



Silicon Epitaxial Planar Transistor

STD123AS

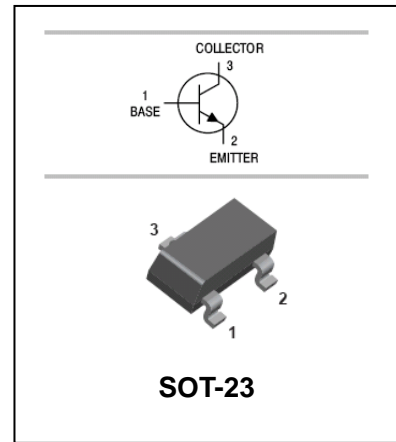
FEATURES

- High H_{FE} and Low saturation transisitor.
- Suitable for large current driver directly.



APPLICATIONS

- NPN Silicon Epitaxial Planar Transistor.
- Application for IRED Drive transistor in remote transmitter.



ORDERING INFORMATION

Type No.	Marking	Package Code
STD123AS	12A	SOT-23

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	10	V
V_{CEO}	Collector-Emitter Voltage	6	V
V_{EBO}	Emitter-Base Voltage	3	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	$^\circ\text{C}$



Silicon Epitaxial Planar Transistor

STD123AS

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	10			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	6			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	3			V
Collector cut-off current	I_{CBO}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=1V, I_C=100mA$	400			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		0.1	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

