

To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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

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EOL announced Product

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P-CHANNEL MOSFET FOR SWITCHING

The 2SJ204, P-channel vertical type MOSFET, is a switching device which can be driven directly by the output of ICs having a 5 V power source.

The 2SJ204 has low on-state resistance and excellent switching characteristics, it is suitable for driving actuators such as motors, relays, and solenoids.

FEATURES

- Directly driven by ICs having a 5 V power supply.
- Has low on-state resistance
 - $R_{DS(on)} = 13 \Omega$ MAX. ($V_{GS} = -4.0$ V, $I_D = -10$ mA)
 - $R_{DS(on)} = 8 \Omega$ MAX. ($V_{GS} = -10$ V, $I_D = -10$ mA)
- Complementary to 2SK1582

ORDERING INFORMATION

PART NUMBER	PACKAGE
2SJ204	SC-59 (Mini Mold)

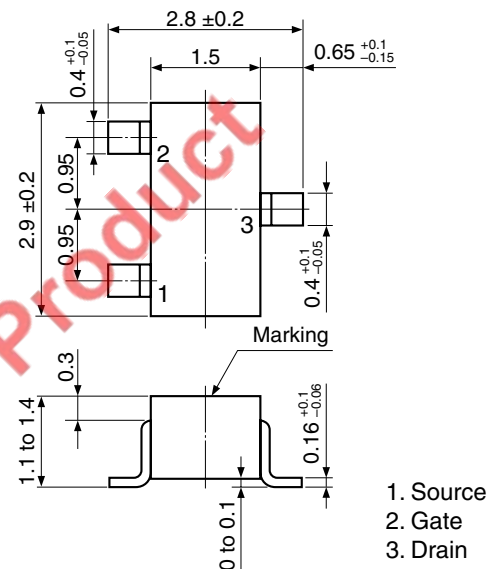
Marking: H15

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

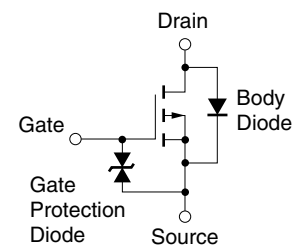
Drain to Source Voltage ($V_{GS} = 0$ V)	V_{DSS}	-30	V
Gate to Source Voltage ($V_{DS} = 0$ V)	V_{GSS}	± 20	V
Drain Current (DC)	$I_{D(DC)}$	± 200	mA
Drain Current (pulse) ^{Note}	$I_{D(pulse)}$	± 400	mA
Total Power Dissipation	P_T	200	mW
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note $PW \leq 10$ ms, Duty Cycle $\leq 50\%$

PACKAGE DRAWING (Unit: mm)



EQUIVALENT CIRCUIT



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.

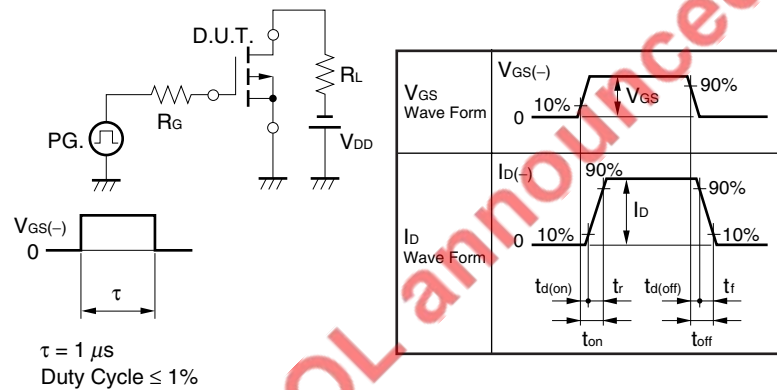
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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

