

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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**P-CHANNEL MOS FIELD EFFECT TRANSISTOR
 FOR HIGH SPEED SWITCHING**

DESCRIPTION

The 2SJ463A is a switching device which can be driven directly by a 2.5 V power source.

The 2SJ463A 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
- Low gate cut-off voltage

★ **ORDERING INFORMATION**

PART NUMBER	PACKAGE
2SJ463A	SC-70 (SSP)

Marking: H21

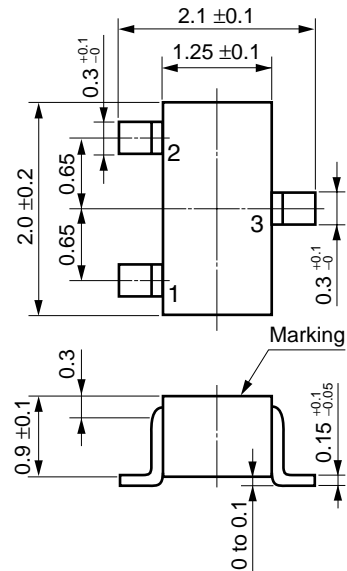
ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

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)}	±0.1	A
Drain Current (pulse) ^{Note}	I _{D(pulse)}	±0.4	A
Total Power Dissipation	P _T	150	mW
Channel Temperature	T _{ch}	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