Silicon Epitaxial Planar Transistor

STD123AS

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Fig. 1 $P_C - T_a$

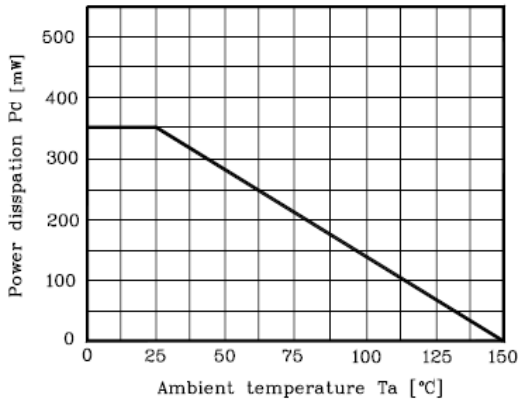


Fig. 2 $V_{CE(sat)} - I_C$

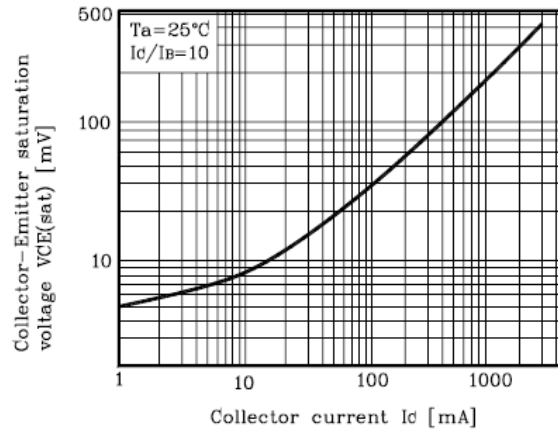


Fig. 3 $C_{ob} - V_{CB}$

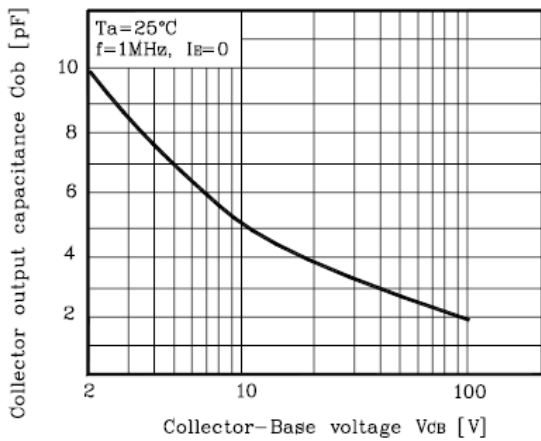


Fig. 4 $h_{FE} - I_C$

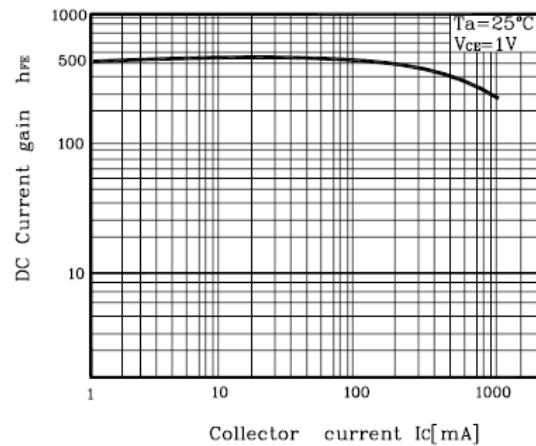
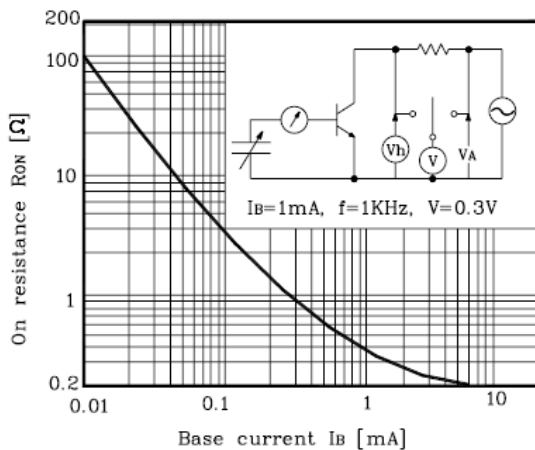


Fig. 5 $R_{ON} - I_B$



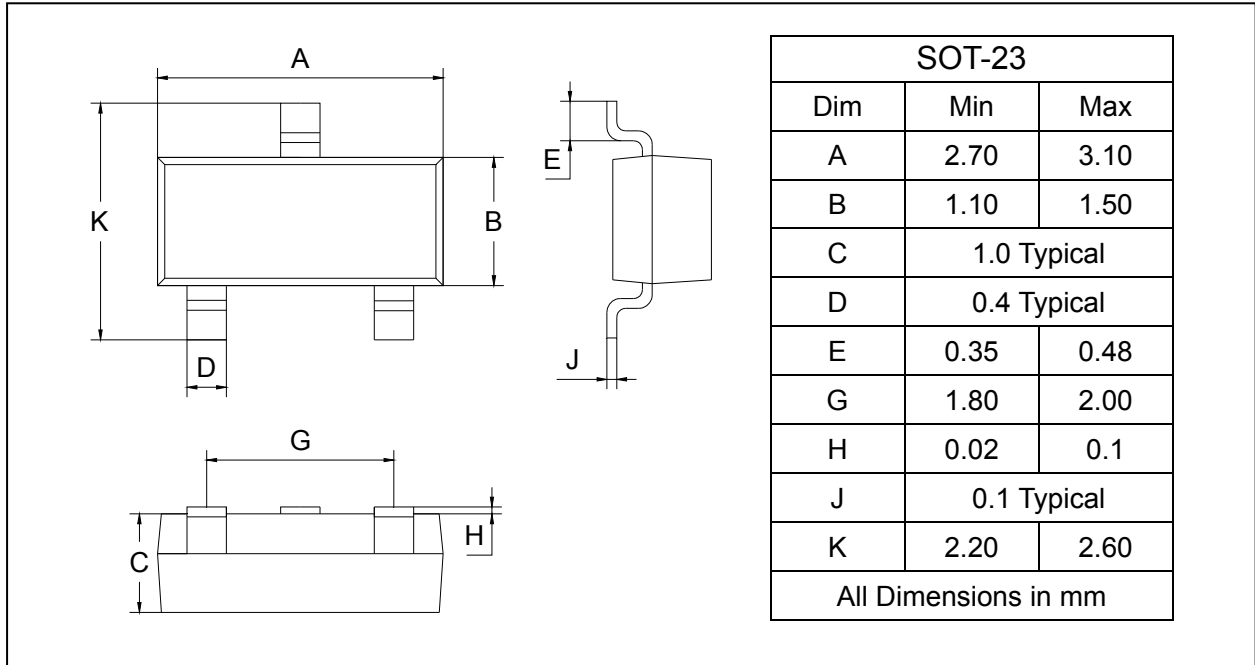
Silicon Epitaxial Planar Transistor

STD123AS

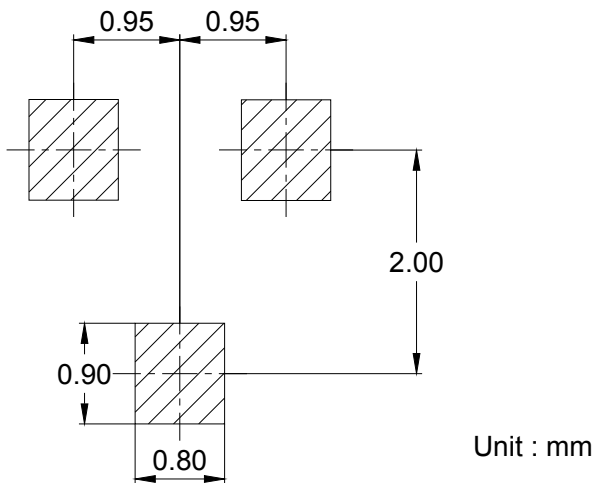
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
STD123AS	SOT-23	3000/Tape&Reel