

RJJ0621DPP-E0

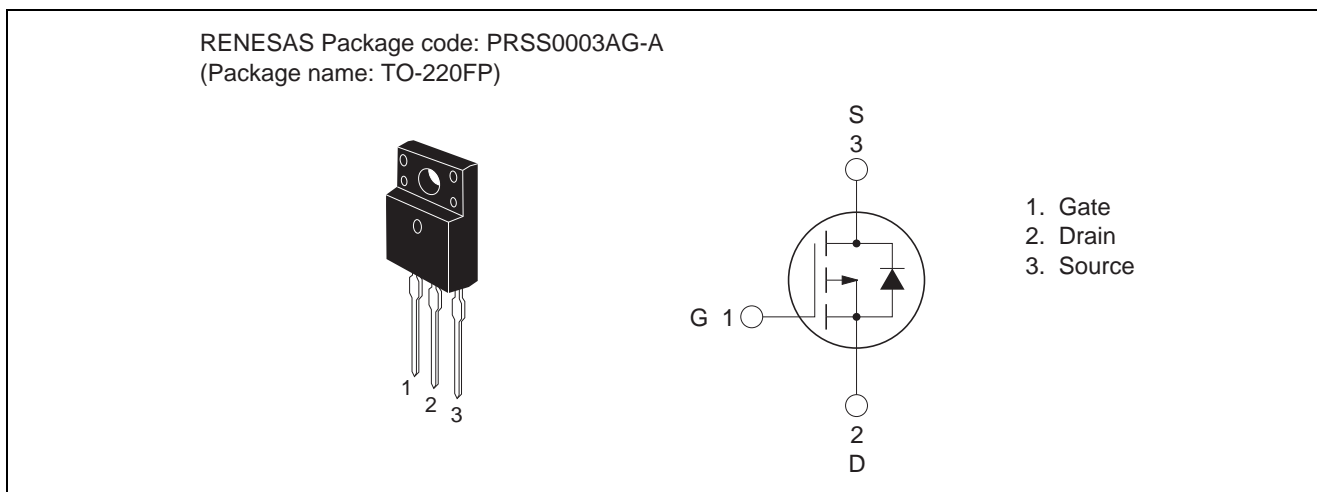
P Channel Power MOS FET
High Speed Switching

R07DS0797EJ0100
Rev.1.00
Jun 08, 2012

Features

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

Outline



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}	25	W	
Channel to case thermal impedance	θ_{ch-c}	5.0	$^\circ\text{C}/\text{W}$	
Channel temperature	T_{ch}	-55 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