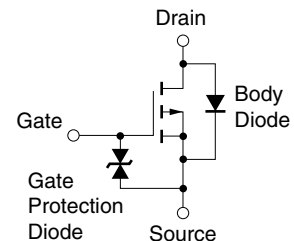
Note PW ≤ 10 μs, Duty Cycle ≤ 1%

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

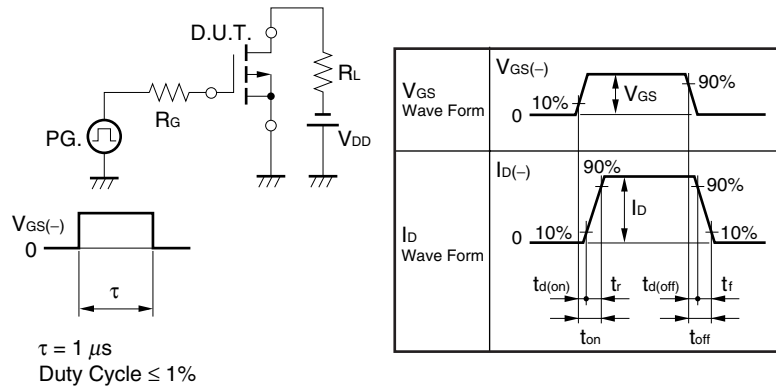


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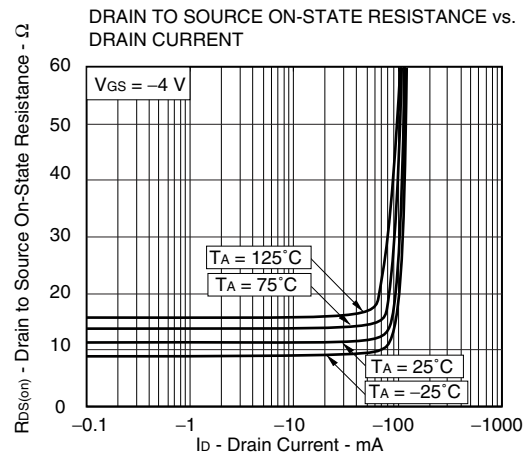
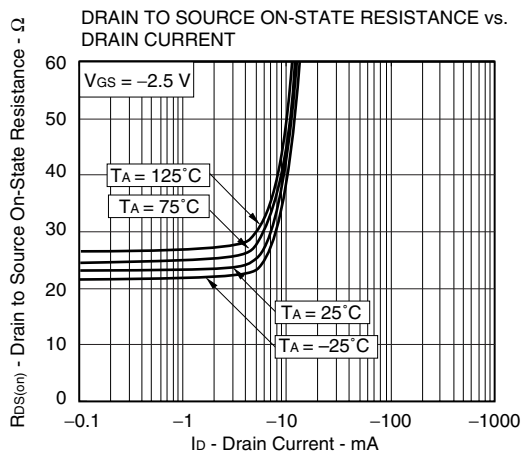
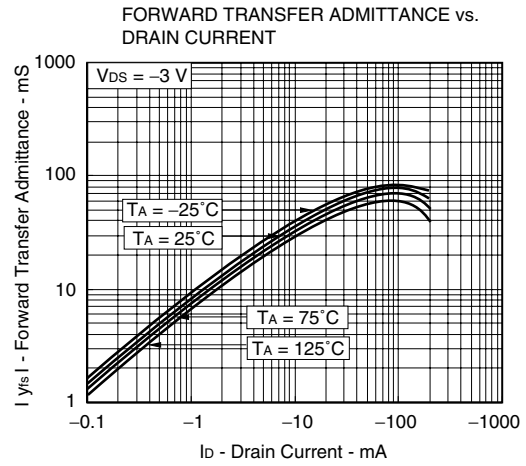
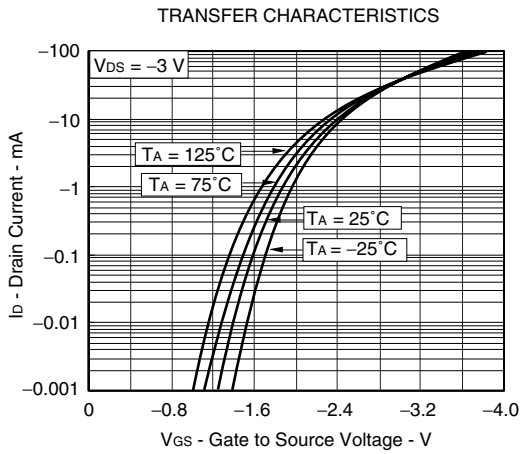
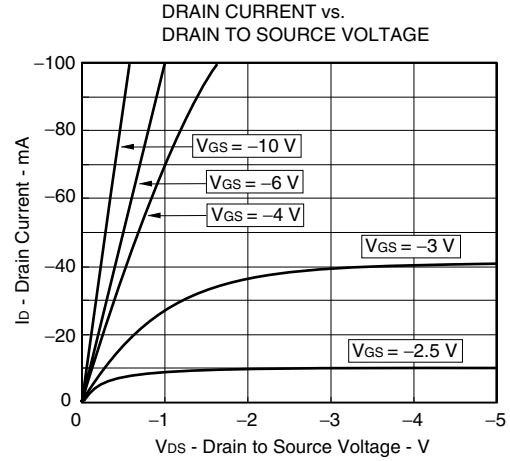
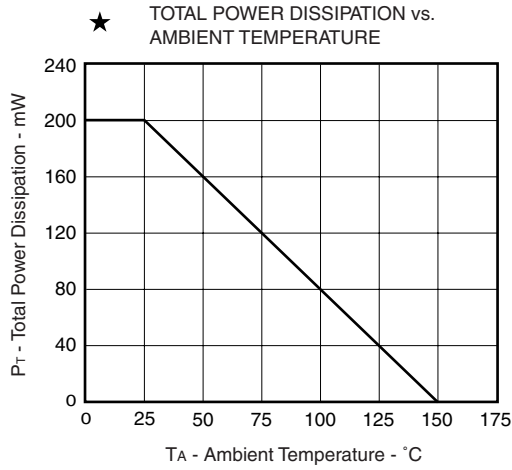
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

