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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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RJJ0621DPP

P Channel Power MOS FET
High Speed Switching

REJ03G1624-0200

Rev.2.00

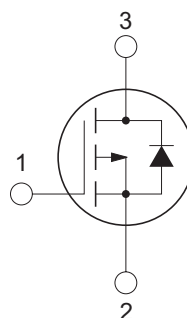
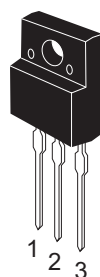
Jun 16, 2008

Features

- V_{DSS} : -60 V
- $R_{DS(on)}$: 56 m Ω (MAX)
- I_D : -25 A
- Lead Mount Type (TO-220FN)

Outline

RENESAS Package code: PRSS0003AB-A
(Package name : TO-220FN)



1. Gate
2. Drain
3. Source

Application

- DC-DC converter, Motor control, Solenoid control, etc.

Absolute Maximum Ratings

($T_c = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit	Conditions
Drain to source voltage	V_{DSS}	-60	V	$V_{GS} = 0\text{ V}$
Gate to source voltage	V_{GSS}	+10/-20	V	$V_{DS} = 0\text{ V}$
Drain current (DC)	I_D	-25	A	
Drain current (Pulsed)*1	$I_{D(pulse)}$	-50	A	
Avalanche current	I_{AP}	-25	A	$L = 100\ \mu\text{H}$
Channel dissipation	P_{ch}	35	W	
Channel to case thermal impedance	θ_{ch-c}	3.57	$^\circ\text{C/W}$	
Channel temperature	T_{ch}	-55 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

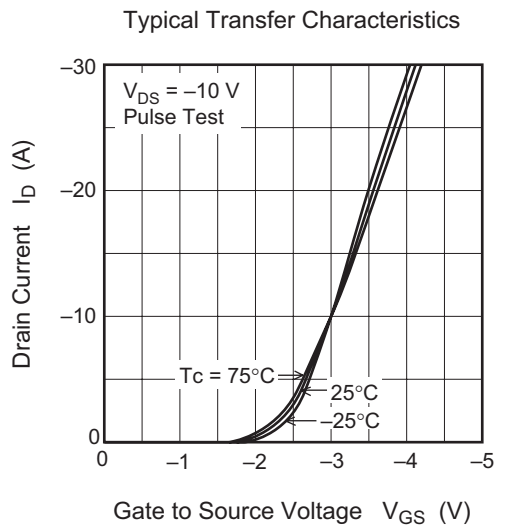
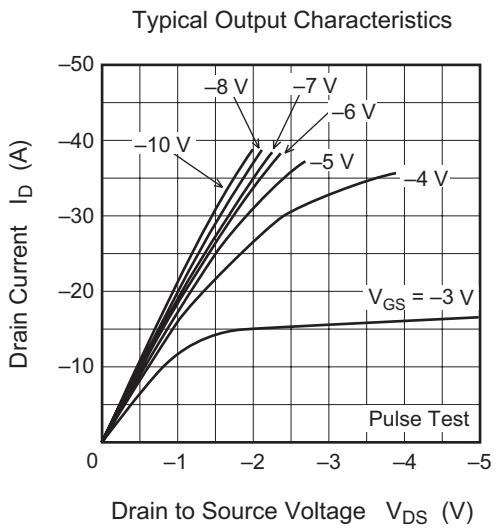
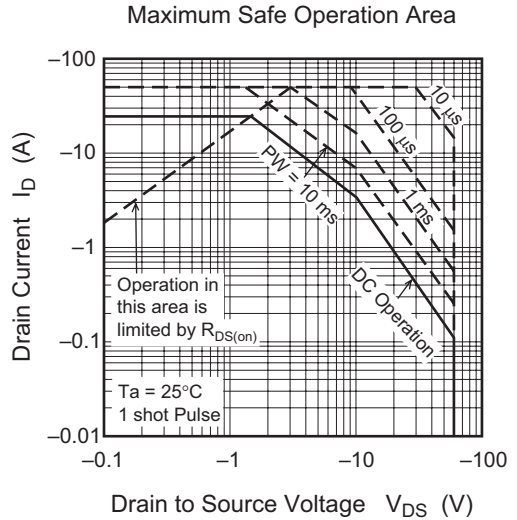
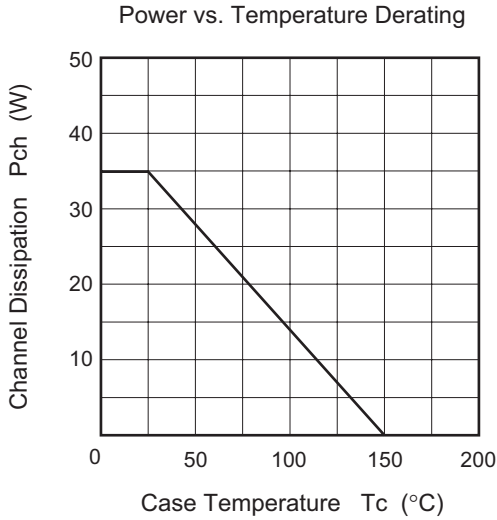
Note: 1. Pulse width limited by safe operating area.

