

Silicon Epitaxial Planar Transistor

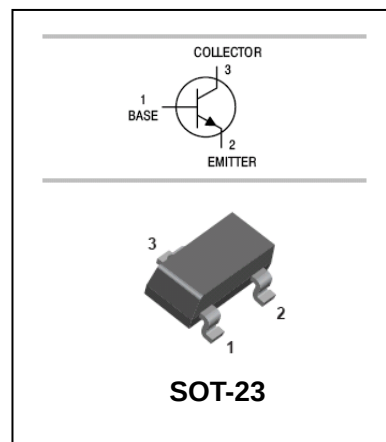
STD123S

FEATURES

- Low saturation medium current application
- Extremely low collector saturation voltage
- Suitable for low voltage large current drivers
- High DC current gain and large current capability
- Low on resistance : $R_{ON}=0.6\Omega(\text{Max.})$ ($I_B=1\text{mA}$)



Lead-free



APPLICATIONS

- NPN Silicon Epitaxial Planar Transistor
- Audio frequency general purpose amplifier

ORDERING INFORMATION

Type No.	Marking	Package Code
STD123S	123	SOT-23

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	6.5	V
I_C	Collector Current -Continuous	1	A
P_C	Collector Dissipation	350	mW
T_J, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$



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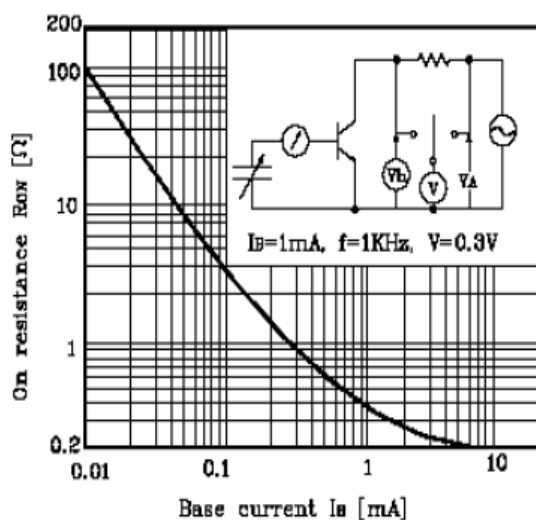
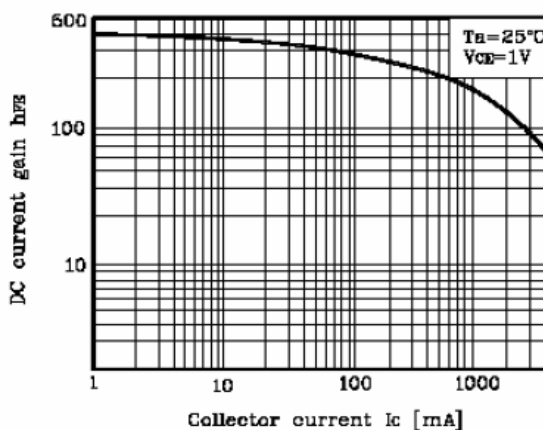
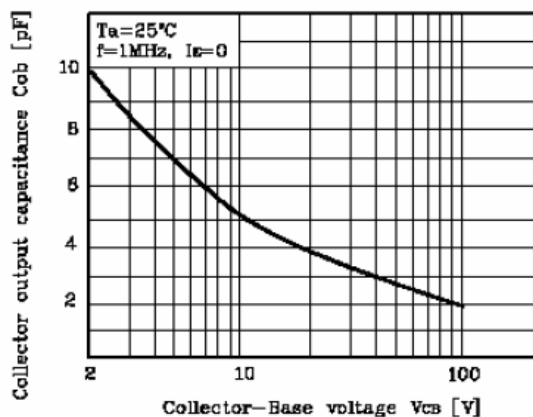
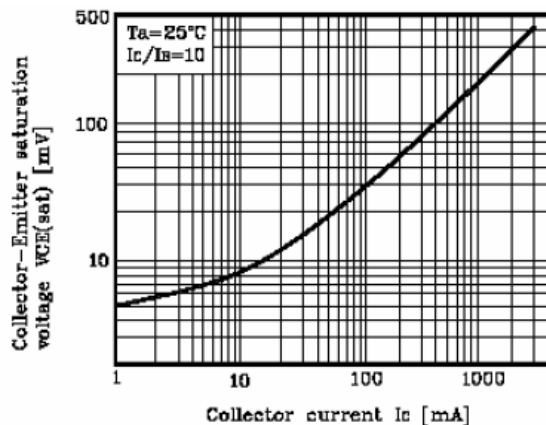
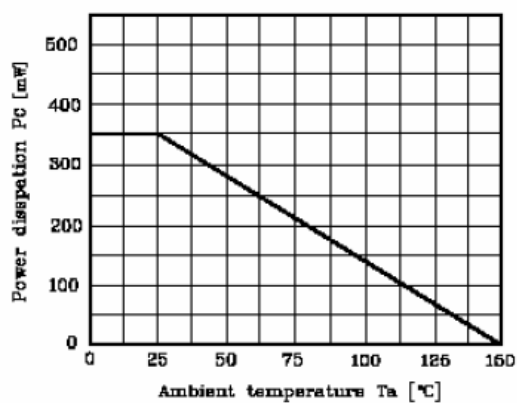
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	6.5			V
Collector cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=1V, I_C=100mA$	150			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.3	V
Transition frequency	f_T	$V_{CE}=5V, I_C=50mA$		260		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		5		pF
On resistance	R_{ON}	$f=1KHz, I_B=1mA, V_{IN}=0.3V$		0.6		Ω

