

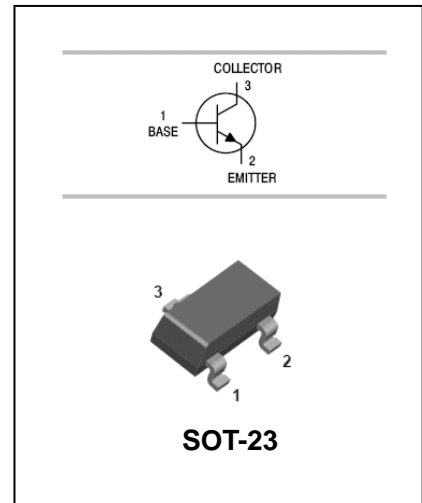


Silicon Epitaxial Planar Transistor

2SD2114

FEATURES

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



APPLICATIONS

- General purpose amplifiers.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SD2114	BBV/BBW	SOT-23

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current -Continuous	500	mA
P_C	Collector Dissipation	200	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	12			V
Collector cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=10V, I_C=0$			0.5	μA
DC current gain	h_{FE}	$V_{CE}=3V, I_C=10mA$	600		2700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=20mA$		0.18	0.4	V
Output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		8		pF
Transition frequency	f_T	$V_{CE}=10V, I_E=-50mA$ $f=100MHz$	350			MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	V	W
Range	600-1800	1200-2700
Marking	BBV	BBW

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

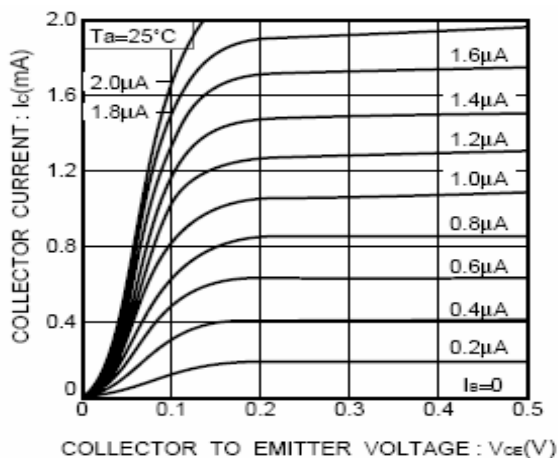


Fig.1 Grounded emitter output characteristics

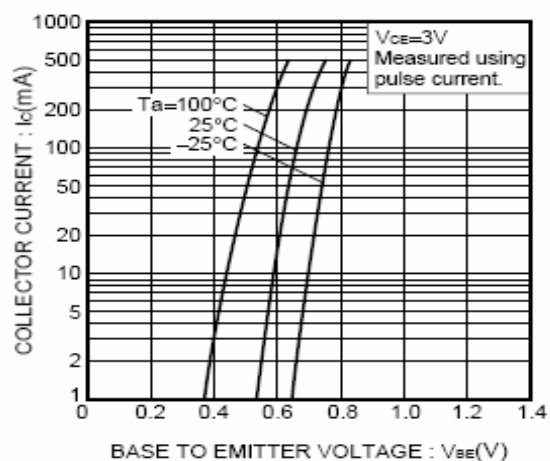


Fig.2 Grounded emitter propagation characteristics

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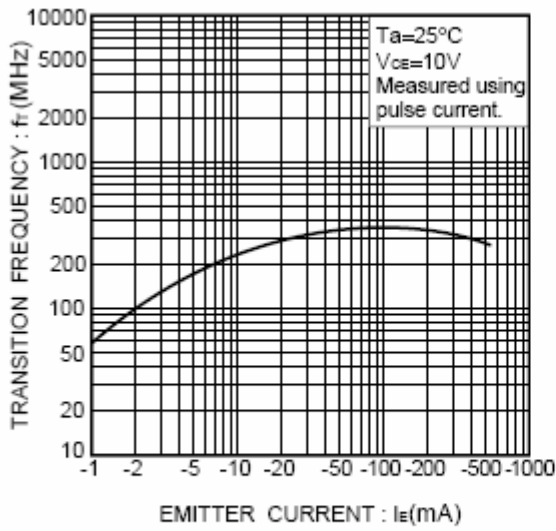


