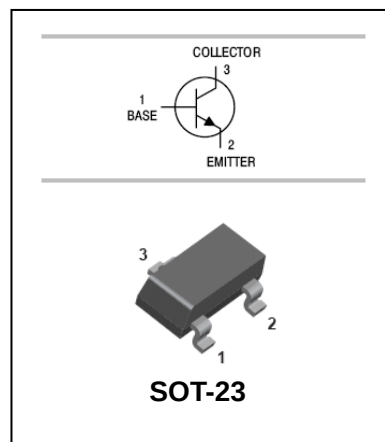


Silicon Epitaxial Planar Transistor

BSR17A

FEATURES

- This device is designed as a general Purpose amplifier and switch.
- The useful dynamic range extends to 100 mA as a switch and to 100 MHz as An amplifier.



APPLICATIONS

- NPN Silicon Epitaxial Planar Transistor .

ORDERING INFORMATION

Type No.	Marking	Package Code
BSR17A	U92	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	200	mA
P_C	Collector Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	357	°C/W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	°C

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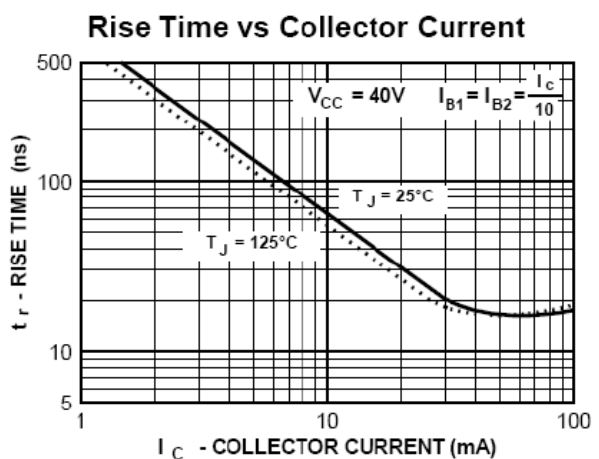
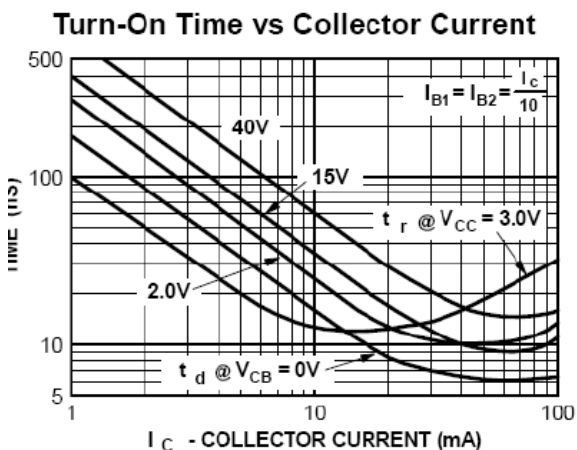
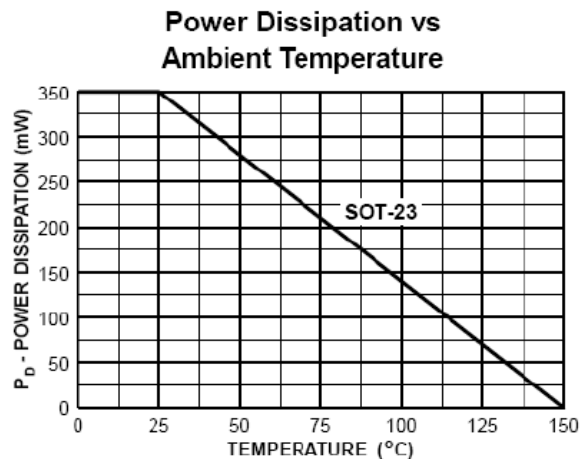
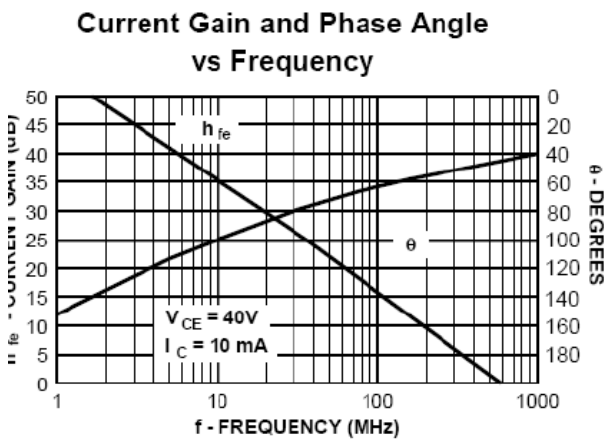
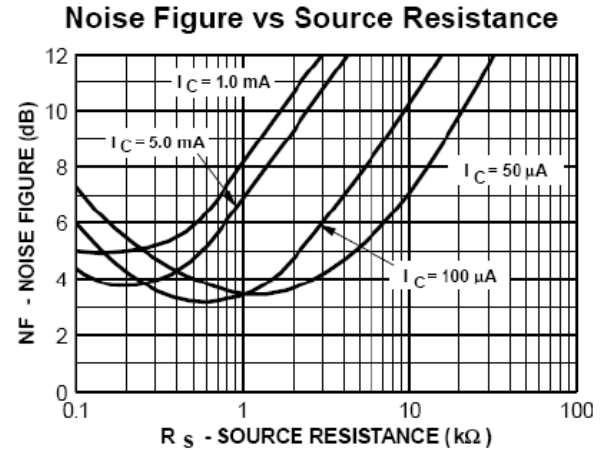
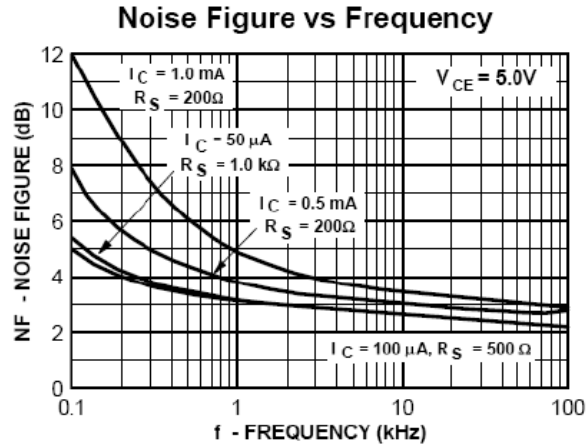
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0, T_A=150^\circ C$			5.0	μA
Emitter cut-off current	I_{CEX}	$V_{CE}=30V, V_{EB}=3.0V$			50	nA
