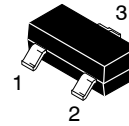


# N-Channel JFET Low-Frequency Low-Noise Amplifier

## 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.

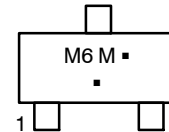
### ABSOLUTE MAXIMUM RATINGS

( $T_C = 25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{DG0}$	Drain-Source Voltage	40	V
$V_{GS0}$	Gate-Source Voltage	-40	V
$I_{GF}$	Forward Gate Current	50	mA
$P_{tot}$	Total Power Dissipation Up to $T_{amb} = 40^\circ\text{C}$	250	mW
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$

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.

### MARKING DIAGRAM



M6 = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
BSR58	SOT-23 (Pb-Free)	3000 / Tape & Reel

<sup>†</sup>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 ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{GSS}$	Gate-Source Voltage	$V_{DS} = 0\text{ V}, I_C = 1.0\text{ }\mu\text{A}$	40.0	-	-	V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = 20\text{ V}$	-	-	1.0	nA
$I_{DSS}$	Zero-Gate Voltage Drain Current	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V}$	8.0	-	80.0	mA
$V_{GS(off)}$	Gate-Source Cut-off Voltage	$V_{DS} = 15\text{ V}, I_D = 0.5\text{ nA}$	0.8	-	4.0	V
$V_{DS(on)}$	Drain-Source On Voltage	$V_{GS} = 0\text{ V}, I_D = 5\text{ mA}$	-	-	0.4	V
$r_{ds(on)}$	Drain-Source On Reverse	$V_{GS} = 0\text{ V}, I_D = 0\text{ mA}$	-	-	60.0	$\Omega$
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 0\text{ V}, V_{GS} = 10\text{ V}$	-	-	5.0	pF
$t_d$	Delay Time	$V_{DD} = 10\text{ V}, V_{GS(on)} = 0\text{ V}$ $I_D = 10\text{ mA}, V_{GS(off)} = 10.0\text{ V}$	-	-	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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