

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 2SJ461 has excellent switching characteristics and is suitable for use as a high-speed switching device in digital circuit.

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.

★ ORDERING INFORMATION

PART NUMBER	PACKAGE
2SJ461	SC-59 (Mini Mold)

Marking: H19

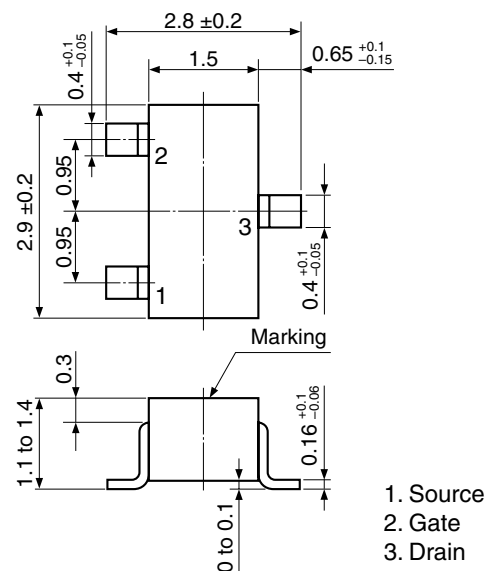
ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Drain to Source Voltage (V _{GS} = 0 V)	V _{DSS}	-50	V
Gate to Source Voltage (V _{DS} = 0 V)	V _{GSS}	±7.0	V
Drain Current (DC)	I _{D(DC)}	±0.1	A
Drain Current (pulse) ^{Note}	I _{D(pulse)}	±0.2	A
Total Power Dissipation	P _T	200	mW
Channel Temperature	T _{ch}	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

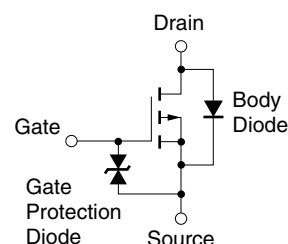
★ **Note** PW ≤ 10 ms, Duty Cycle ≤ 50%

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

★ PACKAGE DRAWING (Unit: mm)



