

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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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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2SK3288

Silicon N Channel MOS FET High Speed Switching

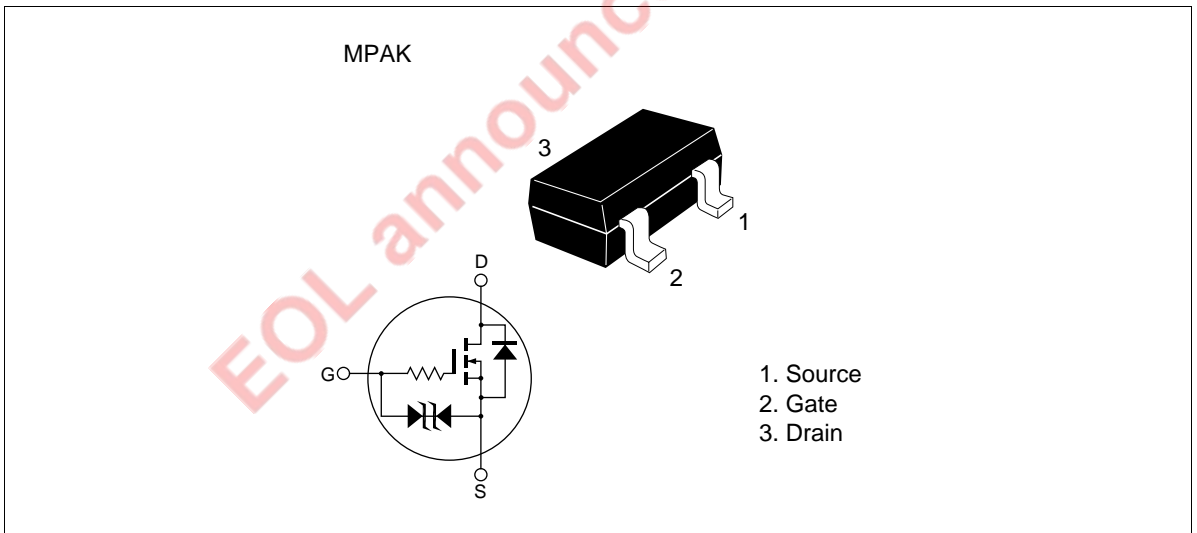
RENESAS

ADE-208-803 (Z)
1st.Edition.
June 1999

Features

- Low on-resistance
 $R_{DS} = 2.7 \Omega$ typ. ($V_{GS} = 10 \text{ V}$, $I_D = 50 \text{ mA}$)
 $R_{DS} = 4.7 \Omega$ typ. ($V_{GS} = 4 \text{ V}$, $I_D = 20 \text{ mA}$)
- 4 V gate drive device.
- Small package (MPAK)

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	30	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I_D	100	mA
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	400	mA
Body-drain diode reverse drain current	I_{DR}	100	mA
Channel dissipation	Pch ^{Note 2}	400	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%