Electrical Characteristics

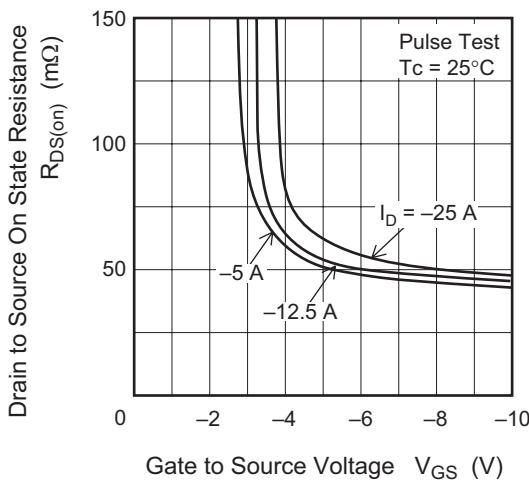
(T_c = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Drain to source breakdown voltage	V _{(BR)DSS}	-60	—	—	V	I _D = -10 mA, V _{GS} = 0 V
Drain to source leakage current	I _{DSS}	—	—	-1	μA	V _{DS} = -60 V, V _{GS} = 0 V
Gate to source leak current	I _{GSS}	—	—	0.1	μA	V _{GS} = +10 V, V _{DS} = 0 V
Gate to source leak current	I _{GSS}	—	—	-0.1	μA	V _{GS} = -20 V, V _{DS} = 0 V
Gate to source cutoff voltage	V _{GS(off)}	-1.0	-1.7	-2.5	V	I _D = -1 mA, V _{DS} = -10 V
Static drain to source on state resistance	R _{DS(on)}	—	45	56	mΩ	I _D = -12.5 A, V _{GS} = -10 V
		—	65	95	mΩ	I _D = -12.5 A, V _{GS} = -4.5 V
Input capacitance	C _{iss}	—	1550	—	pF	V _{DS} = -10 V V _{GS} = 0 V f = 1 MHz
Output capacitance	C _{oss}	—	190	—	pF	
Reverse transfer capacitance	C _{rss}	—	100	—	pF	
Turn-on delay time	t _{d(on)}	—	15	—	ns	V _{DD} = -30 V I _D = -12.5 A V _{GS} = -10 V R _G = 25 Ω
Rise time	t _r	—	25	—	ns	
Turn-off delay time	t _{d(off)}	—	100	—	ns	
Fall time	t _f	—	50	—	ns	
Body-drain diode forward voltage	V _{DF}	—	-0.9	-1.5	V	I _F = -12.5 A, V _{GS} = 0 V

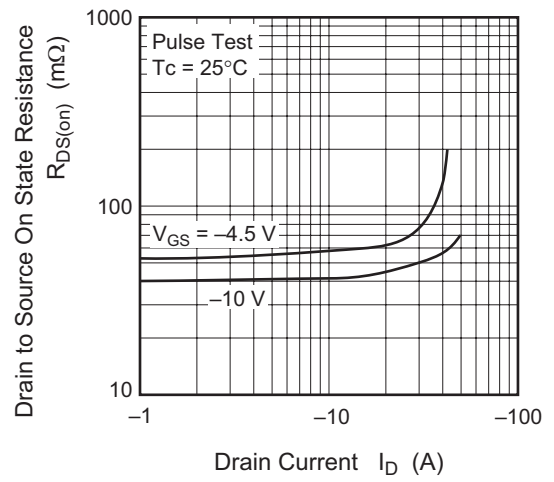
Main Characteristics



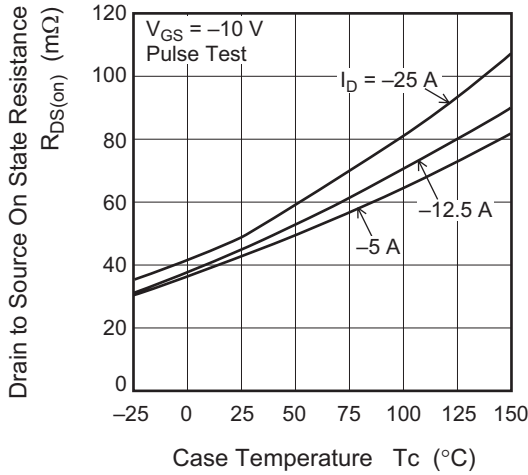
Static Drain to Source on State Resistance vs. Gate to Source Voltage