EQUIVALENT CIRCUIT

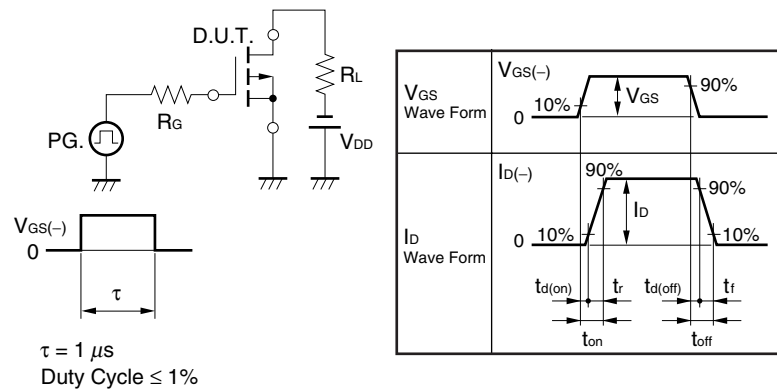


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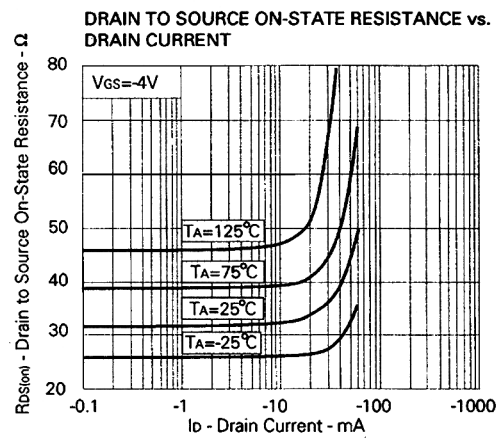
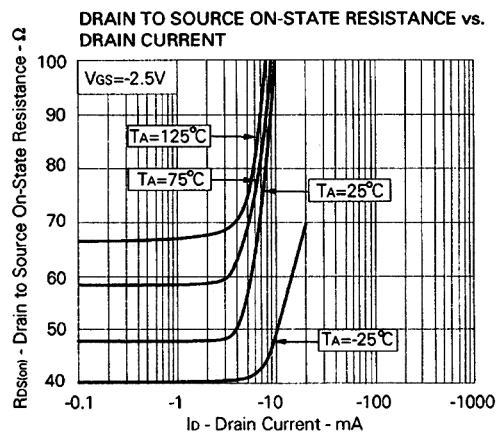
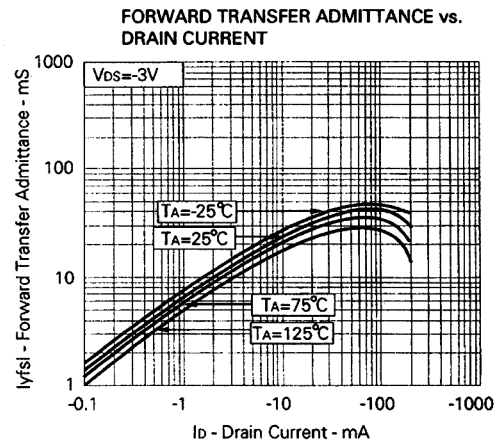
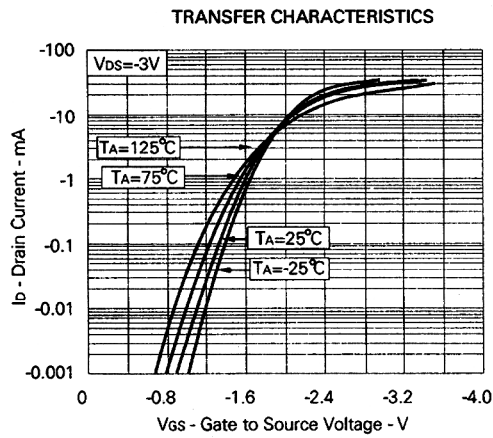
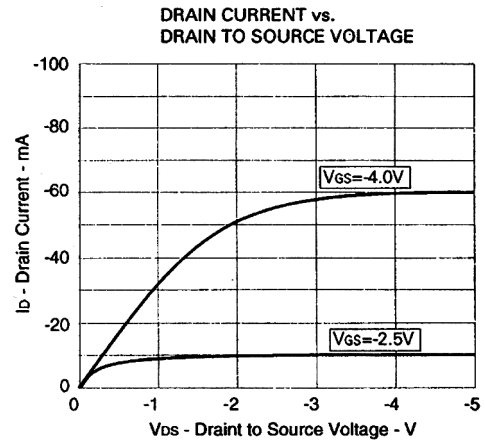
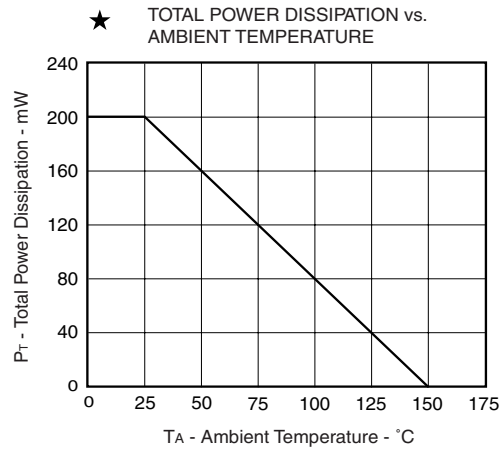
ELECTRICAL CHARACTERISTICS (T_A = 25°C)