Fig.3 Gain bandwidth product vs. emitter current

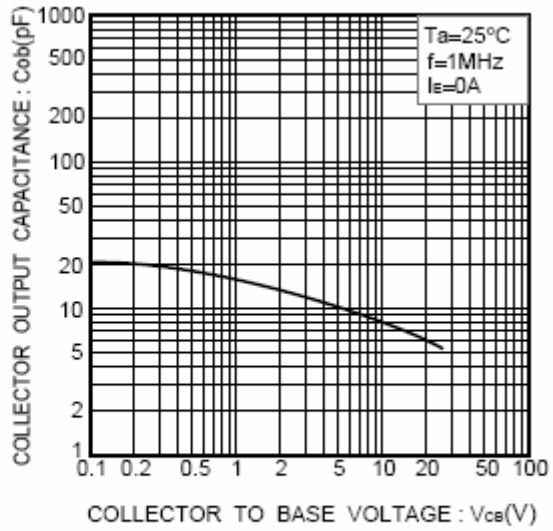


Fig.4 Collector output capacitance vs. collector-base voltage

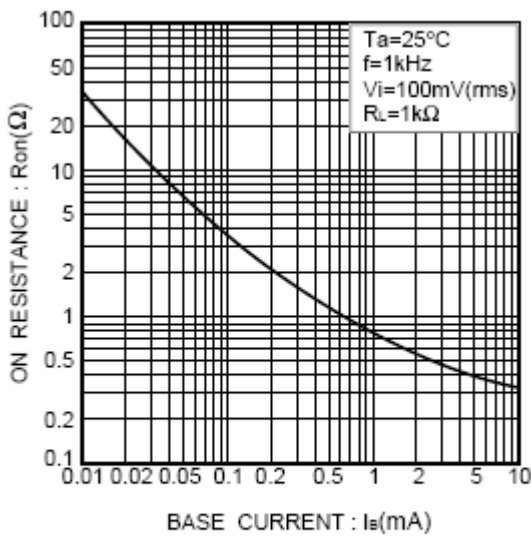


Fig.5 Output-on resistance vs. base current

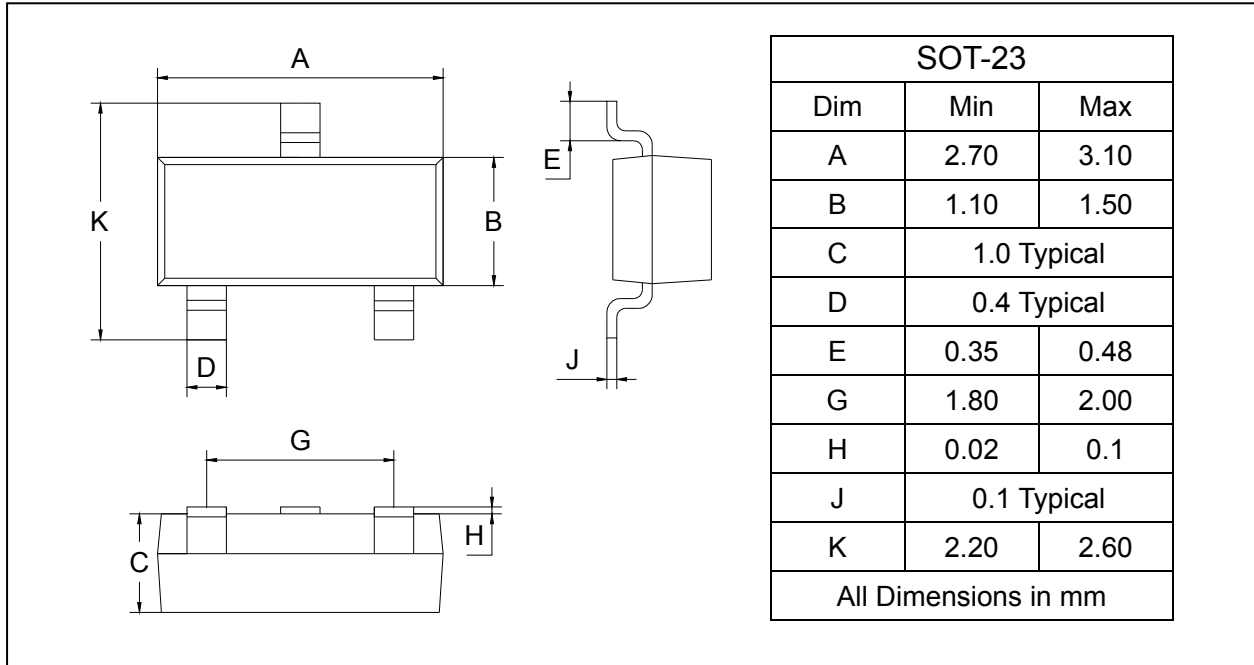
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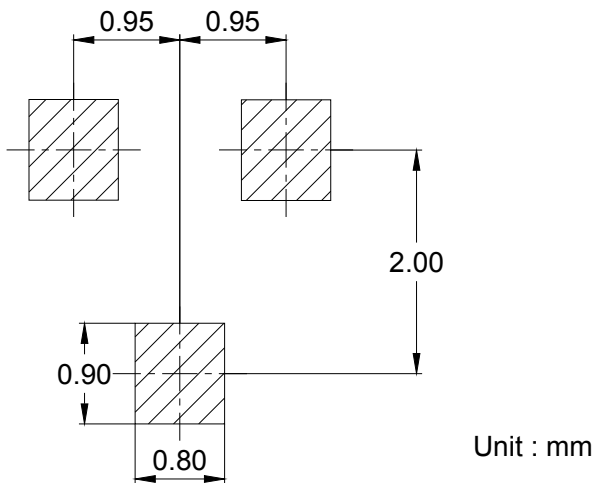
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD2114	SOT-23	3000/Tape&Reel