2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

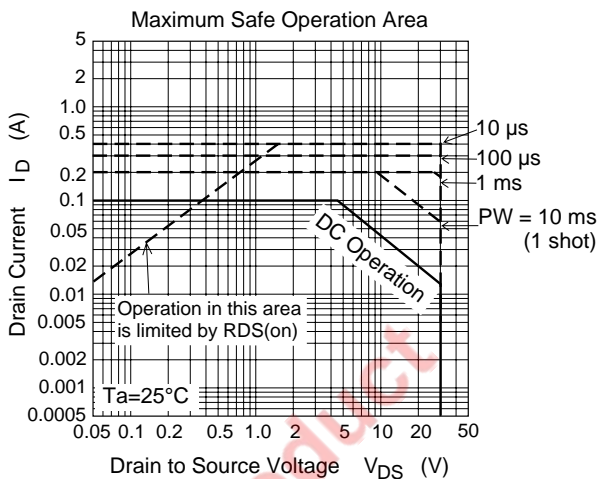
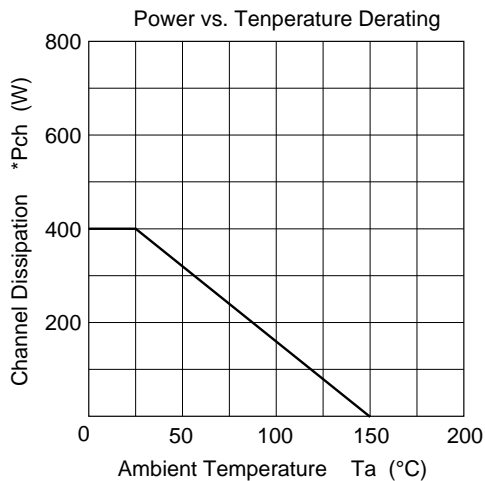
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	—	—	V	$I_D = 100 \mu A, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±20	—	—	V	$I_G = \pm 100 \mu A, V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±5	μA	$V_{GS} = \pm 16 V, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1	μA	$V_{DS} = 30 V, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.3	—	2.3	V	$I_D = 10 \mu A, V_{DS} = 5 V$
Static drain to source on state resistance	$R_{DS(on)}$	—	2.7	3.5	Ω	$I_D = 50 mA, V_{GS} = 10 V$ ^{Note 3}
	$R_{DS(on)}$	—	4.7	7.0	Ω	$I_D = 20 mA, V_{GS} = 4 V$ ^{Note 3}
Forward transfer admittance	$ y_{fs} $	55	85	—	mS	$I_D = 50 mA, V_{DS} = 10 V$ ^{Note 3}
Input capacitance	Ciss	—	3	—	pF	$V_{DS} = 10 V$
Output capacitance	Coss	—	8	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	—	1	—	pF	f = 1 MHz
Turn-on delay time	$t_{d(on)}$	—	100	—	ns	$I_D = 50 mA, V_{GS} = 10 V$
Rise time	t_r	—	300	—	ns	$R_L = 200 \Omega$
Turn-off delay time	$t_{d(off)}$	—	1100	—	ns	
Fall time	t_f	—	900	—	ns	