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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



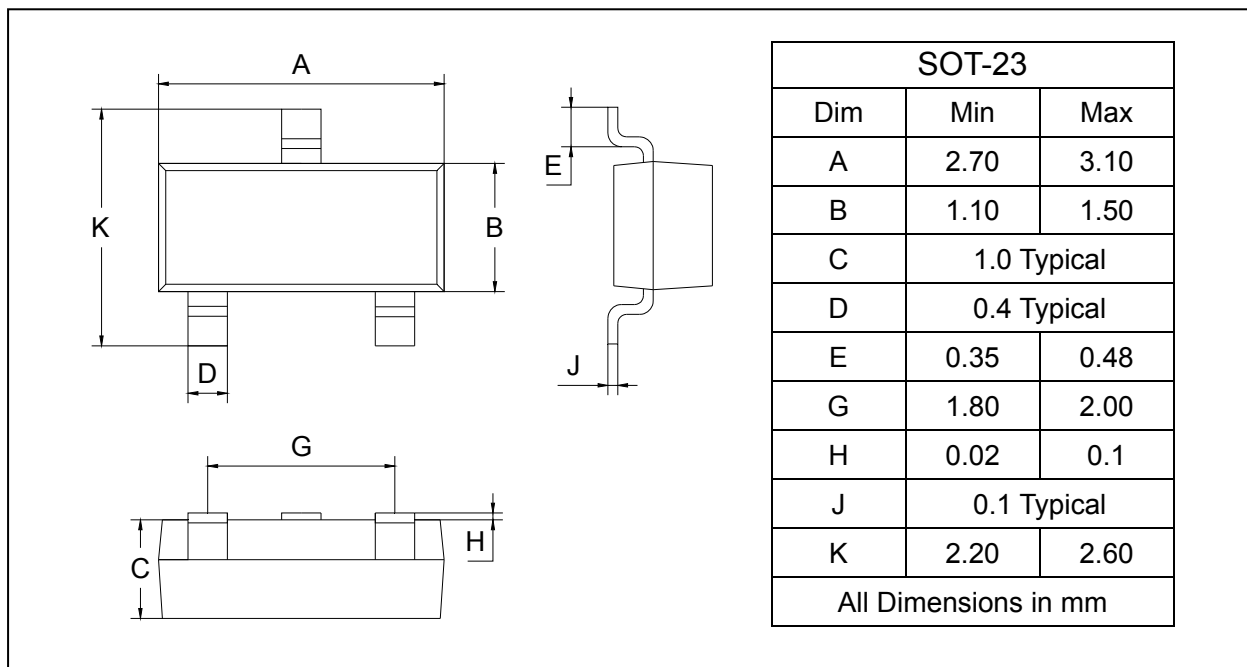
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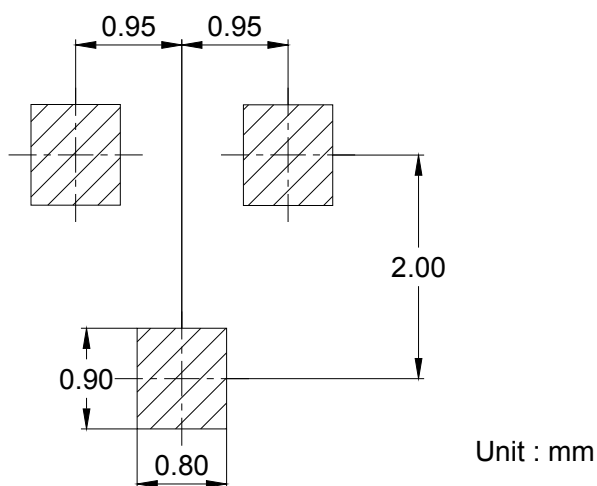
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
STD123S	SOT-23	3000/Tape&Reel