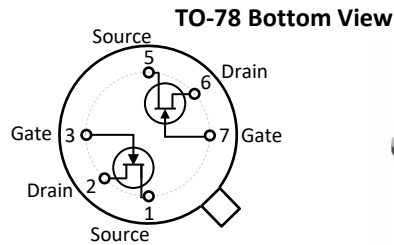


## IF3602 Dual Matched N-Channel JFET

### Features

- InterFET [N3600L Geometry](#)
- Ultra Low Noise: 0.5 nV/√Hz Typical
- High Gain: 750mS Typical
- Low Rds(on): 2.0 Ohms Typical
- RoHS Compliant
- SMT, TH, and Bare Die Package options.



### Applications

- Low-Noise, High Gain Amplifiers
- Differential Amplifiers

### Description

The -20V InterFET IF3602 JFET is targeted for ultra low noise high gain differential amplifier designs. The IF3602 has a cutoff voltage of less than 2.0V ideal for low voltage applications. The TO-78 package is hermetically sealed and suitable for military applications. Custom specifications, matching, and packaging options are available.

### Product Summary

Parameters		IF3602 Min	Unit
BV <sub>GSS</sub>	Gate to Source Breakdown Voltage	-20	V
I <sub>DSS</sub>	Drain to Source Saturation Current	30	mA
V <sub>GS(off)</sub>	Gate to Source Cutoff Voltage	-0.35	V
G <sub>FS</sub>	Forward Transconductance	750 Typical	mS

### Ordering Information Custom Part and Binning Options Available

Part Number	Description	Case	Packaging
IF3602T78	Through-Hole	TO-78	Bulk
IF3602COT *	Chip Orientated Tray (COT Waffle Pack)	COT	30/Waffle Pack
IF3602CFT *	Chip Face-up Tray (CFT Waffle Pack)	CFT	30/Waffle Pack

\* Bare die packaged options are designed for matched specifications but not 100% tested



**Disclaimer:** It is the Buyers responsibility for designing, validating and testing the end application under all field use cases and extreme use conditions. Guaranteeing the application meets required standards, regulatory compliance, and all safety and security requirements is the responsibility of the Buyer. These resources are subject to change without notice.

## Electrical Characteristics

### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ , Unless otherwise specified)

Parameters	Value	Unit
$V_{RGS}$ Reverse Gate Source and Gate Drain Voltage	-20	V
$I_{FG}$ Continuous Forward Gate Current	10	mA
$P_D$ Continuous Device Power Dissipation	300	mW
$P$ Power Derating	4	mW/ $^\circ\text{C}$
$T_J$ Operating Junction Temperature	-55 to 125	$^\circ\text{C}$
$T_{STG}$ Storage Temperature	-65 to 200	$^\circ\text{C}$

### Static Characteristics (@ $T_A = 25^\circ\text{C}$ , Unless otherwise specified)

Parameters	Conditions	Min	Typ	Max	Unit
$V_{(BR)GSS}$ Gate to Source Breakdown Voltage	$V_{DS} = 0V, I_G = -1\mu\text{A}$	-20			V
$I_{GSS}$ Gate to Source Reverse Current	$V_{GS} = -10V, V_{DS} = 0V$			-0.1	nA
$V_{GS(OFF)}$ Gate to Source Cutoff Voltage	$V_{DS} = 10V, I_D = 0.5\text{nA}$	-0.35		-2.0	V
$I_{DSS}$ Drain to Source Saturation Current	$V_{GS} = 0V, V_{DS} = 10V$ (Pulsed)	30	300		mA

### Dynamic Characteristics (@ $T_A = 25^\circ\text{C}$ , Unless otherwise specified)

Parameters	Conditions	Min	Typ	Max	Unit
$G_{FS}$ Forward Transconductance	$V_{DS} = 10V, V_{GS} = 0V, f = 1\text{kHz}$		750		mS
$C_{iss}$ Input Capacitance	$V_{DS} = 0V, V_{GS} = -4V, f = 1\text{MHz}$		300		pF
$C_{rss}$ Reverse Transfer Capacitance	$V_{DS} = 0V, V_{GS} = -4V, f = 1\text{MHz}$		200		pF
$e_n$ Equivalent Circuit Input Noise Voltage	$V_{DS} = 3V, I_D = 5\text{mA}, f = 100\text{Hz}$		0.5		nV/ $\sqrt{\text{Hz}}$
$ V_{GS1} - V_{GS2} $ Differential Gate Source Voltage	$V_{DS} = 10V, I_D = 500\mu\text{A}$			100	mV

## Typical IF3602 Characteristics

