U231, U232, U233, U234, U235

N-Channel Matched Dual Silicon Junction Field-Effect Transistor

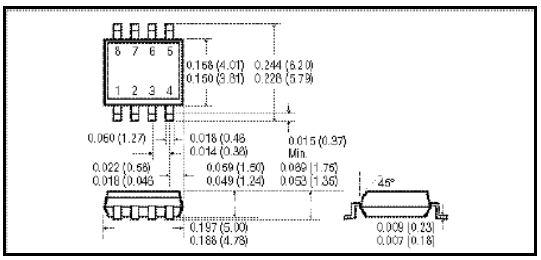
- **Differential Amplifier**
- **Low & Maximum Frequency Amplifier**

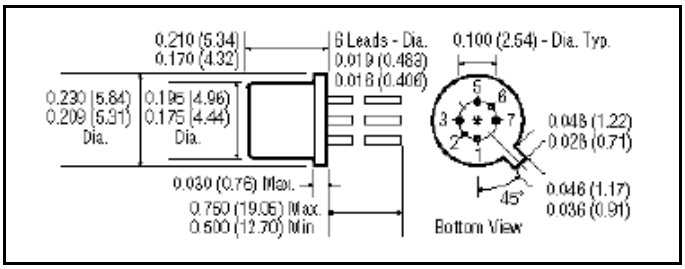
Absolute maximum ratings at $T_A = 25^oC$

Reverse Gate Source & Gate Drain Voltage	-50V
Continuous Forward Gate Current	50 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		U231, U232, U233, U234, U235				Process NJ16	
Static Electrical Characteristics		**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}			-100 -500	pA nA	V_{GS} = -30 V, V_{DS} = 0 V	 150°C
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	-0.5		-4.5	V	V_{DS} = 20 V, I_D = 1 nA	
Gate Source On Voltage	V_{GS}	-0.3		-4	V	V_{DG} = 20 V, I_D = 200 uA	
Drain Saturation Current (pulsed)	I_{DSS}	0.5		5	mA	V_{DS} = 20 V, V_{GS} = 0 V	
Gate Current	I_G			-50 -250	pA nA	V_{DG} = 20 V, I_D = 200 uA	 125°C
Dynamic Electrical Characteristics							
Common-Source Forward Transconductance	g_{fs}	0.6		1.6	mS	V_{DG} = 20 V, I_D = 200 uA	1 kHz
Common-Source Output Transconductance	g_{os}			10	uS	V_{DG} = 20 V, I_D = 200 uA	1 kHz
Common-Source Input Capacitance	C_{iss}			6	pF	V_{DS} = 20V, V_{GS} = 0 V	1 MHz
Common-Source Reverse Transfer Capacitance	C_{rss}			2	pF	V_{DS} = 20 V, V_{GS} = 0 V	1 MHz
Equivalent Short Circuit Input Noise Voltage	$\sim e_N$			80	nV/√Hz	V_{DS} = 20 V, V_{GS} = 0 V	100 Hz

Matching Characteristics		U231	U232	U233	U234	U235	Units	Test Conditions
Differencial Gate-Source Voltage	|VGS1-VGS2|	5	10	15	20	25	mV	V_{DG} = 20 V, I_D = 200 uA
Differencial Gate Source Voltage w/ Temperature (-55°C, 25°C, 125°C)	$\frac{\Delta\|VGS1-VGS2\|}{\Delta T}$	10	25	50	75	100	µV/°C	V_{DG} = 20 V, I_D = 200 uA





SOIC-8 Package **Pin Configuration**
SMPU231, SMPU232, SMPU233, SMPU234 SMPU235
1-G1, 2-D1, 3-S1, 4-G2, 5-G2, 6-D2, 7-S2, 8-G1

TO-71: **Pin Configuration**
U231, U232, U233, U234, U235
1-S1, 2-D1, 3-G1, 4-S2, 5-D2, 6-G2
Dimensions in Inches (mm)

InterFET

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