Note: 3. Pulse test

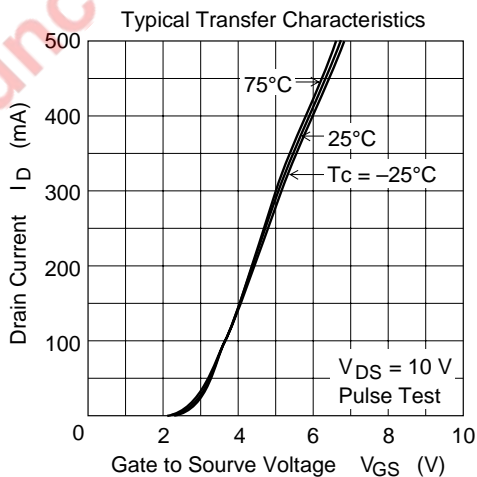
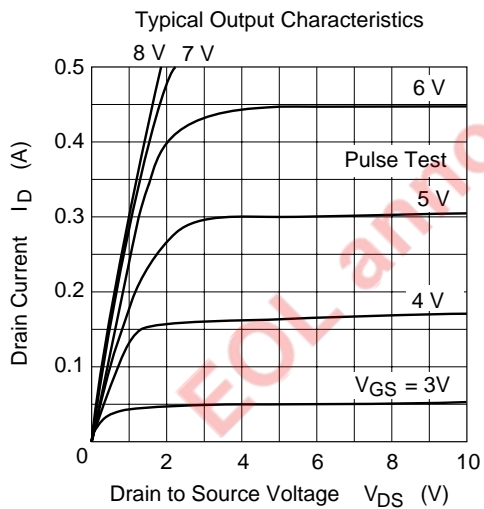
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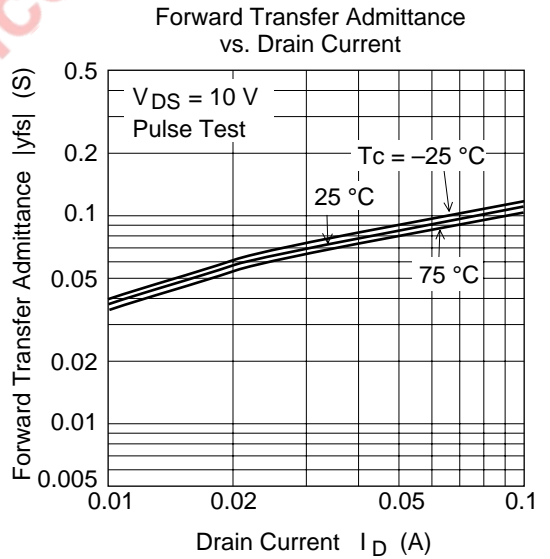
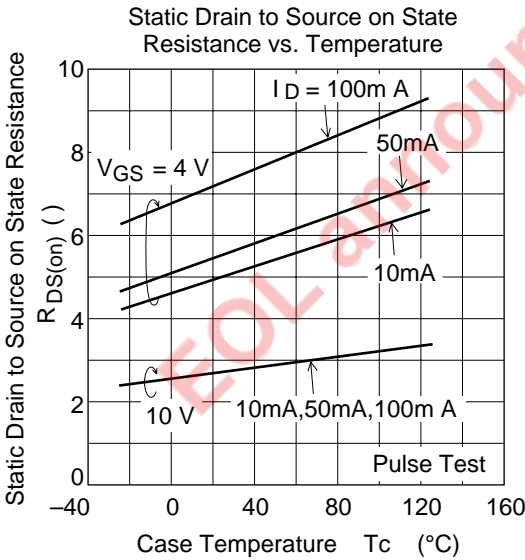
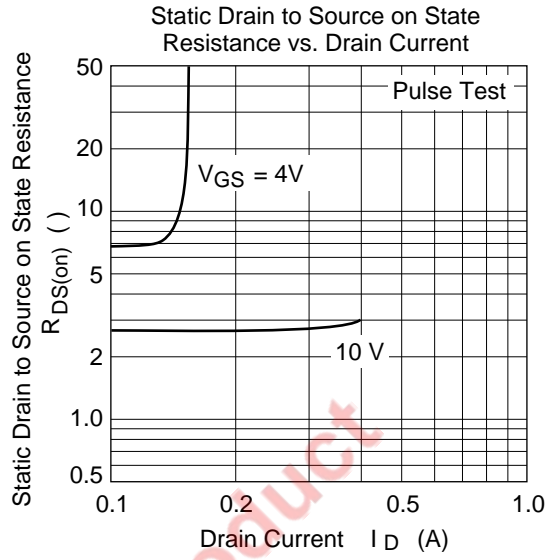
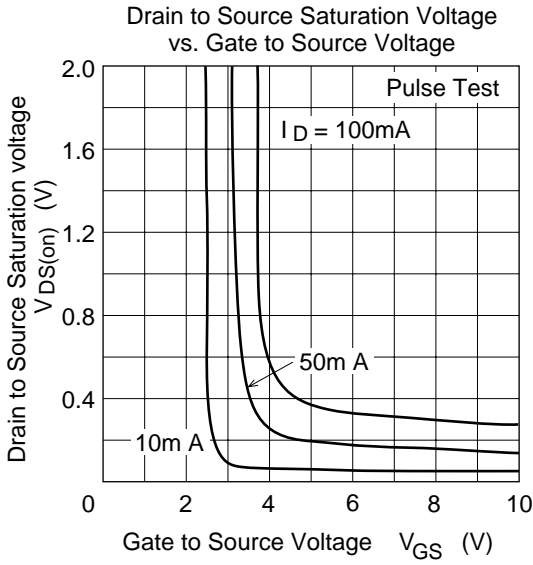
Main Characteristics

