MOS FIELD EFFECT TRANSISTOR **2SJ461**

P-CHANNEL MOS FIELD EFFECT TRANSISTOR FOR HIGH SPEED SWITCHING

DESCRIPTION

The 2SJ461 is a switching device which can be driven directly by a 2.5 V power source.

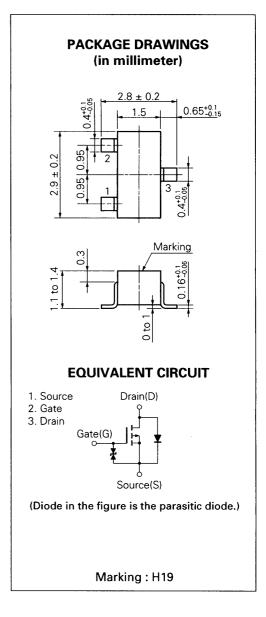
The MOS FET has excellent switching characteristics and is suitable for use as a high-speed switching device in digital circuits.

FEATURES

- Can be driven by a 2.5 V power source.
- Not necessary to consider driving current because of its high input impedance.
- Possible to reduce the number of parts by omitting the bias resistor.

ABSOLUTE MAXIMUM RATINGS (TA = +25 °C)

Drain to Source Voltage	VDSS	-50	V	
Gate to Source Voltage	Vgss	∓7.0	V	
Drain Current (DC)	D(DC)	∓0.1	А	
Drain Current (pulse)	D(pulse)	∓ 0.2 *	Α	
Total Power Dissipation	Рт	200	mW	
Channel Temperature	Тсн	150	°C	
Storage Temperature	Tstg	–55 to +150	°C	
*PW ≦10 ms. Duty cycle ≦ 1 %				



The diode connected between the gate and source of the transistor serves as a protector against ESD. When this device is actually used, an additional protection circuit is externally required if a voltage exceeding the rated voltage may be applied to this device.

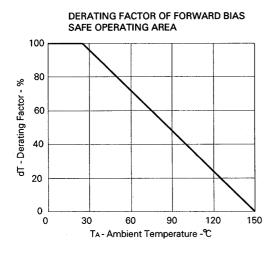
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ELECTRICAL CHARACTERISTICS (TA = +25 °C)

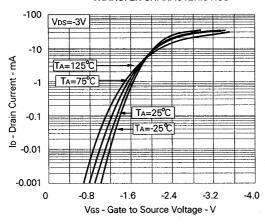
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
Drain Cut-off Current	ldss			-1.0	μA	$V_{DS} = -50 V, V_{GS} = 0$	
Gate Leakage Current	lgss			∓ 3.0	μA	Vgs = 7.0 V, Vds = 0	
Gate Cut-off Voltage	VGS(off)	-0.7	-0.9	-1.3	V	$V_{DS} = -3.0 \text{ V}, \text{ ID} = -1.0 \ \mu\text{A}$	
Forward Transfer Admittance	yfs	12			mS	VDS = -3.0 V, ID = -10 mA	
Drain to Source On-State Resistance	RDS(on)1		46	100	Ω	Vgs = -2.5 V, ld = -3 mA	
Drain to Source On-State Resistance	RDS(on)2		31	50	Ω	Vgs = -4.0 V, Ip = -10 mA	
Input Capacitance	Ciss		6		рF	VDS = -3.0 V, VGS = 0	
Output Capacitance	Coss		9		pF		
Reverse Transfer Capacitance	Crss		1.6		pF	f = 1.0 MHz	
Turn-On Delay Time	td(on)		32		ns	VDD = -3.0 V, ID = -20 mA	
Rise Time	tr			ns			
Turn-Off Delay Time	td(off)		45		ns	VGS(on) = -3.0 V, RG = 10Ω	
Fall Time	tŕ		130		ns	RL = 200 Ω	

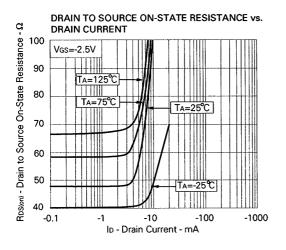
TYPICAL CHARACTERISTICS (TA = 25 °C)

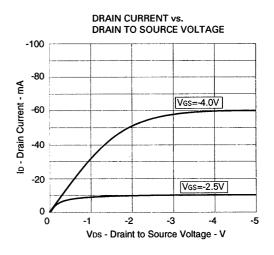
NEC



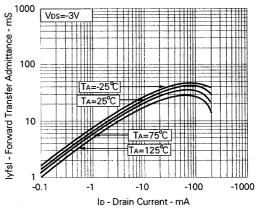
TRANSFER CHARACTERISTICS



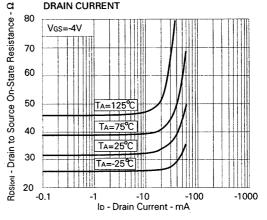




FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT

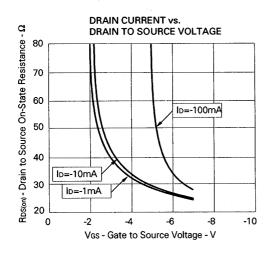


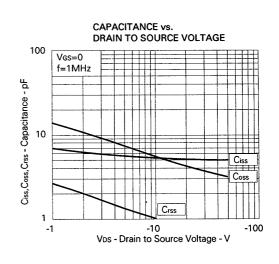
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



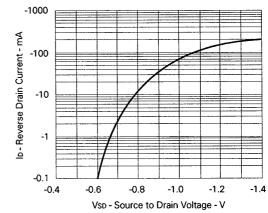
NEC

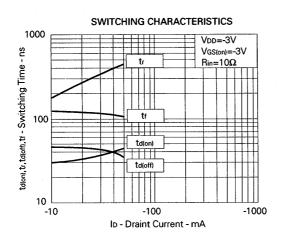
2SJ461





SOURCE TO DRAIN DIODE FORWARD VOLTAGE





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REFERENCE

Document Name	Document No.			
NEC semiconductor device reliability/quality control system	TEI-1202			
Quality grade on NEC semiconductor devices	IEI-1209			
Semiconductor device mounting technology manual	C10535EJ7V0IF00			
Guide to quality assurance for semiconductor devices	MEI-1202			
Semiconductor selection guide	X10679EJAV0SG00			

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Anti-radioactive design is not implemented in this product.

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