

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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EOL announced Product

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# DATA SHEET



# MOS FIELD EFFECT TRANSISTOR 2SJ202

## P-CHANNEL MOS FET FOR SWITCHING

### DESCRIPTION

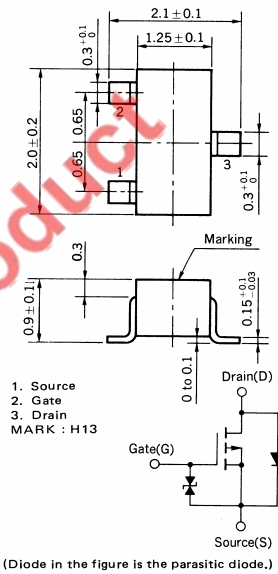
The 2SJ202 is a P-channel vertical type MOS FET which can be driven by 2.5 V power supply.

As the MOS FET is driven by low voltage and does not require consideration of driving current, it is suitable for appliances including VTR cameras and headphone stereos which need power saving.

### FEATURES

- Directly driven by ICs having a 3 V power supply.
- Not necessary to consider driving current because of its high input impedance.
- Possible to reduce the number of parts by omitting the bias resistor.
- Complementary to 2SK1580

### PACKAGE DRAWING (Unit: mm)



### <R> ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

Drain to Source Voltage (VGS = 0 V)	V <sub>DSS</sub>	-16	V
Gate to Source Voltage (VDS = 0 V)	V <sub>GSS</sub>	±7	V
Drain Current (DC)	I <sub>D(DC)</sub>	±100	mA
Drain Current (pulse) <sup>Note</sup>	I <sub>D(pulse)</sub>	±200	mA
Total Power Dissipation	P <sub>T</sub>	150	mW
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

