BFR30,31

CASE 318-02/03, STYLE 10
SOT-23 (TO-236AA/AB)

JFET
AMPLIFIER

N-CHANNEL

3

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25	Vdc
Gate-Source Voltage	V_{GS}	25	Vdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
*Total Device Dissipation, T_A = 25°C Derate above 25°C	P_D	350 2.8	mW mW/°C
Storage Temperature	T_{stg}	150	°C
*Thermal Resistance Junction to Ambient	$R_{\theta JA}$	357	°C/W

*Package mounted on 99.5% alumina 10 x 8 x 0.6 mm.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Gate Reverse Current (V_{GS} = 10 Vdc, V_{DS} = 0)		I_{GSS}	—	0.2	nAdc
Gate Source Cutoff Voltage (I_D = 0.5 nAdc, V_{DS} = 10 Vdc)	BFR30 BFR31	$V_{GS(off)}$	— —	5.0 2.5	Vdc
Gate Source Voltage (I_D = 1.0 mAdc, V_{DS} = 10 Vdc) (I_D = 50 μAdc, V_{DS} = 10 Vdc)	BFR30 BFR31 BFR30 BFR31	V_{GS}	0.7 — — —	3.0 1.3 4.0 2.0	Vdc
ON CHARACTERISTICS					
Zero-Gate-Voltage Drain (V_{DS} = 10 Vdc, V_{GS} = 0)	BFR30 BFR31	I_{DSS}	4.0 1.0	10 5.0	mAdc
SMALL-SIGNAL CHARACTERISTICS					
Forward Transfer Admittance (I_D = 1.0 mAdc, V_{DS} = 10 Vdc, f = 1.0 kHz) (I_D = 200 μAdc, V_{DS} = 10 Vdc, f = 1.0 kHz)	BFR30 BFR31 BFR30 BFR31	$\lvert Y_{fs} \rvert$	1.0 1.5 0.5 0.75	4.0 4.5 — —	mAdc
Output Admittance (I_D = 1.0 mAdc, V_{DS} = 10 Vdc, f = 1.0 kHz) (I_D = 200 μAdc, V_{DS} = 10 Vdc)	BFR31 BFR31	$\lvert Y_{os} \rvert$	40 20	25 15	μAdc
Input Capacitance (I_D = 1.0 mAdc, V_{DS} = 10 Vdc, f = 1.0 MHz) (I_D = 200 μAdc, V_{DS} = 10 Vdc, f = 1.0 MHz)		C_{iss}	— —	5.0 4.0	pF
Reverse Transfer Capacitance (I_D = 1.0 mAdc, V_{DS} = 10 Vdc, f = 1.0 MHz) (I_D = 200 μAdc, V_{DS} = 10 Vdc, f = 1.0 MHz)		C_{rss}	— —	1.5 1.5	pF