

IFN401, IFN402, IFN403, IFN404, IFN405, IFN406

N-Channel Matched Dual Silicon Junction Field-Effect Transistor

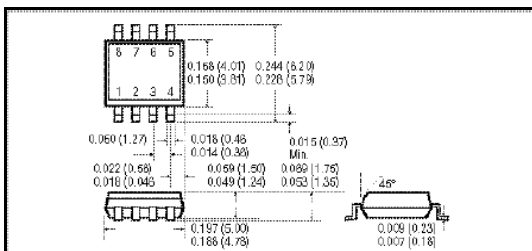
- Improved Replacements for the U401, U402, U403, U404, U405, U406
- Low Noise Differential Amplifier
- Wide-Band Amplifier
- Precision Instrumentation Amplifier

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

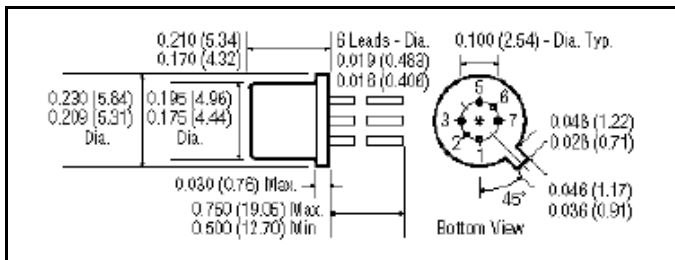
At 25°C free air temperature Static Electrical Characteristics		401, 402, 403, 404, 405, 406				Process NJ16	
		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	V _{(BR)GSS}	-50			V	I _G = -1 uA, V _{DS} = 0 V	
Gate Reverse Current	I _{GSS}			-25	pA	V _{GS} = -30 V, V _{DS} = 0 V	
Gate 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	~e _N			20	nV/√Hz	V _{DS} = 15 V, V _{GS} = 0 V	f = 10 Hz

Matching Characteristics (Max)		401	402	403	404	405	406	Units	Test Conditions
Differential Gate-Source Voltage	V _{GS1} - V _{GS2}	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)	Δ V _{GS1} - V _{GS2} / ΔT	10	10	25	25	40	80	μV/°C	V _{DG} = 10 V, I _D = 200 μA



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



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



715 N. Glenville Dr., Ste. 400
 Richardson, TX 75081
 (972) 238-9700 Fax (972) 238-5338
www.interfet.com