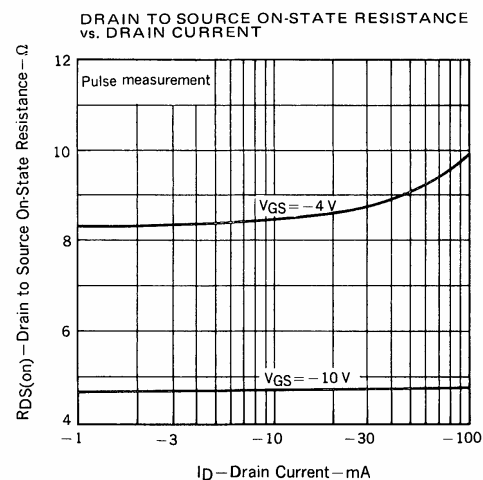
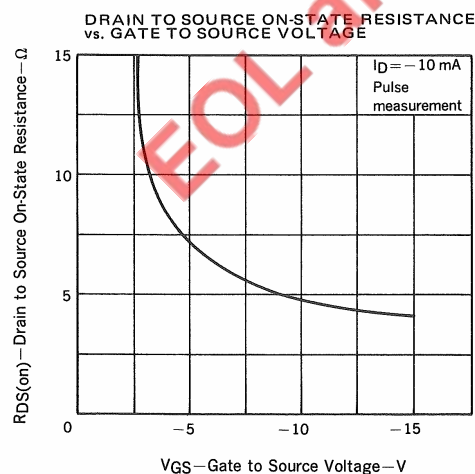
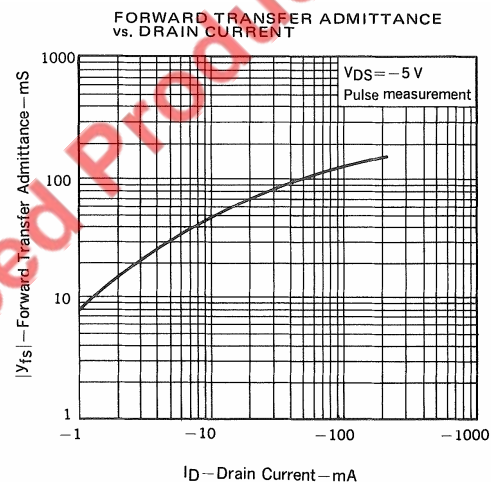
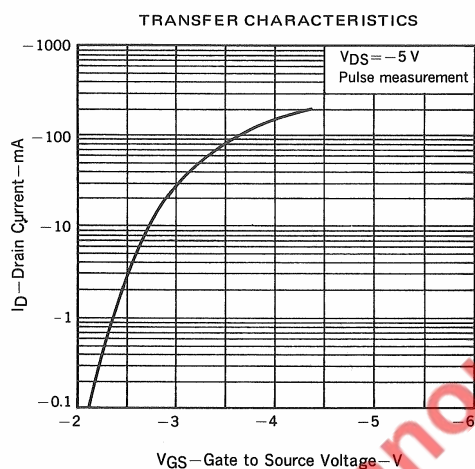
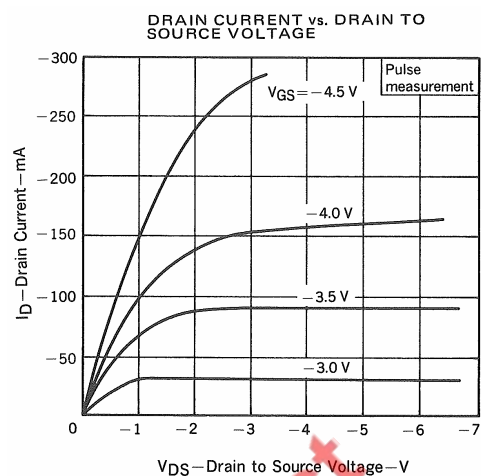
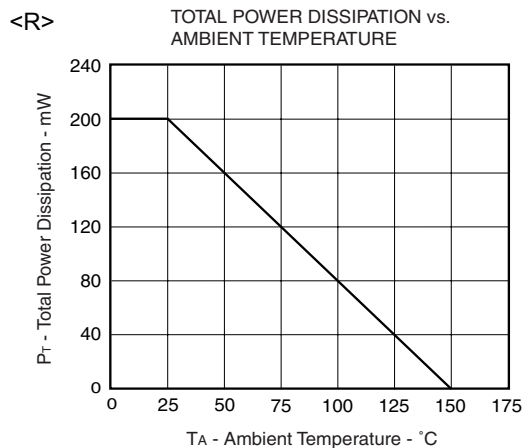
CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30 V, V _{GS} = 0 V			-1.0	μA
Gate Leakage Current	I _{GSS}	V _{GS} = ±20 V, V _{DS} = 0 V			±1.0	μA
Gate Cut-off Voltage	V _{GS(off)}	V _{DS} = -5.0 V, I _D = -1.0 μA	-1.4	-1.9	-2.4	V
Forward Transfer Admittance Note	y _{fs}	V _{DS} = -5.0 V, I _D = -10 mA	20			mS
Drain to Source On-state Resistance Note	R _{DS(on)1}	V _{GS} = -4.0 V, I _D = -10 mA		8.5	13	Ω
	R _{DS(on)2}	V _{GS} = -10 V, I _D = -10 mA		5	8	Ω
Input Capacitance	C _{iss}	V _{DS} = -5.0 V		27		pF
Output Capacitance	C _{oss}	V _{GS} = 0 V		27		pF
Reverse Transfer Capacitance	C _{rss}	f = 1 MHz		6		pF
Turn-on Delay Time	t _{d(on)}	V _{GS} = -4.0 V, R _G = 10 Ω		120		ns
Rise Time	t _r	V _{DD} = -5.0 V		240		ns
Turn-off Delay Time	t _{d(off)}	I _D = -10 mA		135		ns
Fall Time	t _f			210		ns

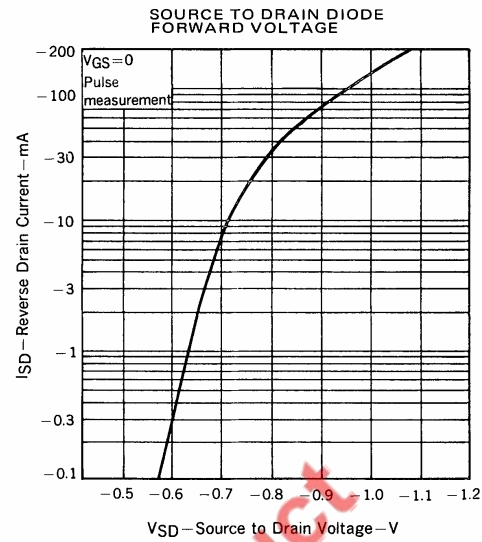
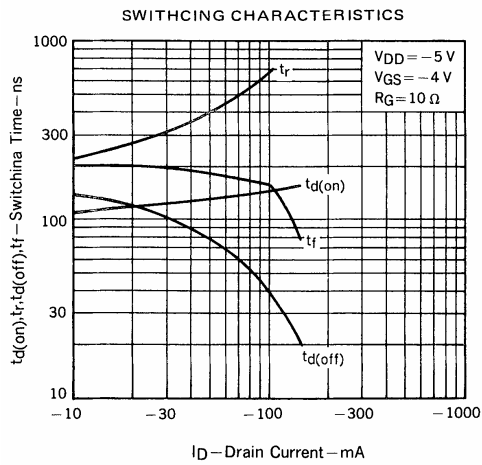
Note Pulsed

TEST CIRCUIT SWITCHING TIME



TYPICAL CHARACTERISTICS (T_A = 25°C)





EOL announced Product

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