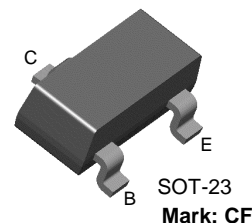


BSS79C

BSS79C

NPN General Purpose Amplifier

- This device is for use as a medium power amplifier and switch requiring collector currents up to 500mA.
- Sourced from process 19.
- See BCW65C for characteristics.



Absolute Maximum Ratings * $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	40	V
V_{CBO}	Collector-Base Voltage	75	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current - Continuous	800	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

* 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 $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	75		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}, I_E = 0$	40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}, I_C = 0$	6.0		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 60\text{V}$ $V_{CB} = 60\text{V}, T_a = 150^\circ\text{C}$		10 10	nA μA
I_{EBO}	Emitter-Cutoff Current	$V_{EB} = 3.0\text{V}, I_C = 0$		10	nA
On Characteristics *					
h_{FE}	DC Current Gain	$I_C = 150\text{mA}, V_{CE} = 10\text{V}$	100	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 150\text{mA}, I_B = 15\text{mA}$ $I_C = 500\text{mA}, I_B = 50\text{mA}$		0.3 1.0	V V
Small Signal Characteristics					
f_T	Current Gain - Bandwidth Product	$I_C = 20\text{mA}, V_{CE} = 20\text{V}, f = 100\text{MHz}$		250	MHz
C_{CB}	Collector-Base Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1.0\text{MHz}$		8.0	pF
Switching Characteristics					
t_d	Delay Time	$V_{CC} = 30\text{V}, V_{BE(OFF)} = 0.5\text{V},$ $I_C = 150\text{mA}, I_{B1} = 15\text{mA}$		10	ns
t_r	Rise Time			10	ns
t_s	Storage Time	$V_{CC} = 30\text{V}, I_C = 150\text{mA},$ $I_{B1} = I_{B2} = 15\text{mA}$		265	ns
t_f	Fall Time			60	ns

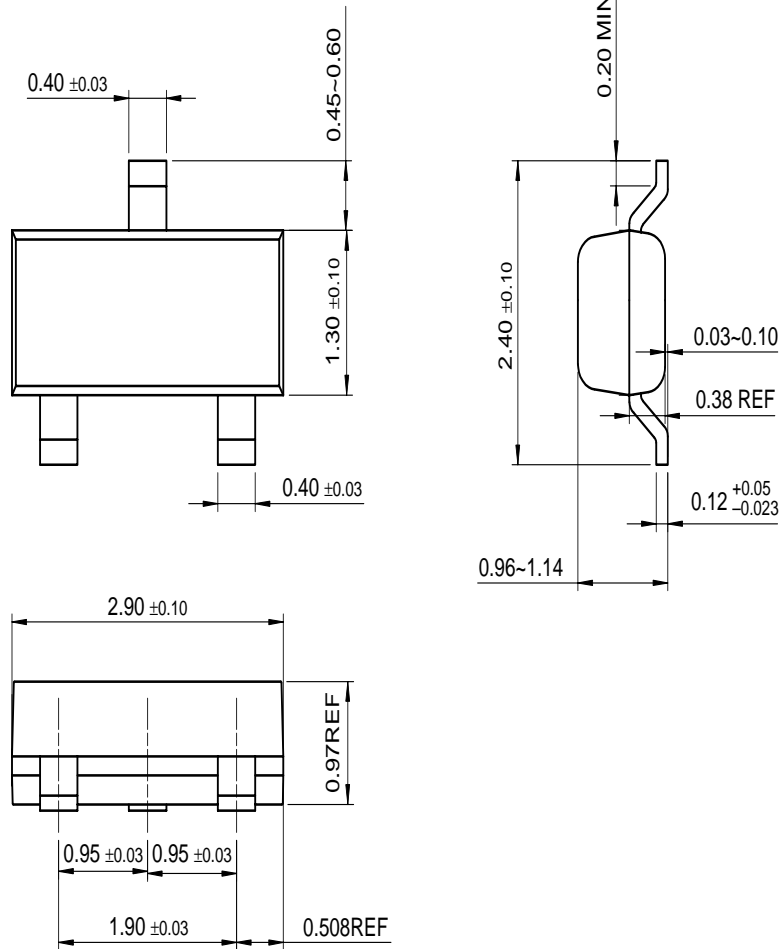
Thermal Characteristics $T_a=25^{\circ}\text{C}$ unless otherwise noted

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

* Device mounted on FR-4 PCB $400\text{mm} \times 40\text{mm} \times 1.5\text{mm}$

Package Dimensions

SOT-23



Dimensions in Millimeters

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