

Low Noise JFET

564106

DESCRIPTION

The 564106 is an N-channel Low Noise Junction Field Effect Transistor for low frequency and audio applications and in PIR sensor applications. The device is offered as an un-sawn wafer, and can be supplied after back-grind and back-side gold..

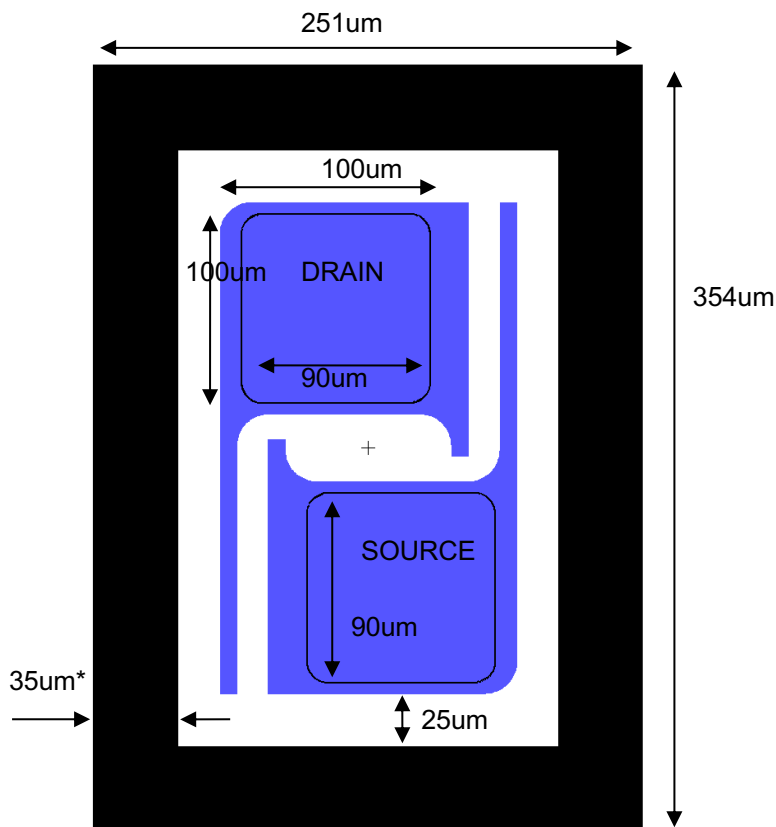
FEATURES

- Low Noise.
- Low Leakage.
- Low frequency.
- Low power consumption.

APPLICATIONS

- Low noise amplifier.
- Charge Sensitive amplifier.
- Audio frequency amplifier
- P.I.R. Sensors
- Microphones
- Hearing aids

1.0 Dimensions & Pad Assignment



* Drawn with half saw channel.
Full saw channel = 70um

Viewed with major wafer flat at bottom



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2.0 ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING	UNITS
Drain Supply voltage	25	V
Drain Supply current	5	mA
Operating Temperature, T _o	0 to 85	°C
Storage Temperature, T _s	-40 - +105	°C

