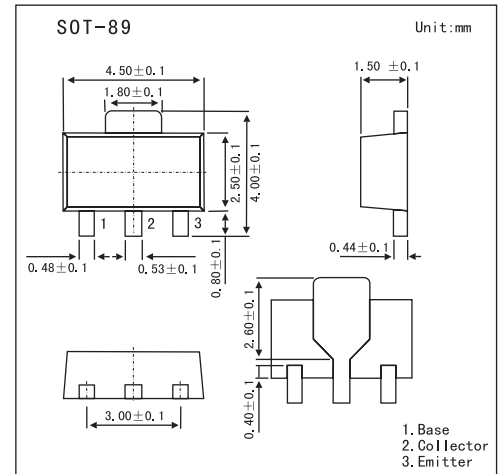


## Silicon NPN Epitaxial Planar Type

## 2SD2457

## ■ Features

- High collector-emitter voltage (Base open)  $V_{CEO}$ .
- Low collector power dissipation  $P_C$ .
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	40	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	3	A
Peak collector current	$I_{CP}$	1.5	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-base cutoff current	$I_{CBO}$	$V_{CB} = 20\text{ V}, I_E = 0$			1	$\mu\text{A}$
Collector-emitter cutoff current	$I_{CEO}$	$V_{CE} = 10\text{ V}, I_B = 0$			100	$\mu\text{A}$
Emitter-base cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			10	$\mu\text{A}$
Collector-base voltage	$V_{CBO}$	$I_C = 1\text{ mA}, I_E = 0$	50			V
Collector-emitter voltage	$V_{CEO}$	$I_C = 2\text{ mA}, I_B = 0$	40			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	80	120	220	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1.5\text{ A}, I_B = 0.15\text{ A}$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2\text{ A}, I_B = 0.2\text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CB} = 5\text{ V}, I_E = -0.5\text{ A}, f = 200\text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 20\text{ V}, I_E = 0, f = 1\text{ MHz}$		45		pF

■  $h_{FE}$  Classification

Marking	1Y	
Rank	Q	R
$h_{FE}$	80~160	120~220