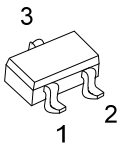
P-CHANNEL MOS FIELD EFFECT TRANSISTOR



SOT-23
(JEDEC TO-236)

■ DESCRIPTION

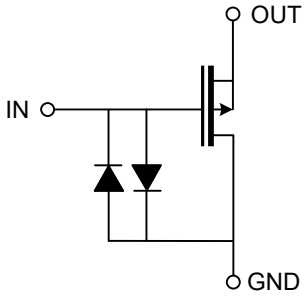
The UTC **UJD2201** is a P-channel MOSFET for Impedance converter of microphone.

The UTC **UJD2201** is the most suitable for the ECM especially which requires high SNR.

■ FEATURES

* Supply Voltage: +1.0 to +10V at R_L=15KΩ
* Low Consumption Current: 85μA typ.
* Voltage Gain: -4dB typ. at C_{IN}=3pF
* Low Output Noise: -115dBV typ.
* Total Harmonic Distortion: 0.1% typ.

■ EQUIVALENT CIRCUIT



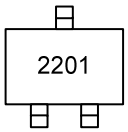
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UJD2201L-AE3-R	UJD2201G-AE3-R	SOT-23	G	O	I	Tape Reel

Note: Pin Assignment: D: Drain S: Source G: Gate

UJD2201G-AE3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage (IN-GND)	V_{IN}	-0.8 ~ +0.8	V
Input Current (GND-IN)	I_{IN}	0.5	mA
Output Voltage (IN-GND)	V_{OUT}	-0.5 ~ +6	V
Output Current (GND-IN)	I_{OUT}	17	mA
Allowable Power Dissipation	P_D	100	mW
Operating Temperature	T_{OPR}	-40 ~ +105	°C
Storage Temperature Range	T_{STG}	-40 ~ +125	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{DD}	R_L=15kΩ	1	2	10	V

■ ELECTRICAL CHARACTERISTICS

(V_{DD}=2V, C_{IN}=3pF, R_L=15kΩ, f=1kHz, V_{IN}=10mV, T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Consumption Current	I_{DD}	V_{IN}=0V, C_{IN}=none	60	85	105	μA
Input Capacitance	C_{ISS}	f=1MHz, C_{IN}=none		1.5		pF
Voltage Gain	G_V		-5.5	-4.0		dB
Reduced Voltage Characteristics	$\triangle G_{V(V)}$	V_{DD}=2 ~ 1.5V		0.3		dB
Frequency Characteristics	$\triangle G_{V(f)}$	f=1kHz to 110Hz		0.05		dB
Output Noise Voltage	N_V	V_{IN}=0Vrms, A-weight		-115		dB
Total Harmonic Distortion	THD	V_{OUT}=30mVrms		0.1		%

■ TEST CIRCUITS

Voltage Gain
Reduced Voltage Characteristics
Frequency Characteristics
Output Noise Voltage
Total Harmonic Distortion