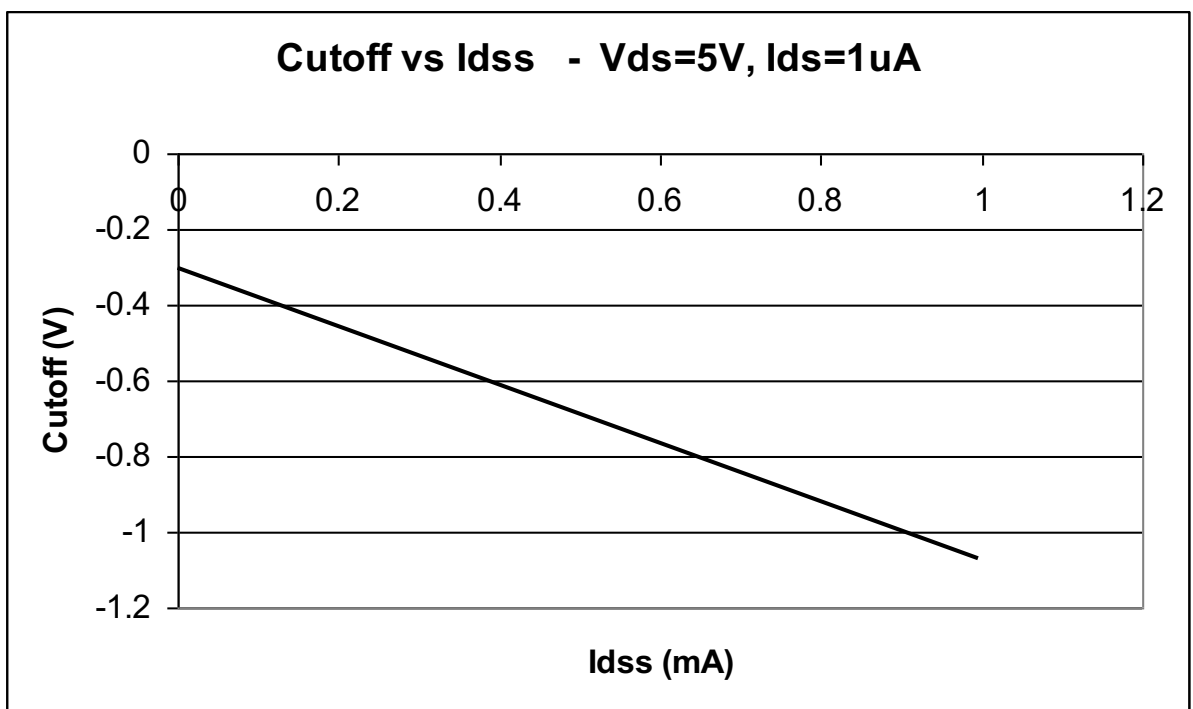
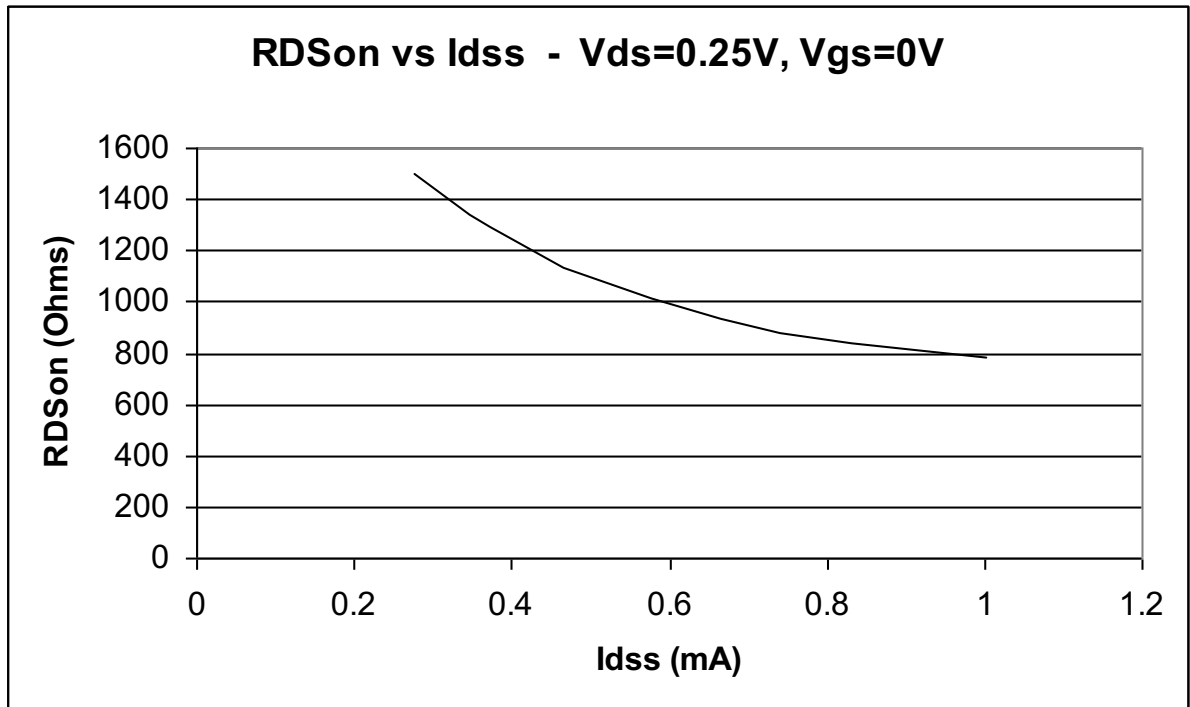
3.0 MECHANICAL SPECIFICATION