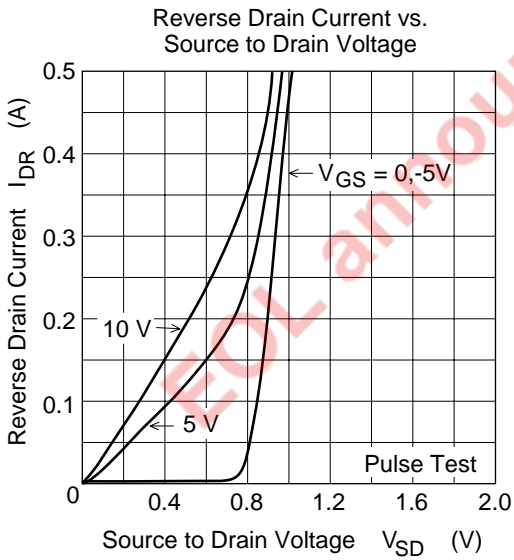
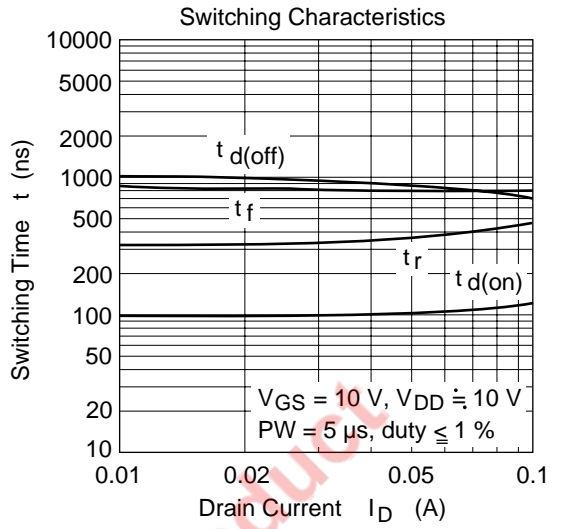
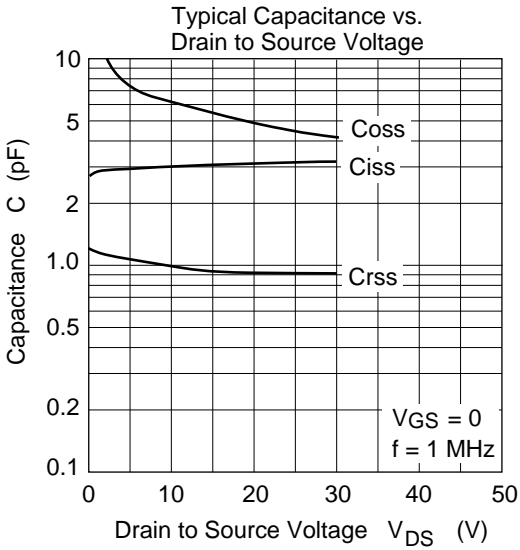


*Value on the alumina ceramic board. (12.5x20x0.7mm)

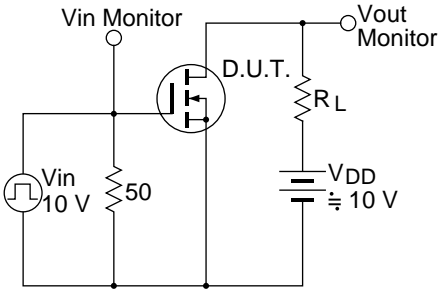
Value on the alumina ceramic board. (12.5x20x0.7mm)



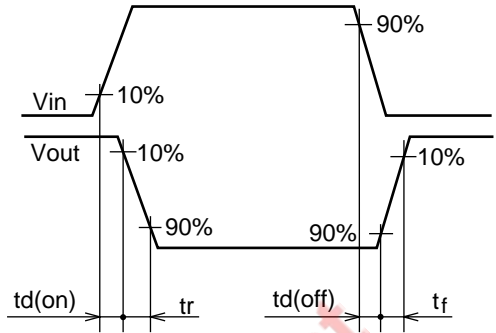




Switching Time Test Circuit



Waveforms

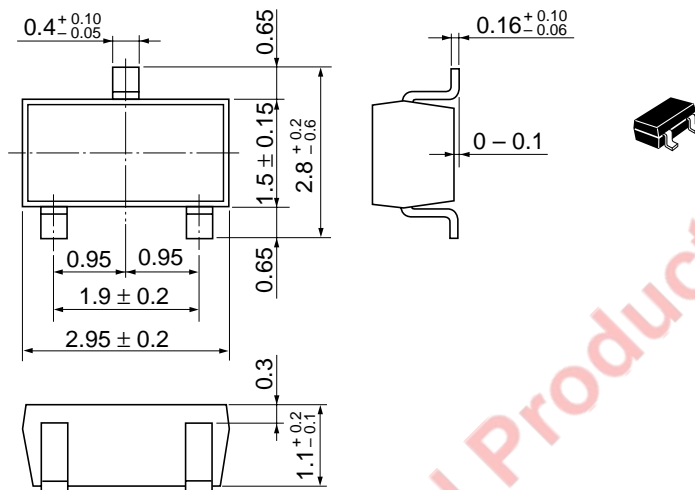


EOL announced Product

Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.011 g

Cautions

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