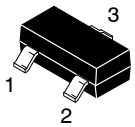
N-Channel JFET Low-Frequency Low-Noise Amplifier

BSR58



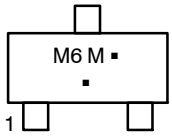
1. Drain
2. Source
3. Gate

SOT−23
CASE 318−08

Description

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

MARKING DIAGRAM



M6 = Specific Device Code
M = Date Code
▪ = Pb−Free Package
(Note: Microdot may be in either location)

ABSOLUTE MAXIMUM RATINGS

(T_C = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
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 to +150	°C
T_J	Junction Temperature	150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

Device	Package	Shipping†
BSR58	SOT−23 (Pb−Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{GSS}	Gate−Source Voltage	V_{DS} = 0 V, I_C = 1.0 μA	40.0	–	–	V
I_{GSS}	Gate Reverse Current	V_{GS} = 20 V	–	–	1.0	nA
I_{DSS}	Zero−Gate Voltage Drain Current	V_{DS} = 15 V, V_{GS} = 0 V	8.0	–	80.0	mA
V_{GS}(off)	Gate−Source Cut−off Voltage	V_{DS} = 15 V, I_D = 0.5 nA	0.8	–	4.0	V
V_{DS}(on)	Drain−Source On Voltage	V_{GS} = 0 V, I_D = 5 mA	–	–	0.4	V
r_{ds}(on)	Drain−Source On Reverse	V_{GS} = 0 V, I_D = 0 mA	–	–	60.0	Ω
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 0 V, V_{GS} = 10 V	–	–	5.0	pF
t_d	Delay Time	V_{DD} = 10 V, V_{GS}(on) = 0 V I_D = 10 mA, V_{GS}(off) = 10.0 V	–	–	10.0	ns
t_r	Rise Time		–	–	10.0	
t_{off}	Turn−off Time		–	–	100.0	

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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