Reverse Base Current	I_{BEX}	$V_{CE}=30V, V_{EB}=3.0V$			50	nA
DC current gain	h_{FE}	$V_{CE}=1.0V, I_C=0.1mA$	40		300	
		$V_{CE}=1.0V, I_C=1.0mA$	70			
		$V_{CE}=1.0V, I_C=10mA$	100			
		$V_{CE}=1.0V, I_C=50mA$	60			
		$V_{CE}=1.0V, I_C=100mA$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1.0mA$ $I_C=50mA, I_B=5.0mA$			0.2 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1.0mA$ $I_C=50mA, I_B=5.0mA$	0.65		0.89 0.95	V
Transition frequency	f_T	$V_{CE}=20V,$ $I_C=20mA, f=100MHz$	300			MHz
Collector-base capacitance	C_{ob}	$V_{CB}=0.5V, I_E=0$ $f=1.0MHz$			4.0	pF
Emitter-base capacitance	C_{eb}	$V_{EB}=0.5V, I_C=0,$ $f=1.0MHz$			8.0	pF
Input impedance	h_{ie}	$V_{CE}=10V, I_C=1.0mA$ $F=1.0kHz$	10		10	k Ω
Delay time	t_d	$I_C=10mA, I_{B1}=1.0mA,$ $V_{EB}=0.5V$			35	nS
Rise time	t_r				4.0	nS
Storage time	t_s	$I_C=10mA,$ $I_{Bon}=I_{Boff}=1.0mA,$			200	nS
Fall time	t_f				50	nS

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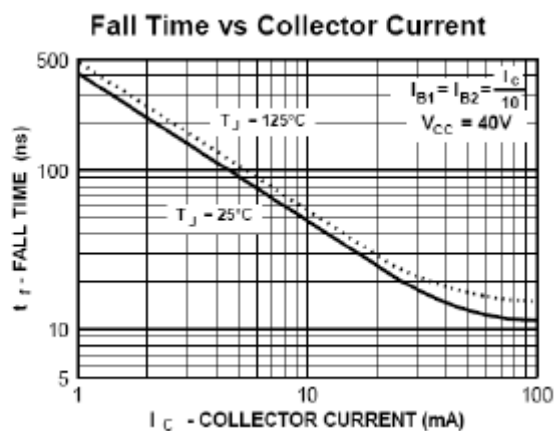
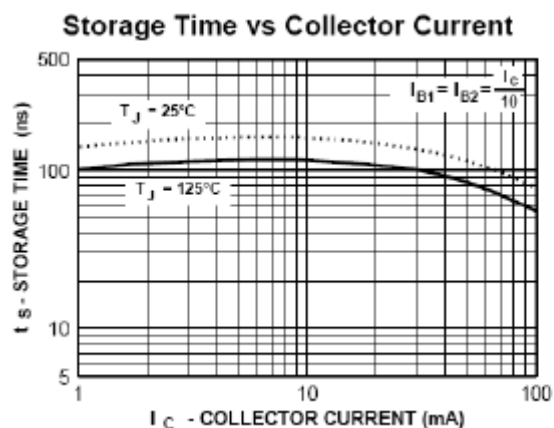
BSR17A