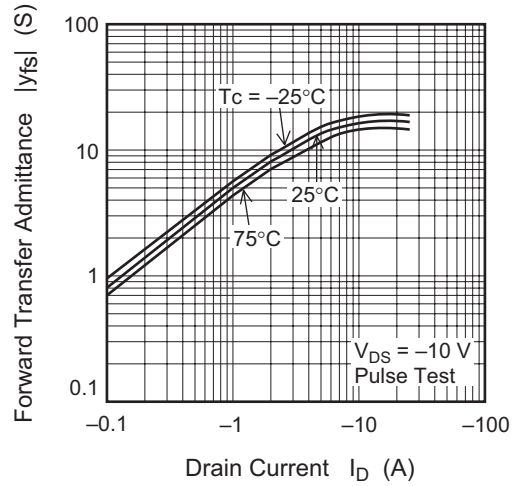
Static Drain to Source on State Resistance vs. Drain Current



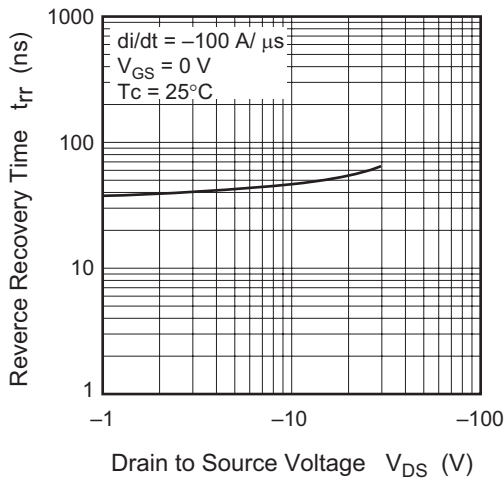
Drain to Source on State Resistance vs. Temperature



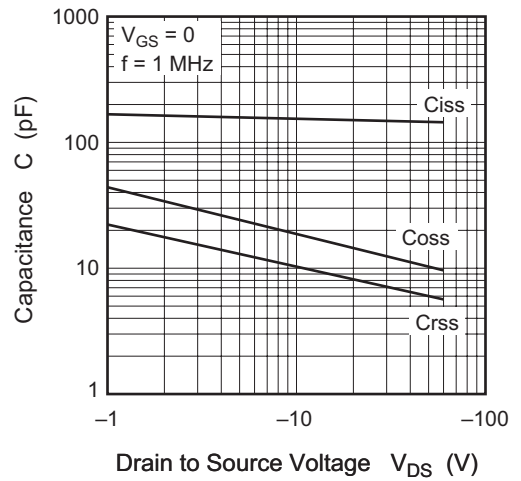
Forward Transfer Admittance vs. Drain Current



