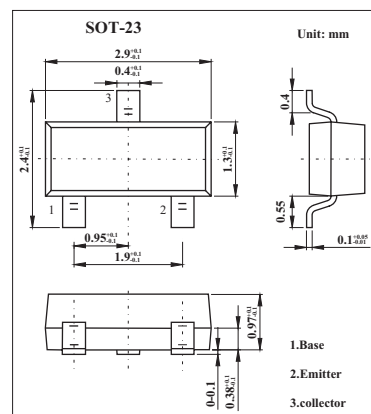


## Power Transistor

## 2SD2114K

## ■ Features

- High DC current gain.
- High emitter-base voltage.
- Low  $V_{CE(sat)}$ .

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	25	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	12	V
Collector current	$I_c$	0.5	A
		1 *	
Collector power dissipation	$P_c$	0.2	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* Single pulse  $P_w=100\text{ms}$ .

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$BV_{CBO}$	$I_c=10\mu\text{A}$	25			V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_c=1\text{mA}$	20			V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E=10\mu\text{A}$	12			V
Collector cutoff current	$I_{CBO}$	$V_{CB}=20\text{V}$			0.5	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB}=10\text{V}$			0.5	$\mu\text{A}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c/I_B=500\text{mA}/20\text{mA}$		0.18	0.4	V
DC current transfer ratio	$h_{FE}$	$V_{CE}=3\text{V}, I_c=10\text{mA}$	820		2700	
Output capacitance *	$f_T$	$V_{CE}=10\text{V}, I_E=-50\text{mA}, f=100\text{MHz}$		350		MHz
Transition frequency	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		8.0		pF
Output On-resistance	$R_{on}$	$I_B=1\text{mA}, V_i=100\text{mV(rms)}, f=1\text{kHz}$		0.8		$\Omega$

\* Measured using pulse current.

■  $h_{FE}$  Classification

Marking	BB	
	V	W
$h_{FE}$	820~1800	1200~2700