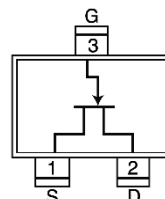


IMPROVED REPLACEMENT FOR NXP BF862

Absolute Maximum Ratings	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150°C
Junction Operating Temperature	-55 to +135°C
Maximum Power Dissipation	
Continuous Power Dissipation @ +25°C	400mW
Maximum Currents	
Gate Forward Current	$I_{G(F)} = 10\text{mA}$
Maximum Voltages	
Gate to Source	$V_{GSS} = 40\text{V}$
Gate to Drain	$V_{GDS} = 40\text{V}$

SOT-23 3L
Top View



*Source and Drain are Interchangeable

SOT-23 3L
Package Photo



Features

- Lower 10Hz Noise
- 100% Noise Tested
- Higher -40 Gate-Source Breakdown Voltage
- High Input Impedance
- Special Testing (Vgs, IDSS) is Available
- Radiation Tolerant Without Rad Hardness Processing Required

Benefits

- Superior Noise Performance
- Eliminates Redesigns due to Discontinuance
- Supports Repairs and Spares for Legacy Products.

Applications

- Amplifiers-Buffer, Charge, Sample and Hold, Chopper Stabilized
- Discrete Operational Amplifiers
- Transimpedance Amplifiers (TIAs)
- Photodiode Preamplifiers
- Piezoelectric Amplifiers
- Microphones, Preamplifiers
- Hydrophones, Sonar, Sonobuoys, Towed Array Preamplifiers

Applications Cont'd

- Ionization Chamber Electrometers
- ECG, EEG, EKG, MRI, PET
- High Impedance Probes
- Spectrum Analyzers

Description

The LSBF862 is an Ultra Low Noise, High Input Impedance N-Channel JFET, designed as a superior replacement for customers affected by the discontinuance of the BF862. The LSBF862 provides superior part performance and options not offered by the original part. The LSBF862 offers higher breakdown voltage compared to the original part. Additionally, the LSBF862 is provided with special testing and selection of key specification such as VGS, IDSS as well other DC specifications, enabling design engineers to customize their designs beyond the limits of a standard data sheet conditions and limits. For customers seeking radiation tolerant JFETs, the standard Linear Systems JFET process has been tested and proven by NASA to be radiation tolerant, without any special additional radiation hardening required.

Absolute Maximum Ratings @ 25°C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
V_{DS}	Gate-Source or Gate-Drain Voltage			40.0	V	
V_{DG}	Drain-Source Voltage			40.0	V	
I_{SG}	Gate Forward Current			10.0	mA	
I_{DS}	Drain to Source Current			40.0	mA	
P_{tot}	Maximum Power Dissipation			300	mW	(Derate 2mW/°C above 25°C)
T_{stg}	Storage Temperature	-55		+150	°C	
T_j	Junction Temperature			+300	°C	

Electrical Characteristics @ 25°C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-40.0			V	$V_{DS} = 0V, I_{GS} = -1\mu A$
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage	-0.3		-1.2	V	$V_{DS} = 8V, I_D = 1\mu A$
V_{GS}	Gate to Source Forward Voltage			1	V	$V_{DS} = 0V, I_G = 1mA$
I_{DSS}	Drain to Source Saturation Current	10.0		25.0	mA	$V_{DS} = 8V, V_{GS} = 0$
I_{GSS}	Gate to Source Leakage Current			-1.0	nA	$V_{GS} = -15V, V_{DS} = 0V$
Y_{fs}	Common-Source Forward Transfer		45.0		mS	$V_{DS} = 10V, V_{GS} = 0$
G_{os}	Common-Source Output Conductance		180.0		μS	$V_{DS} = 15V, I_D = 1mA$
e_n	Noise Voltage		0.8		nV/ \sqrt{Hz}	$V_{DS} = 8V, I_D = 2mA, f = 100kHz, NBW = 1Hz$
e_n	Noise Voltage		1.4	4.0	nV/ \sqrt{Hz}	$V_{DS} = 8V, I_D = 2mA, f = 10Hz, NBW = 1Hz$
C_{iss}	Common Source Input Capacitance		10.0		pF	$V_{DS} = 8V, I_D = 100\mu A, f = 1MHz$
C_{rss}	Common Source Reverse Transfer Cap.		1.9		pF	$V_{DS} = 8V, I_D = 100\mu A, f = 1MHz$

Ordering Information

STANDARD PART CALL-OUT	SELECT PART CALL-OUT SELECT PARTS INCLUDE SEL + 4 DIGIT NUMERIC CODE
LSBF862 SOT-23 3L RoHS	LSBF862 SOT-23 3L RoHS SELXXXX
LSBF862 Die	LSBF862 Die SELXXXX

Advanced Screening & Customization Options

Advanced screening options are available for our diverse product lineup, featuring N-Channel and P-Channel JFETs, High-Speed N-Channel Lateral DMOS Switches, Single and Quad, Current-Regulating Diodes, Ultra Low-Leakage Diodes, NPN and PNP Bipolar Transistors, N-Channel and P-Channel Small Signal MOSFETs, and BIFET devices. Our special screening covers all the parameters listed in the standard data sheet, including comprehensive package pin-out.

Connect with our experienced technical team to discuss your specific needs and tailor your requirements—email us at support@linearsystems.com or call (510) 490-9160. MOQ applies to these specialized services.

Notes

- Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
- Absolute maximum ratings are limiting values above which serviceability may be impaired.
- All characteristics MIN/TYP/MAX numbers are absolute values. Negative values indicate electrical polarity only.
- When ordering include the full Linear Systems part number and package type. Linear Systems creates custom parts on a case by case basis. To learn whether Linear Systems can meet your requirements, please send your drawing along with a detailed description of the device specifications to support@linearsystems.com. One of our qualified representatives will contact you.
- All standard parts are RoHS compliant. Contact the factory for availability of non-RoHS parts.
- Information furnished by Linear Integrated Systems is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.
- Voltage specifications are not tested 100%, but guaranteed by lot sampling. Contact the factory if 100% test is required.

Package Dimensions

SOT-23 3L

