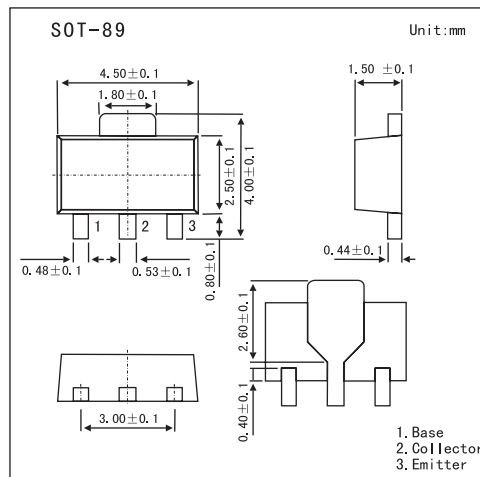


# 2SD965K

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Satisfactory operation performances at high efficiency with the low voltage 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	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	3	A
Peak collector current	$I_{CP}$	7	A
Collector power dissipation	$P_C$	0.5	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	Test conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = 1\text{ mA}, I_B = 0$	20			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current	$I_{CBO}$	$V_{CB} = 10\text{ V}, I_E = 0$			0.1	$\mu\text{A}$
Collector-emitter cutoff current	$I_{CEO}$	$V_{CE} = 10\text{ V}, I_B = 0$			1	$\mu\text{A}$
Emitter-base cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			0.1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	230		600	
		$V_{CE} = 2\text{ V}, I_C = 1\text{ A}$	150			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{ A}, I_B = 0.1\text{ A}$		0.28	1.00	V
Collector output capacitance	$C_{ob}$	$V_{CB} = 20\text{ V}, I_E = 0, f = 1\text{ MHz}$		26	50	pF
Transition frequency	$f_T$	$V_{CB} = 6\text{ V}, I_E = -50\text{ mA}, f = 200\text{ MHz}$		150		MHz

### ■ $h_{FE}$ Classification

Rank	Q	R
$h_{FE}$	230~380	340~600