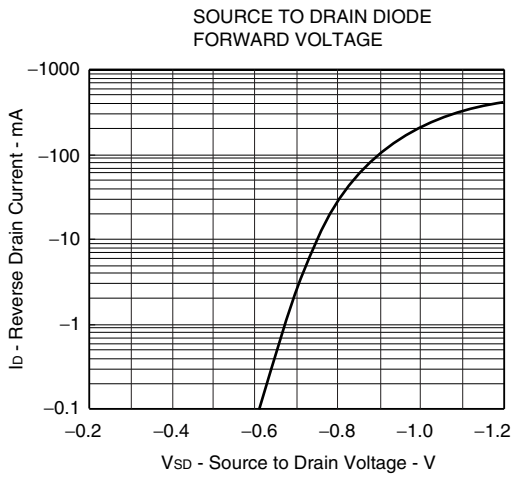
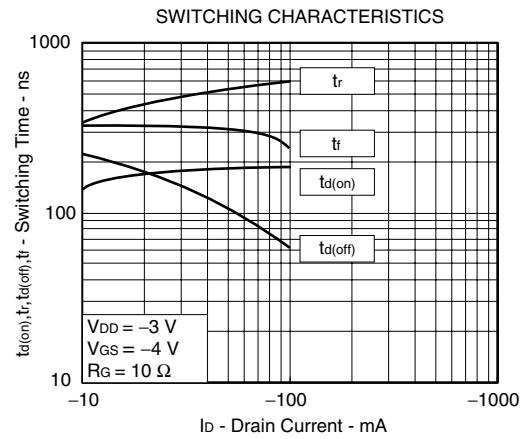
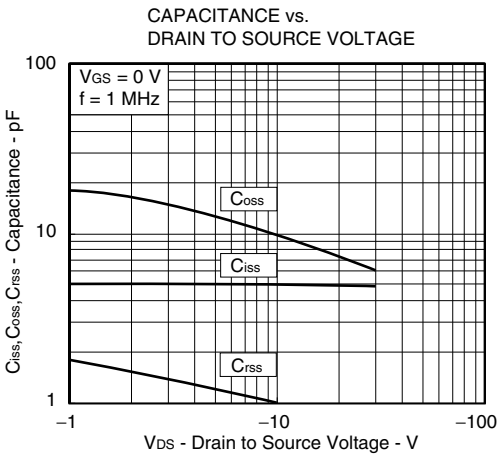
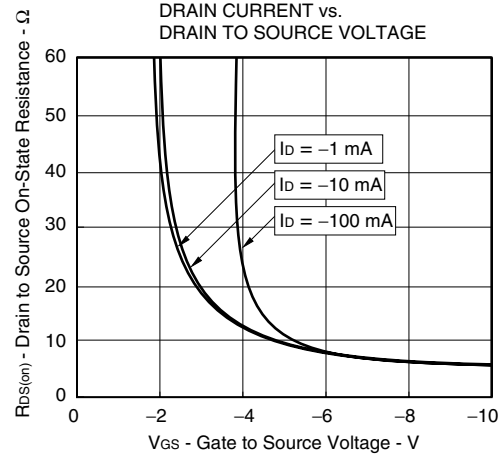
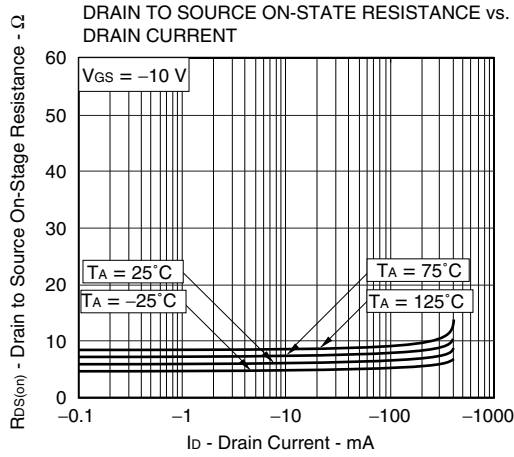
CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0\text{ V}$			∓ 10	μA
Gate Cut-off Voltage	$V_{GS(off)}$	$V_{DS} = -3\text{ V}, I_D = -10\ \mu\text{A}$	-1.0	-1.4	-1.7	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -3\text{ V}, I_D = -10\text{ mA}$	20			mS
Drain to Source On-state Resistance	$R_{DS(on)1}$	$V_{GS} = -2.5\text{ V}, I_D = -1\text{ mA}$		23	60	Ω
	$R_{DS(on)2}$	$V_{GS} = -4\text{ V}, I_D = -10\text{ mA}$		11	23	Ω
	$R_{DS(on)3}$	$V_{GS} = -10\text{ V}, I_D = -10\text{ mA}$		6	13	Ω
Input Capacitance	C_{iss}	$V_{DS} = -3\text{ V}$		5		pF
Output Capacitance	C_{oss}	$V_{GS} = 0\text{ V}$		15		pF
Reverse Transfer Capacitance	C_{rss}	$f = 1\text{ MHz}$		1.3		pF
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = -3\text{ V}, I_D = -10\text{ mA}$		140		ns
Rise Time	t_r	$V_{GS} = -4\text{ V}$		330		ns
Turn-off Delay Time	$t_{d(off)}$	$R_G = 10\ \Omega, R_L = 300\ \Omega$		220		ns
Fall Time	t_f			320		ns

★ **TEST CIRCUIT SWITCHING TIME**



TYPICAL CHARACTERISTICS (TA = 25°C)





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