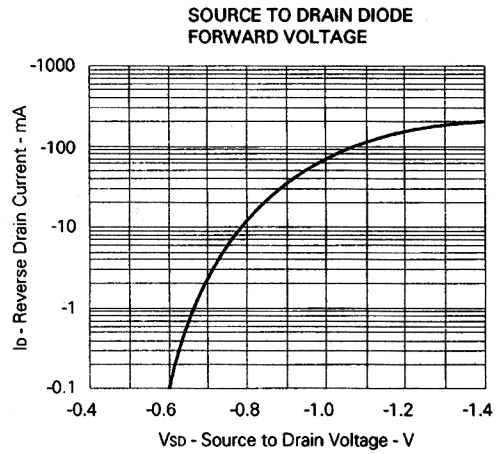
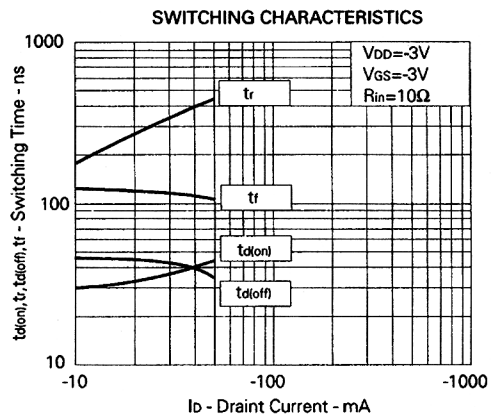
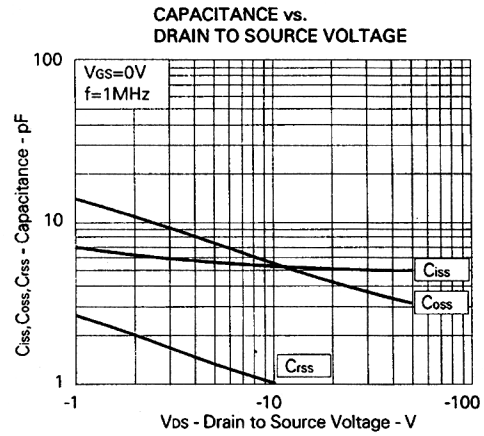
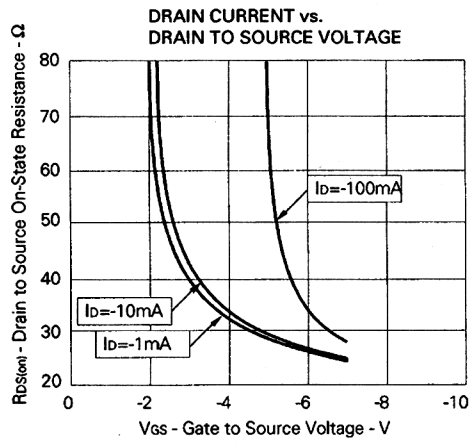
CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -50 V, V _{GS} = 0 V			-1.0	μA
Gate Leakage Current	I _{GSS}	V _{GS} = ±7.0 V, V _{DS} = 0 V			±3.0	μA
Gate Cut-off Voltage	V _{GS(off)}	V _{DS} = -3.0 V, I _D = -1.0 μA	-0.7	-0.9	-1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} = -3.0 V, I _D = -10 mA	12			mS
Drain to Source On-state Resistance	R _{DS(on)1}	V _{GS} = -2.5 V, I _D = -3 mA		46	100	Ω
	R _{DS(on)2}	V _{GS} = -4.0 V, I _D = -10 mA		31	50	Ω
Input Capacitance	C _{iss}	V _{DS} = -3.0 V		6		pF
Output Capacitance	C _{oss}	V _{GS} = 0 V		9		pF
Reverse Transfer Capacitance	C _{rss}	f = 1.0 MHz		1.6		pF
Turn-on Delay Time	t _{d(on)}	V _{DD} = -3.0 V, I _D = -20 mA		32		ns
Rise Time	t _r	V _{GS} = -3.0 V		270		ns
Turn-off Delay Time	t _{d(off)}	R _G = 10 Ω, R _L = 200 Ω		45		ns
Fall Time	t _f			130		ns

★ **TEST CIRCUIT SWITCHING TIME**



TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)





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