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



Silicon Epitaxial Planar Transistor

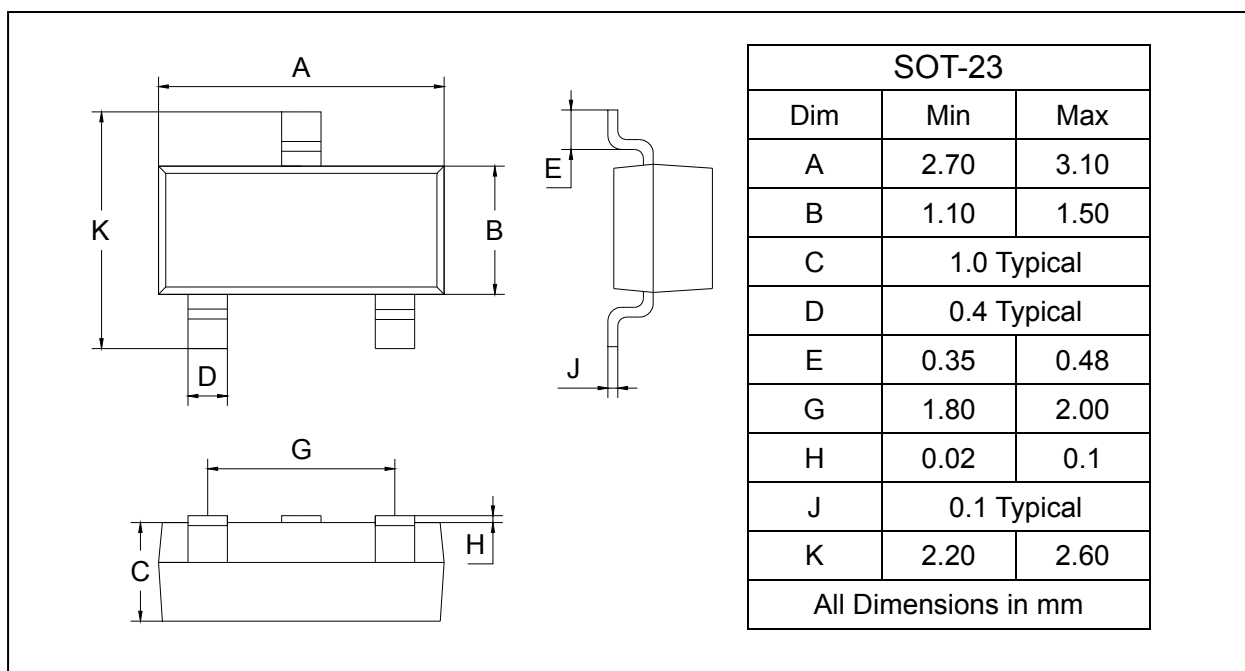
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PACKAGE OUTLINE

Plastic surface mounted package

SOT-23

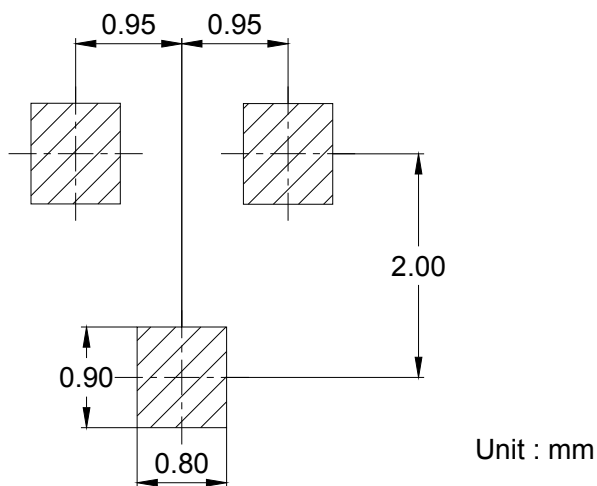




Silicon Epitaxial Planar Transistor

BSR17A

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BSR17A	SOT-23	3000/Tape&Reel