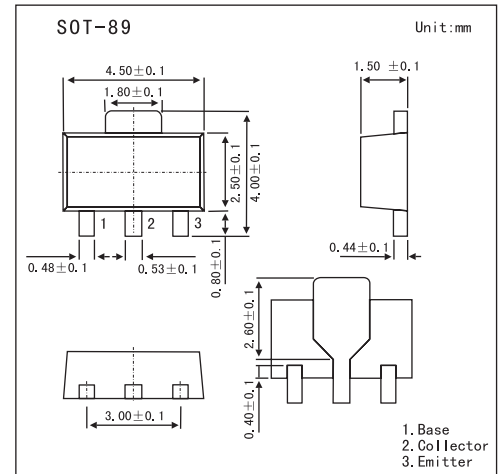


Silicon NPN Epitaxial Planar Type

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_{CB0}	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_{CB0}	$V_{CB} = 20\text{ V}, I_E = 0$			1	μA
Collector-emitter cutoff current	I_{CEO}	$V_{CE} = 10\text{ V}, I_B = 0$			100	μA
Emitter-base cutoff current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			10	μA
Collector-base voltage	V_{CB0}	$I_C = 1\text{ mA}, I_E = 0$	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