**Note** PW ≤ 10 ms, Duty Cycle ≤ 50%

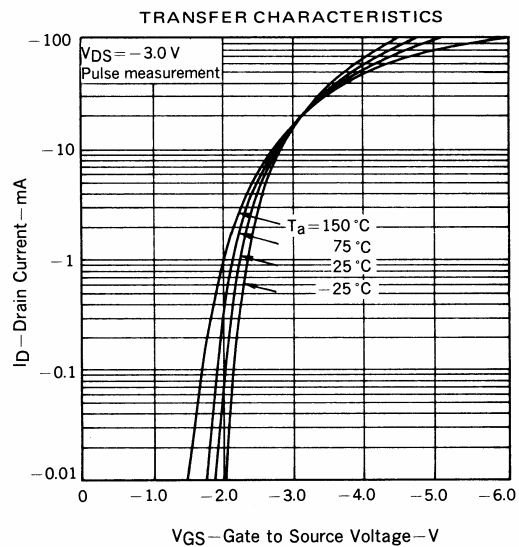
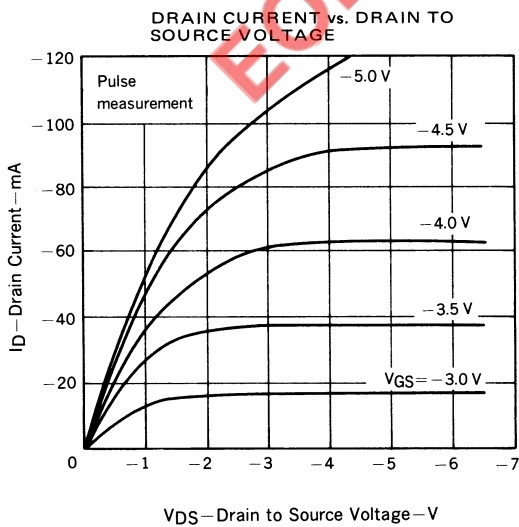
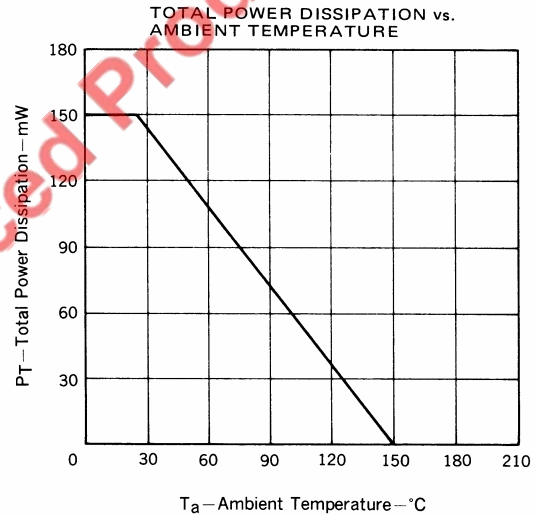
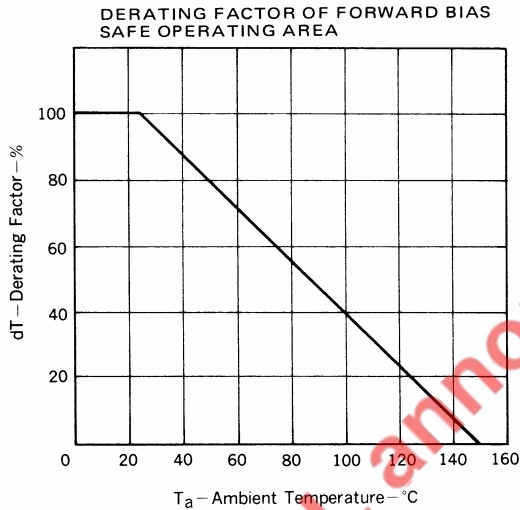
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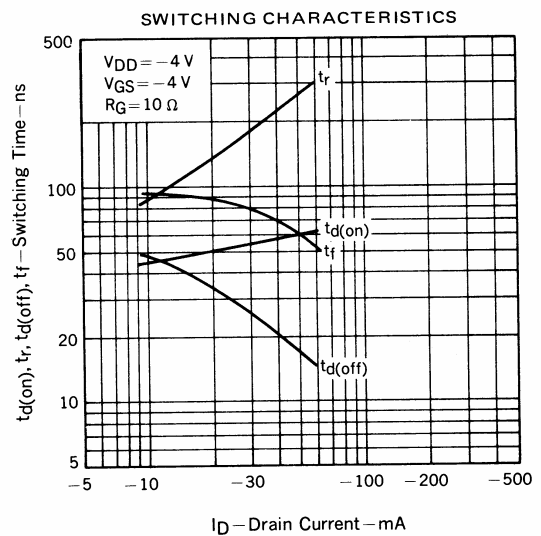
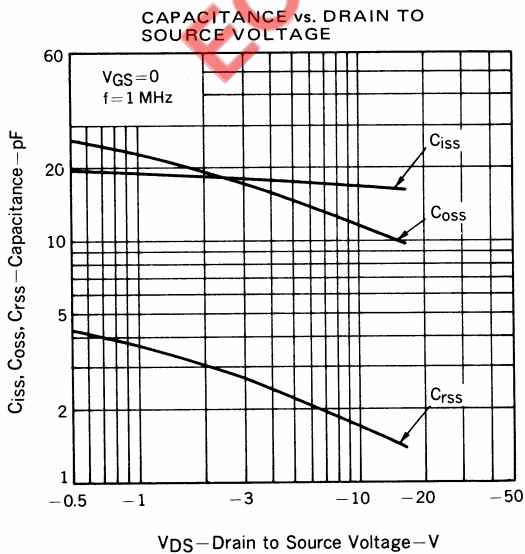
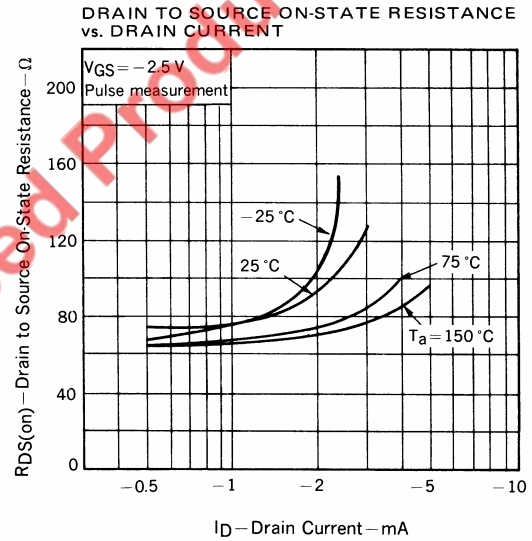
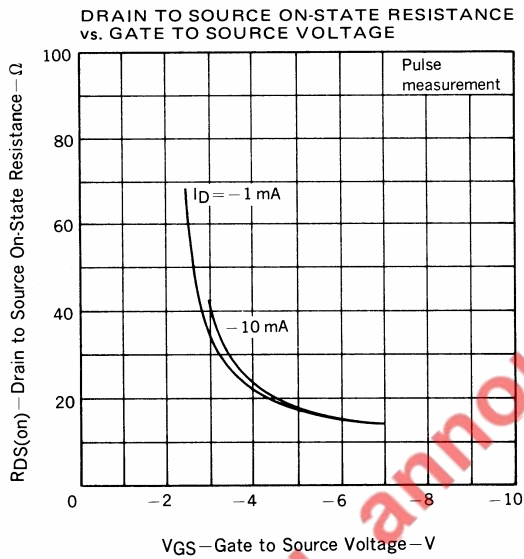
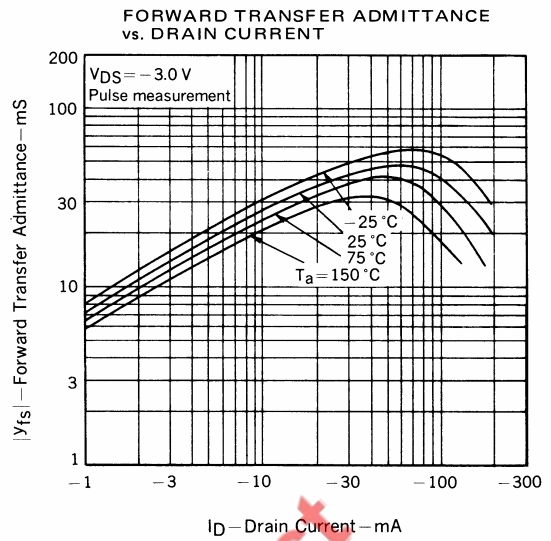
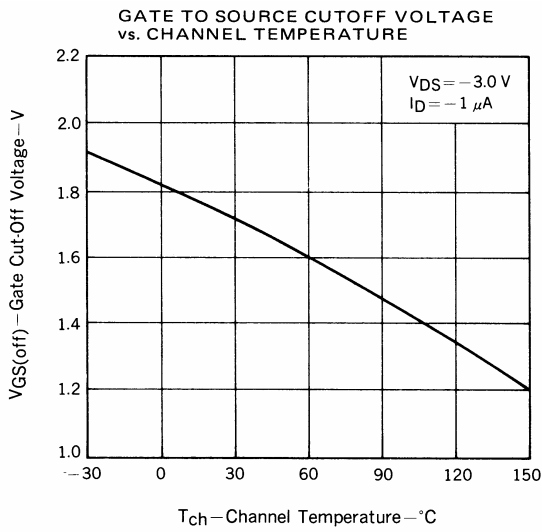
ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C)

