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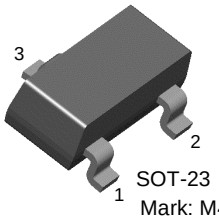
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD
SEMICONDUCTOR®

BSR56

N-Channel JFET Low-Frequency Low-Noise Amplifier

- This device is designed for low-power chopper or switching application sourced from process 51



SOT-23
Mark: M4
1. Drain 2. Source 3. Gate

Absolute Maximum Ratings T_C=25°C unless otherwise noted

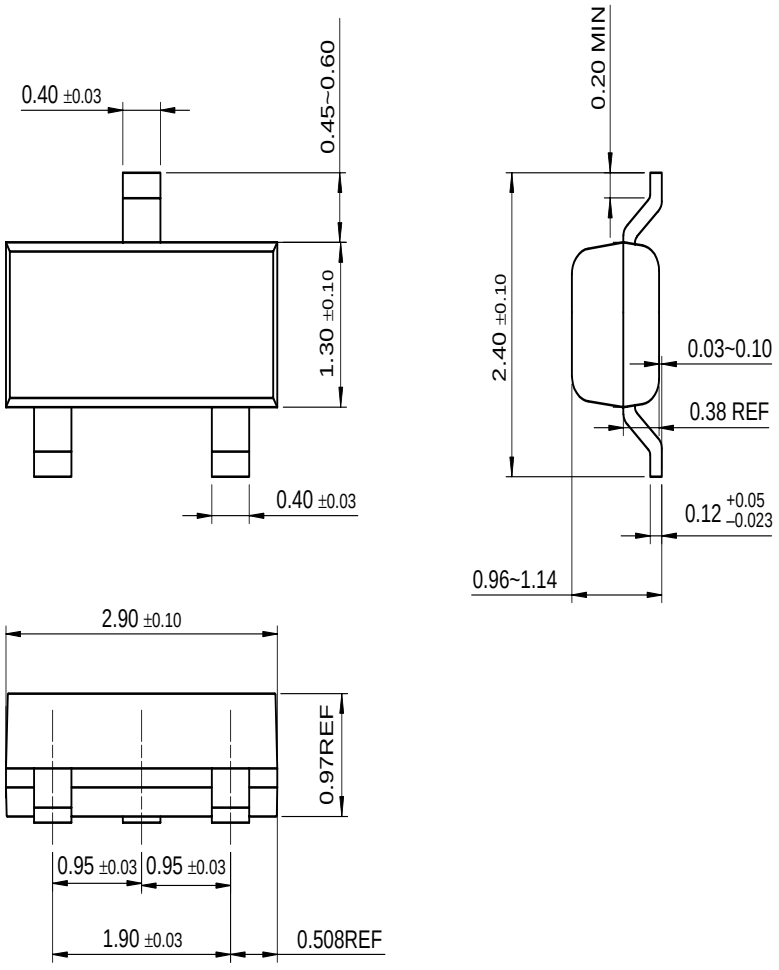
Symbol	Parameter	Value	Units
V_{DGO}	Drain-Gate Voltage	40	V
V_{GSO}	Gate-Source Voltage	- 40	V
I_{GF}	Forward Gate Current	50	mA
P_{tot}	Total Power Dissipation up to T_{amb}=40°C	250	mW
T_{STG}	Storage Temperature Range	- 55 ~ 150	°C
T_J	Junction Temperature	150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GSS}	Gate-Source Voltage	V_{DS} = 0V, I_C = 1μA	40			V
I_{GSS}	Gate Reverse Current	V_{GS} = 20V			1	nA
I_{DSS}	Zero-Gate Voltage Drain Current	V_{DS} = 15V, V_{GS} = 0V	50			mA
V_{GS}(off)	Gate-Source Cut-off Voltage	V_{DS} = 15V, I_D = 0.5nA	4		10	V
V_{DS}(on)	Drain-Source On Voltage	V_{GS} = 0V, I_D = 20mA			750	mV
r_{ds}(on)	Drain-Source On Reverse	V_{GS} = 0V, I_D = 0			25	Ω
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 10V, V_{GS} = 0V			5	pF
t_d	Delay Time	V_{DD} = 10V, V_{GS}(on) = 0V I_D = 20mA, V_{GS}(off) = 10V			6	nS
t_r	Rise Time				3	nS
t_{off}	Turn-off Time				25	nS

Package Dimensions

SOT-23



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

PUBLICATION ORDERING INFORMATION

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