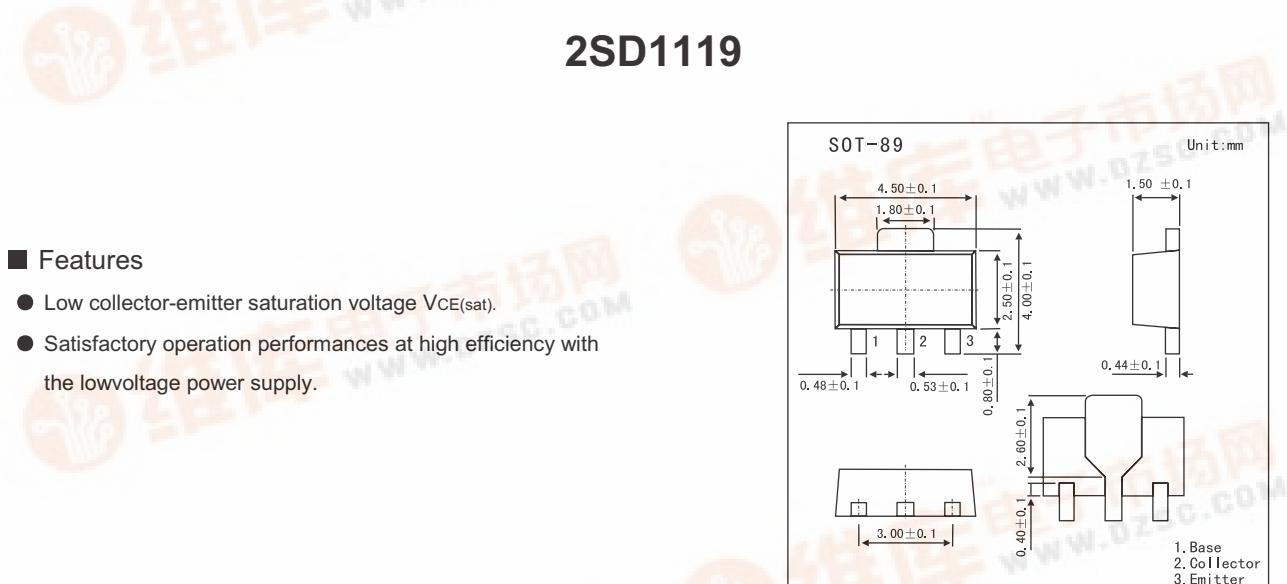


SMD Type

Transistors

Silicon NPN epitaxial planar type

2SD1119



■ 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}	40	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	3	A
Peak collector current	I_{CP}	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	Testconditons	Min	Typ	Max	Unit
Collector-emitter voltage	V_{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	25			V
Emitter-base voltage	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	7			V
Collector-base cutoff current	I_{CBO}	$V_{CB} = 10 \text{ V}, I_B = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	230		600	
		$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	150			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.1 \text{ A}$			1	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}	$V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			50	pF

■ hFE Classification

Marking	T	
Rank	Q	R
ph5	230~380	340~600