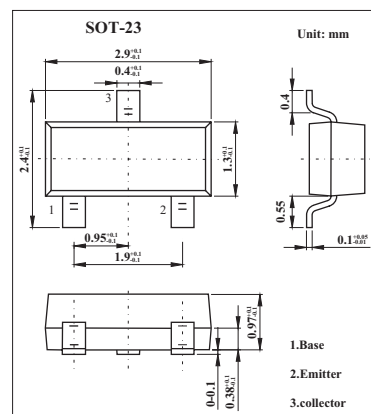


Power Transistor

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	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=10\text{V}$			0.5	μA
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		Ω

* Measured using pulse current.

■ h_{FE} Classification

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