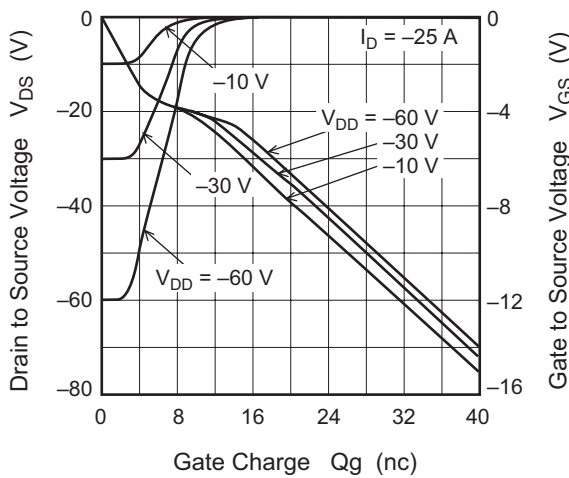
Body-Drain Diode Reverse Recovery Time



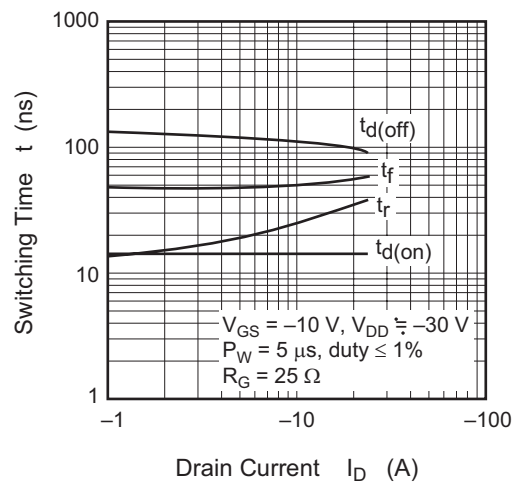
Typical Capacitance vs. Drain to Source Voltage



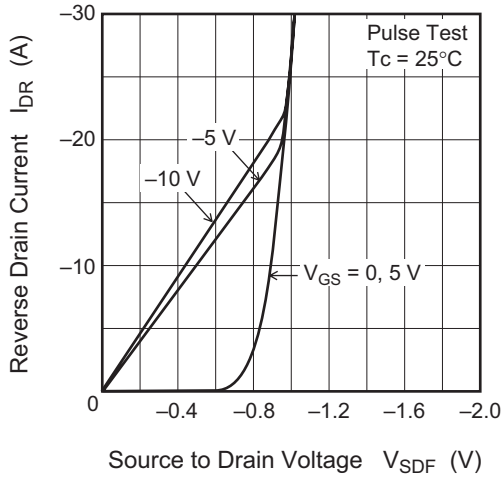
Dynamic Input Characteristics



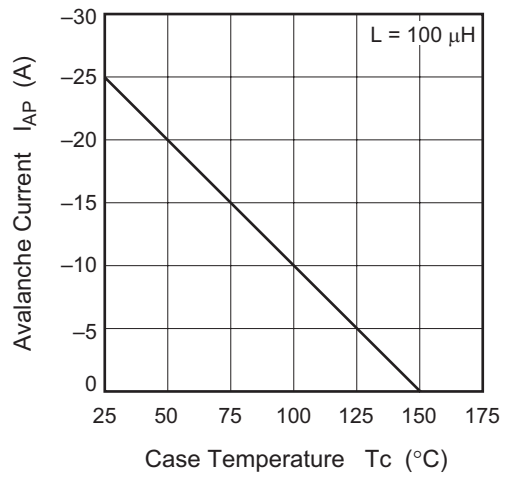
Switching Characteristics



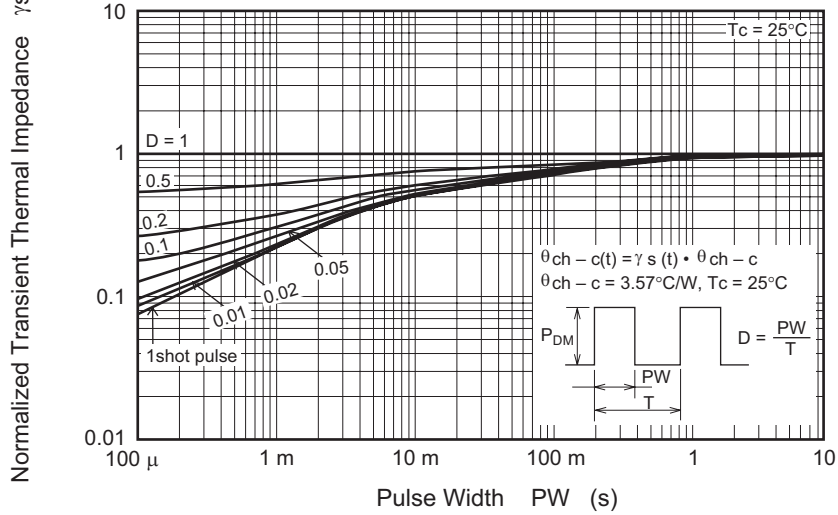
Reverse Drain Current vs. Source to Drain Voltage