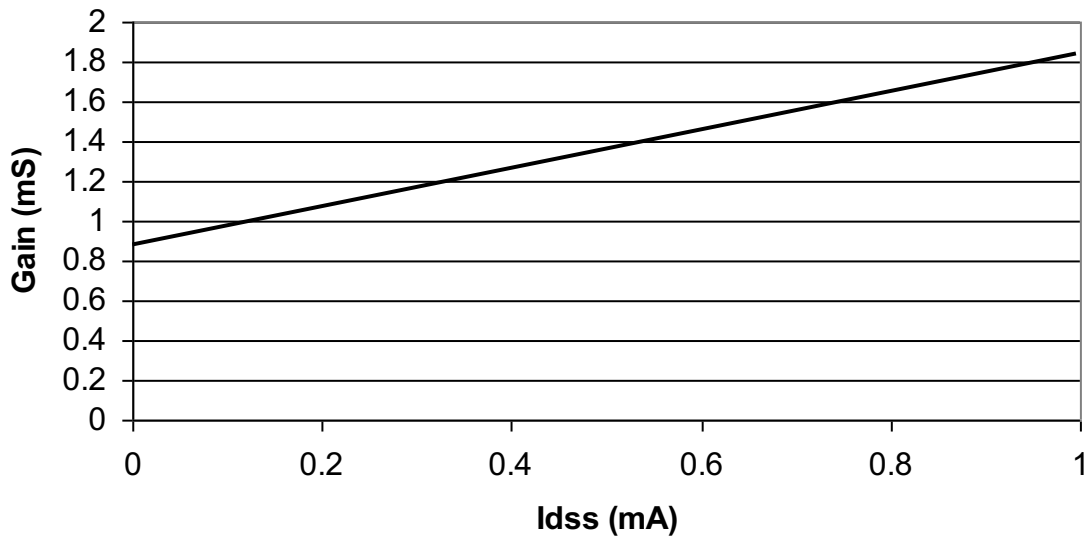
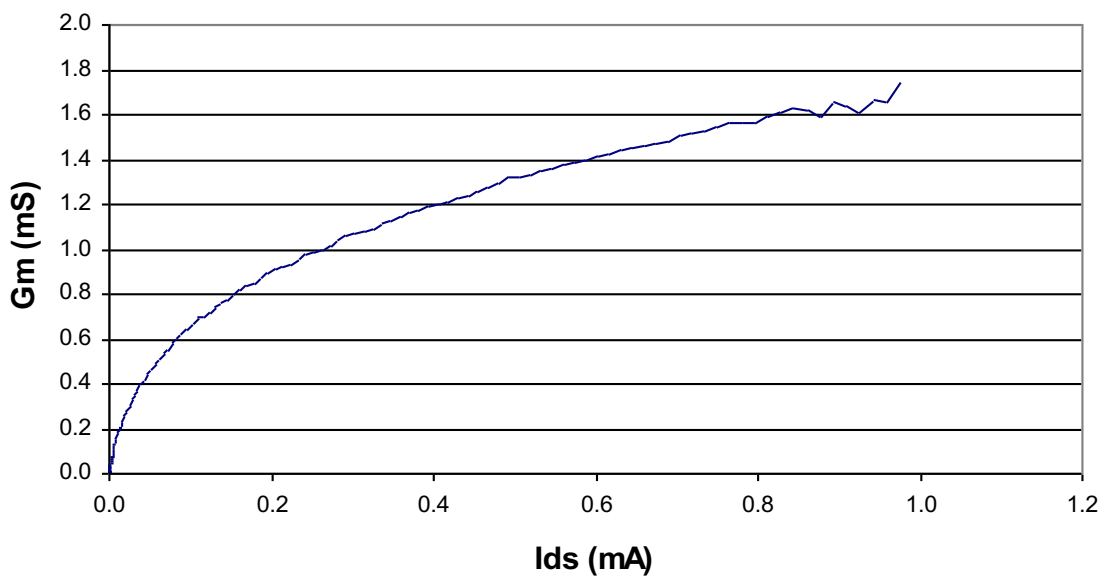
PARAMETER	RATING	UNITS
Chip size (+/- 0.02mm) LxWxH	0.354 x 0.251 x 0.525	mm
Gate contact	On back-side	
Bond pad size	90 x 90	microns
Ink dot size	5	mils
Ink dot appearance	Opaque, black matt	