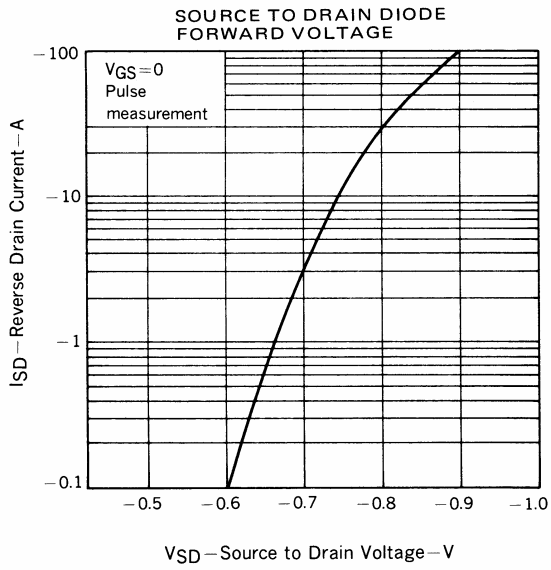
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Drain Cut-off Current	I <sub>DSS</sub>			-1.0	μA	V <sub>DS</sub> = -16 V, V <sub>GS</sub> = 0
Gate Leakage Current	I <sub>GSS</sub>			±10	μA	V <sub>GS</sub> = ±3.0 V, V <sub>DS</sub> = 0
Gate Cut-off Voltage	V <sub>GS(off)</sub>	-1.1	-1.7	-2.1	V	V <sub>DS</sub> = -3.0 V, I <sub>D</sub> = -1.0 μA
Forward Transfer Admittance	y <sub>fs</sub>	20	27		mS	V <sub>DS</sub> = -3.0 V, I <sub>D</sub> = -10 mA
Drain to Source On-State Resistance	R <sub>DS(on)1</sub>		70	100	Ω	V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -1.0 mA
Drain to Source On-State Resistance	R <sub>DS(on)2</sub>		23	30	Ω	V <sub>GS</sub> = -4.0 V, I <sub>D</sub> = -1.0 mA
Input Capacitance	C <sub>iss</sub>		18		pF	V <sub>DS</sub> = -3 V, V <sub>GS</sub> = 0, f = 1 MHz
Output Capacitance	C <sub>oss</sub>		17		pF	
Feedback Capacitance	C <sub>rss</sub>		3		pF	
Turn-On Delay Time	t <sub>d(on)</sub>		40		ns	V <sub>GS(on)</sub> = -4 V, R <sub>G</sub> = 10 Ω, V <sub>DD</sub> = -4 V, I <sub>D</sub> = -1 mA
Rise Time	t <sub>r</sub>		60		ns	
Turn-Off Delay Time	t <sub>d(off)</sub>		60		ns	
Fall Time	t <sub>f</sub>		100		ns	

TYPICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C)

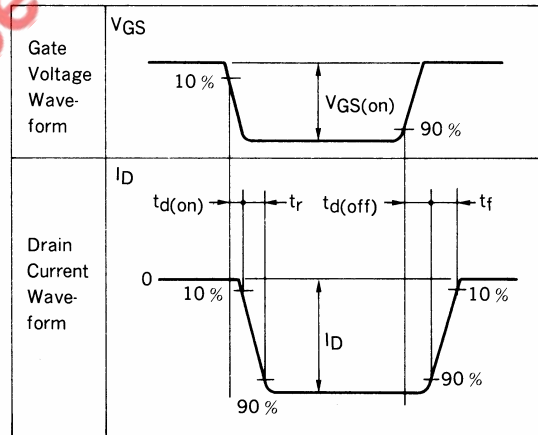
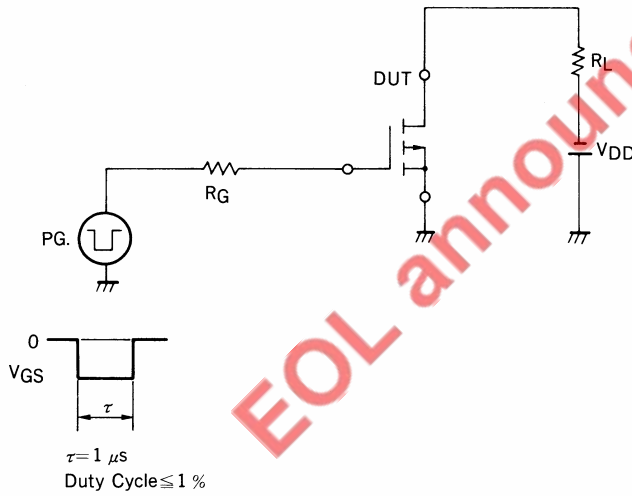
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**SWITCHING TIME MEASUREMENT CIRCUIT AND CONDITIONS**



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