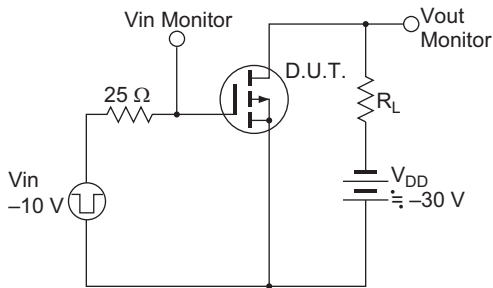
Avalanche Current vs. Case Temperature



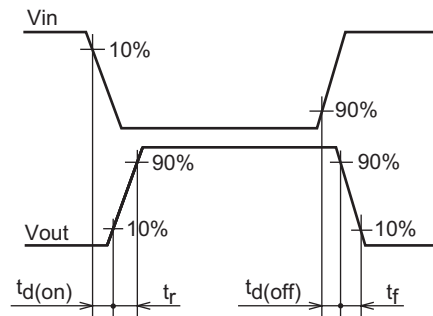
Normalized Transient Thermal Impedance vs. Pulse Width



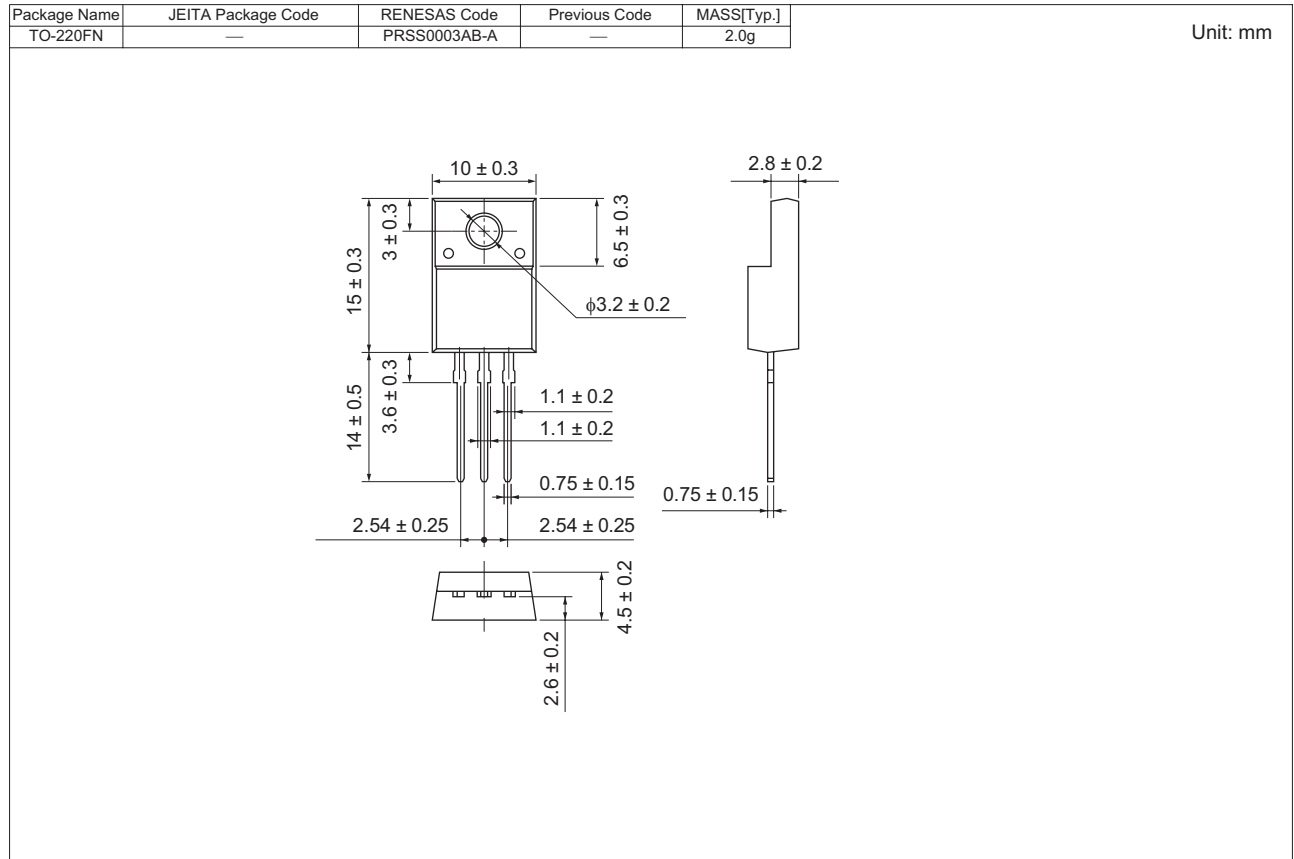
Switching Time Test Circuit



Switching Time Waveform



Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
RJJ0621DPP-00-T2	50 pcs	Magazine (Tube)

Notes:

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450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.
Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7858/7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2377-3473

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 3518-3399

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1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510