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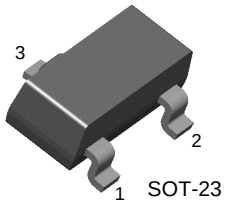
BSR16

PNP General Purpose Amplifier

- This device designed for use as general purpose amplifier and switches requiring collector currents to 500mA.
- Sourced from Process 63.
- See BCW68G for Characteristics.



SOT-23
Mark: T8

1. Base 2. Emitter 3. Collector

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current - Continuous	-800	mA
T_J, T_{ST}	Operating and Storage Junction Temperature Range	-55 ~ +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$BV_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = -10mA, I_B = 0	-60			V
$BV_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = -100μA, I_E = 0	-60			V
$BV_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = -10μA, I_C = 0	-5.0			V
I_{CBO}	Collector Cut-off Current	V_{CB} = -50V V_{CB} = -50V, T_A = 150°C			-10 -10	nA μA
I_{CEX}	Collector Cut-off Current	V_{CE} = -30V, V_{EB} = -0.5V			-50	nA
I_{BEX}	Reverse Base Current	V_{CE} = -30V, V_{EB} = -3.0V			-50	nA
On Characteristics						
h_{FE}	DC Current Gain	I_C = -0.1mA, V_{CE} = -10V I_C = -1.0mA, V_{CE} = -10V I_C = -10mA, V_{CE}= -10V I_C = -150mA, V_{CE} = -10V I_C = -500mA, V_{CE} = -10V	75 100 100 100 50	 300		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -150mA, I_B = -15mA I_C = -500mA, I_B = -50mA			-0.4 -1.6	V V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = -150mA, I_B = -15mA I_C = -500mA, I_B = -50mA			-1.3 -2.6	V V
Small Signal Characteristics						
f_T	Current Gain Bandwidth Product	I_C = -50mA, V_{CE} = -20V, f = 100MHz, T_A = 25°C	200			MHz
C_{cb}	Output Capacitance	V_{CB} = -10V, I_E = 0, f = 1.0MHz			8.0	pF
C_{eb}	Emitter-Base Capacitance	V_{CB} = -2.0V, I_E = 0, f = 1.0MHz			30	pF
Switching Characteristics						
t_{on}	Turn-On Time	V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA			45	ns
t_d	Delay Time				10	ns
t_r	Rise Time				40	ns
t_{off}	Turn-Off Time	V_{CC} = -30V, I_C = -150mA, I_{B1} = I_{B2} = -15mA			100	ns
t_s	Storage Time				80	ns
t_f	Fall Time				30	ns

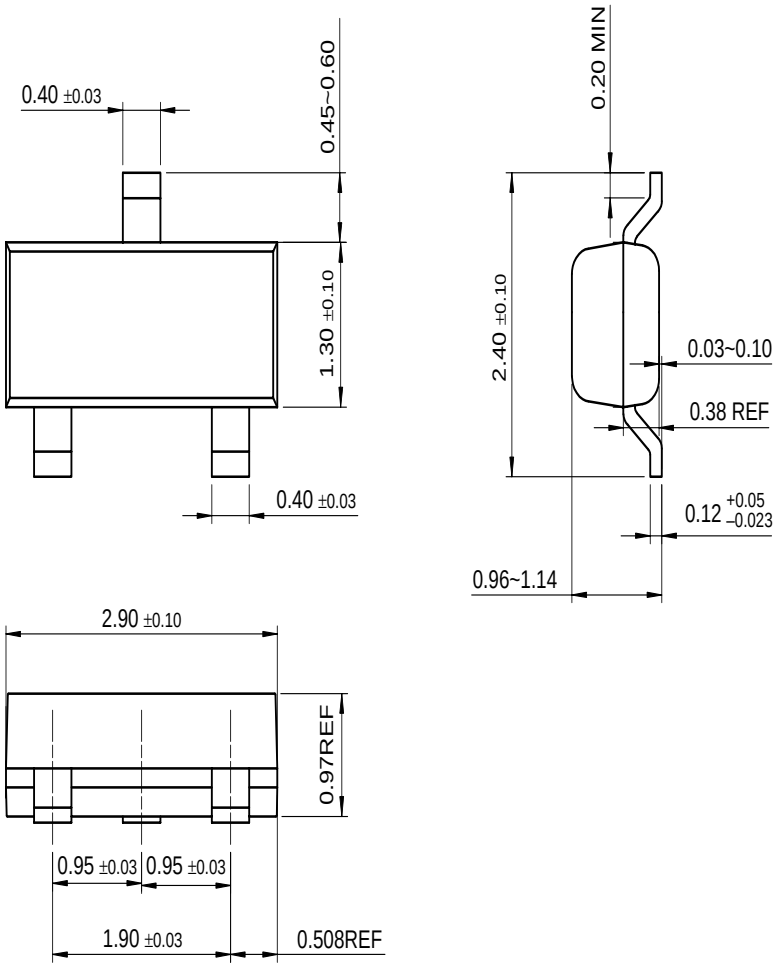
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

* Device mounted on FR-4 PCB 40mm × 40mm × 1.5mm

Package Dimensions

SOT-23



Dimensions in Millimeters

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Datasheet Identification	Product Status	Definition
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