







2N5460, 2N5461, 2N5462 P-Channel JFET

Features

InterFET <u>P0032F Geometry</u>
Typical Noise: 2.7 nV/VHz

• Low Ciss: 3.2pF Typical

- RoHS Compliant
- SMT, TH, and Bare Die Package options.

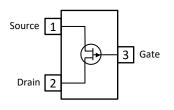
Applications

- · Audio Amplifiers
- General Purpose Amplifiers

Description

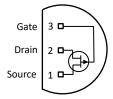
The 40V InterFET 2N5460, 2N5461, and 2N5462 JFET's are targeted for sensitive amplifier stages for mid-frequencies designs. Input capacitance is typically 3.2pF. The 2N5462 is target for higher gain applications with a typical Gfs of 3.5mS.

SOT23 Top View





TO-92 Bottom View





Product Summary

	Parameters	2N5460 Min	2N5461 Min	2N5462 Min	Unit
BV _{GSS}	Gate to Source Breakdown Voltage	40	40	40	V
I _{DSS}	Drain to Source Saturation Current	-1	-2	-4	mA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	0.75	1	1.8	V
GFS	Forward Transconductance	1000	1500	2000	μS

Ordering Information Custom Part and Binning Options Available

Custom Part and Binning Options Available								
Part Number	Description	Case	Packaging					
2N5460; 2N5461; 2N5462	Through-Hole	TO-92	Bulk					
SMP5460; SMP5461; SMP5462	Surface Mount	SOT23	Bulk					
	7" Tape and Reel: Max 3,000 Pieces		Minimum 1,000 Pieces					
SMP5460TR; SMP5461TR; SMP5462TR	13" Tape and Reel: Max 9,000 Pieces	SOT23	Tape and Reel					
	Chip Orientated Tray							
2N5460COT; 2N5461COT; 2N5462COT	(COT Waffle Pack)	СОТ	400/Waffle Pack					
	Chip Face-up Tray							
2N5460CFT; 2N5461CFT; 2N5462CFT	(CFT Waffle Pack)	CFT	400/Waffle Pack					



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°C, Unless otherwise specified)

	Parameters	Value	Unit
V_{RGS}	Reverse Gate Source and Gate Drain Voltage	40	V
I _{FG}	Continuous Forward Gate Current	50	mA
PD	Continuous Device Power Dissipation	300	mW
Р	Power Derating	1.7	mW/°C
Tı	Operating Junction Temperature	-55 to 125	°C
T _{STG}	Storage Temperature	-65 to 200	°C

Static Characteristics (@ TA = 25°C, Unless otherwise specified)

			2N5460		2N5461		2N5462		
	Parameters	Conditions	Min	Max	Min	Max	Min	Max	Unit
V _{(BR)GSS}	Gate to Source Breakdown Voltage	$V_{DS} = 0V$, $I_{G} = 10\mu A$	40		40		40		V
1	Gate to Source	$V_{GS} = 20V, V_{DS} = 0V, T_A = 25$ °C		5		5		5	nA
I _{GSS}	Reverse Current	$V_{GS} = 20V, V_{DS} = 0V, T_A = 100^{\circ}C$		1		1		1	μΑ
V _{GS(OFF)}	Gate to Source Cutoff Voltage	V _{DS} = -15V, I _D = -1μA	0.75	6	1	7.5	1.8	9	V
	Gate to Source	$V_{DS} = -15V$, $I_{D} = -100\mu A$	0.8	4.5					
V_{GS}	Voltage	$V_{DS} = -15V$, $I_{D} = -200\mu A$			0.8	4.5			V
	voitage	$V_{DS} = -15V$, $I_{D} = -400\mu A$					1.5	6	
I _{DSS}	Drain to Source Saturation Current	V_{DS} = -15V, V_{GS} = 0V (Pulsed)	-1	-5	-2	-9	-4	-16	mA

Dynamic Characteristics (@ TA = 25°C, Unless otherwise specified)

			2N5460		2N5461		2N5462		
	Parameters	Conditions	Min	Max	Min	Max	Min	Max	Unit
GFS	Forward Transconductance	V _{DS} = -15V, V _{GS} = 0V, f = 1kHz	1000	4000	1500	5000	2000	6000	μS
Gos	Output Conductance	V _{DS} = -15V, V _{GS} = 0V, f = 1kHz		75		75		75	μS
Ciss	Input Capacitance	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		7		7		7	рF
C _{rss}	Reverse Transfer Capacitance	$V_{DS} = -15V$, $V_{GS} = 0V$, $f = 1MHz$		2		2		2	pF
e _n	Equivalent Circuit Input Noise Voltage	$V_{DS} = -15V, V_{GS} = 0V, R_G = 1 \ M\Omega, \\ BW = 1 \ Hz, f = 100 \ Hz$		115		115		115	nV/√Hz
NF	Noise Figure	$V_{DS} = -15V$, $V_{GS} = 0V$, $f = 1kHz$		2.5		2.5		2.5	dB



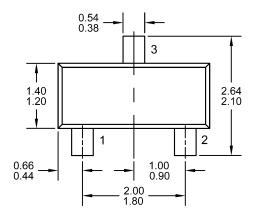


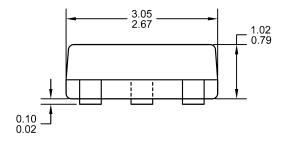




SOT23 (TO-236AB) Mechanical and Layout Data

Package Outline Data





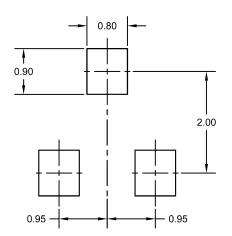
0.61 0.45 0.27 0.13 0.27 0.13

0.15

0.09

- 1. All linear dimensions are in millimeters.
- 2. Package weight approximately 0.12 grams
- 3. Molded plastic case UL 94V-0 rated
- For Tape and Reel specifications refer to InterFET CTC-021 Tape and Reel Specification, Document number: IF39002
- Bulk product is shipped in standard ESD shipping material
- 6. Refer to JEDEC standards for additional information.

Suggested Pad Layout



- 1. All linear dimensions are in millimeters.
- 2. The suggested land pattern dimensions have been provided for reference only. A more robust pattern may be desired for wave soldering.