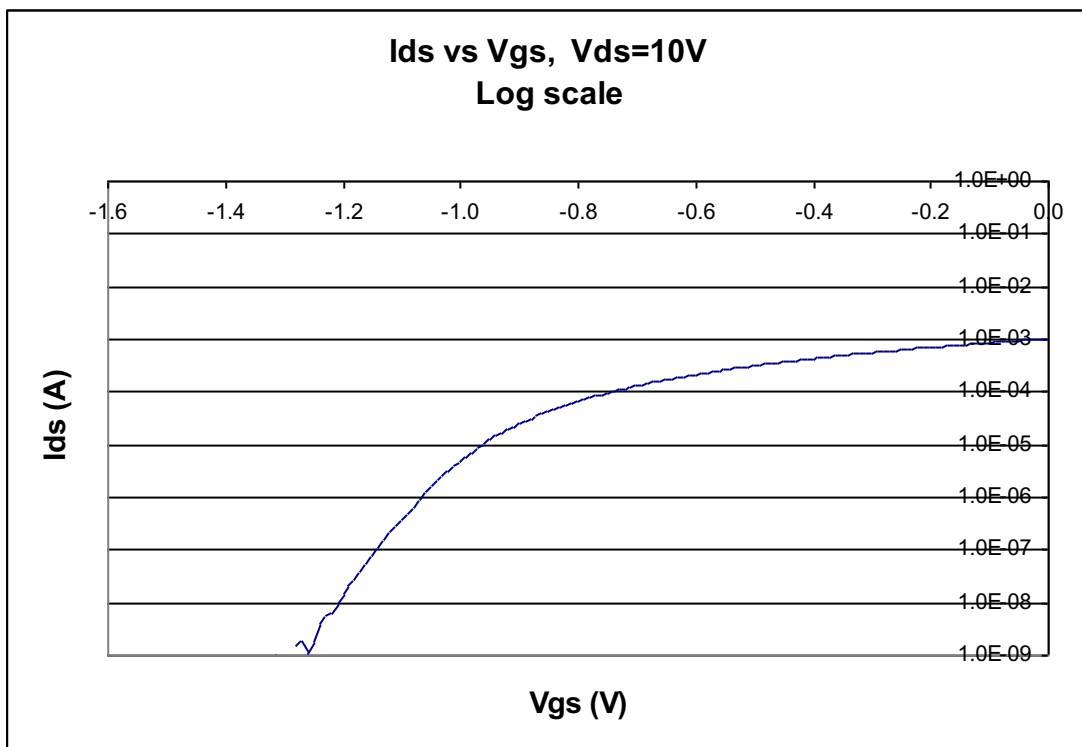
4.0 ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	TEST CONDITIONS	SPEC	UNIT
Common-source forward trans-conductance.	g _{fs}	V _{gs} = 0V, V _{ds} = 5	> 1	mS
Gate-source cut-off voltage	V _{cutoff}	V _{ds} = 5V I _{ds} = 1uA	-0.5 to -1.0	V
Drain Current	I _{dss}	V _{ds} =5V V _{gs} =0V	0.25 to 1.2	mA
Drain source resistance	R _{ds(on)}	V _{ds} = 0.25V, V _{gs} = 0V	500 - 1600	Ω
Gate input resistance	R _{in}	V _{gs} = -15V V _{ds} = 0	1,000 to 80,000	Gig-Ω

4.1 Electrical Curves



Gain vs I_{dss} - $V_{ds}=5V$  **G_m vs I_{ds} , $V_{ds}=10V$
 $I_{dss}=1mA$** 





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4.2 Noise Characteristics

Ids mA	Vgs V	Noise @		
		1KHz	10KHz	100KHz
		nV/root(Hz)		
0.5	0.43	3.67	3.36	2.75
0.9	0.17	3.74	3.08	2.44
1.3	0.08	4.15	2.96	2.26



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Semefab (Scotland) Ltd. may change this specification at any time without notification.

Supply of products conforms to Semefab (Scotland) Ltd.'s Terms and Conditions

LIFE SUPPORT APPLICATIONS

This product is not designed for use in life support appliances, devices, or systems where malfunction of these products can be reasonably expected to result in personal injury.

Semefab (Scotland) Ltd customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Semefab for any damages resulting from such improper use or sale.

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