IFN401, IFN402, IFN403, IFN404, IFN405, IFN406

N-Channel Matched Dual Silicon Junction Field-Effect Transistor

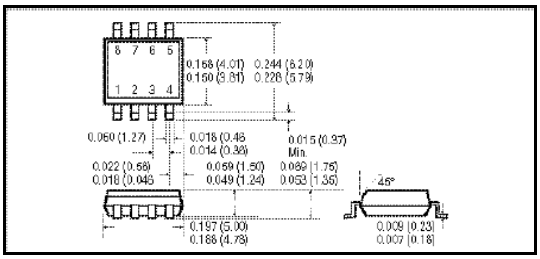
- **Improved Replacements for the U401, U402, U403, U404, U405, U406**
- **Low Noise Differential Amplifier**
- **Wide-Band Amplifier**
- **Precision Instrumentation Amplifier**

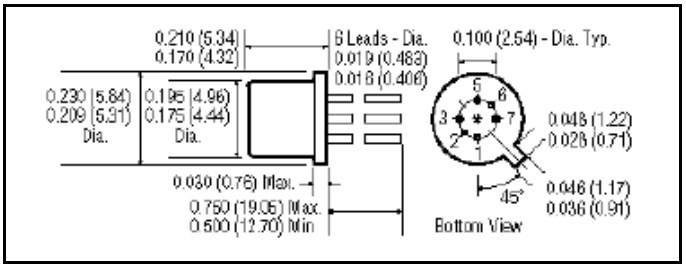
Absolute maximum ratings at T_A = 25°C

Reverse Gate Source & Gate Drain Voltage	-50V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating	4.3 mW/°C
Operating Temperature Range	-55°C to +125°C
Storage Temperature Range	-65°C to +150°C

At 25°C free air temperature Static Electrical Characteristics		401, 402, 403, 404, 405, 406				Process NJ16	
		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-50			V	I_G = -1 uA, V_{DS} = 0 V	
Gate Reverse Current	I_{GSS}			-25	pA	V_{GS} = -30 V, V_{DS} = 0 V	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	-0.5		-2.5	V	V_{DS} = 15 V, I_D = 1 nA	
Gate Source On Voltage	$V_{GS(ON)}$			-2.3	V	V_{DG} = 15 V, I_D = 200uA	
Drain Saturation Current (pulsed)	I_{DSS}	0.5		10	mA	V_{DS} = 10 V, V_{GS} = 0 V	
Gate Current	I_G			-50 -10	pA nA	V_{DG} = 10 V, I_D = 200 uA	125°C
Dynamic Electrical Characteristics							
Common-Source Forward Transconductance	g_{fs}	0.5		2	mS	V_{DS} = 15 V, I_D = 400 uA	f = 1 kHz
Common-Source Output Transconductance	g_{os}			2	uS	V_{DS} = 15 V, I_D = 200 uA	f = 1 kHz
Common-Source Input Capacitance	C_{iss}			8	pF	V_{DS} = 15 V, I_D = 200 uA	f = 1 MHz
Common-Source Reverse Transfer Capacitance	C_{rss}			3	pF	V_{DS} = 15 V, I_D = 200 uA	f = 1 MHz
Equivalent Short Circuit Input Noise Voltage	$\sim e_N$			20	nV/√Hz	V_{DS} = 15 V, VGS = 0 V	f = 10 Hz

Matching Characteristics (Max)		401	402	403	404	405	406	Units	Test Conditions
Differential Gate-Source Voltage	$\lvert V_{GS1}-V_{GS2} \rvert$	5	10	10	15	20	40	mV	V_{DG} = 10 V, I_D = 200 uA
Differential Gate Source Voltage w/ Temperature (-55°C, 25°C, 125°C)	$\frac{\Delta \lvert V_{GS1}-V_{GS2} \rvert}{\Delta T}$	10	10	25	25	40	80	µV/°C	V_{DG} = 10 V, I_D = 200 µA





SOIC-8 Package **Pin Configuration**
SMPU401, SMPU402, SMPU403, SMPU404 SMPU405, SMPU406
1-G1, 2-D1, 3-S1, 4-G2, 5-G2, 6-D2, 7-S2, 8-G1

TO-71: **Pin Configuration**
IFN401, IFN 402, IFN 403,, IFN 404, IFN 405, IFN 406
1-S1, 2-D1, 3-G1, 4-S2, 5-D2, 6-G2
Dimensions in Inches (mm)

InterFET

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