_{CP}$	2	A
Collector power dissipation	$P_C$	1	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-emitter voltage	$V_{CEO}$	$I_C = 1\text{ mA}, I_B = 0$	20			V
Emitter-base voltage	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current	$I_{CBO}$	$V_{CB} = 10\text{ V}, I_B = 0$			1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	90		280	
		$V_{CE} = 2\text{ V}, I_C = 1.5\text{ A}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1\text{ A}, I_B = 50\text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$			1.2	V
Transition frequency	$f_T$	$V_{CB} = 6\text{ V}, I_E = -50\text{ mA}, f = 200\text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 6\text{ V}, I_E = 0, f = 1\text{ MHz}$		18		pF

■  $h_{FE}$  Classification

Marking	R		
Rank	Q	R	S
$h_{FE}$	90~155	130~210	180~280