

N-Channel JFET Low-Frequency Low-Noise Amplifier

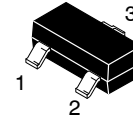
BSR57

- 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)

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

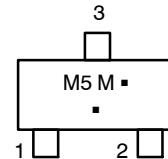
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



1. Drain
2. Source
3. Gate

SOT–23
CASE 318–08
STYLE 10

MARKING DIAGRAM



M5 = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BSR57	SOT–23–3/5 (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 ($T_C = 25^\circ\text{C}$ 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	–	–	V
I_{GSS}	Gate Reverse Current	$V_{GS} = 20\text{ V}$, $V_{DS} = 0\text{ V}$	–	–	1.0	nA
I_{DSS}	Zero–Gate Voltage Drain Current	$V_{DS} = 15\text{ V}$, $V_{GS} = 0\text{ V}$	20	–	100	mA
$V_{GS(off)}$	Gate–Source Cut–off Voltage	$V_{DS} = 15\text{ V}$, $I_D = 0.5\text{ nA}$	2.0	–	6.0	V
$V_{DS(on)}$	Drain–Source On Voltage	$V_{GS} = 0\text{ V}$, $I_D = 10\text{ mA}$	–	–	0.5	V
$r_{ds(on)}$	Drain–Source On Reverse	$V_{GS} = 0\text{ V}$, $I_D = 1\text{ mA}$	–	–	40	Ω
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 0\text{ V}$, $V_{GS} = 10\text{ V}$	–	–	5.0	pF
t_d	Delay Time	$V_{DD} = 10\text{ V}$, $V_{GS(on)} = 0\text{ V}$ $I_D = 10\text{ mA}$, $V_{GS(off)} = 6.0\text{ V}$	–	–	6.0	ns
t_r	Rise Time		–	–	4.0	
t_{off}	Turn–off Time		–	–	50	

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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