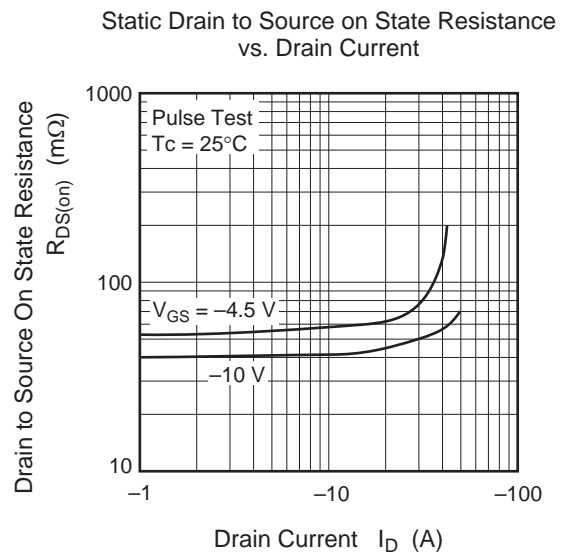
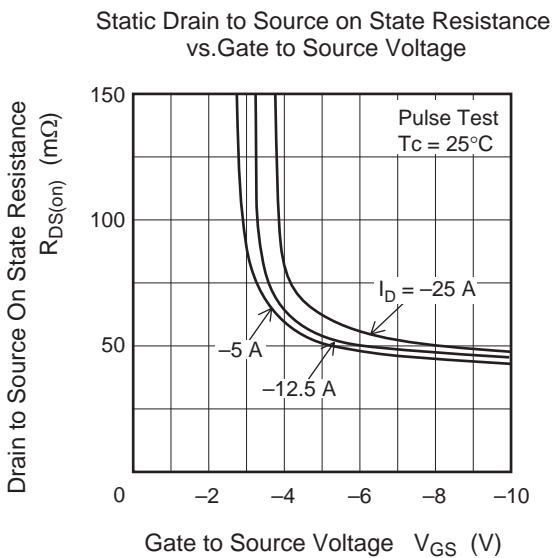
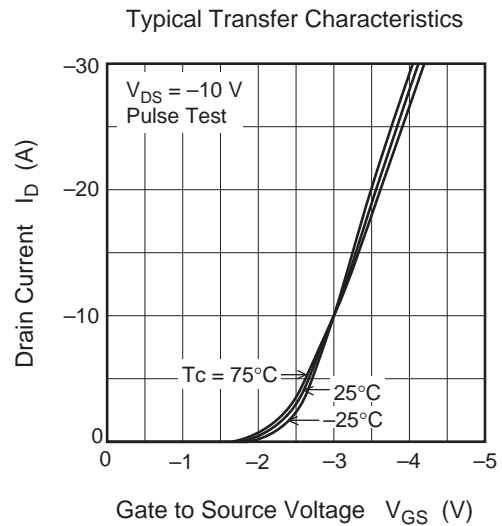
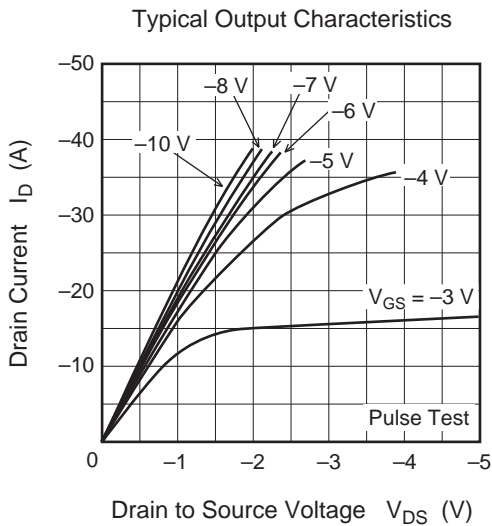
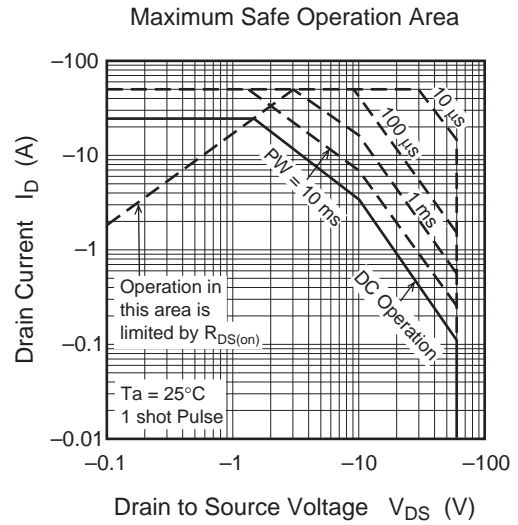
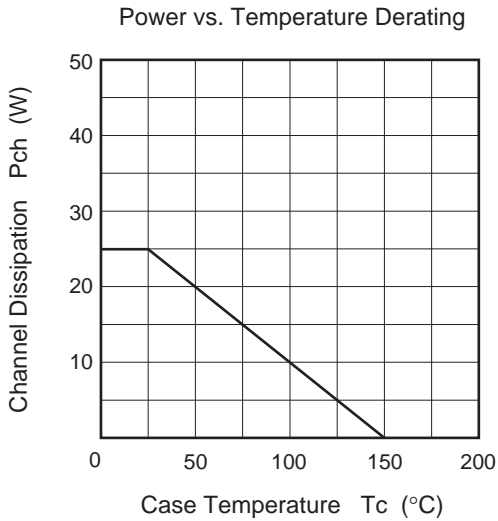
Note: 1. Pulse width limited by safe operating area.

Electrical Characteristics

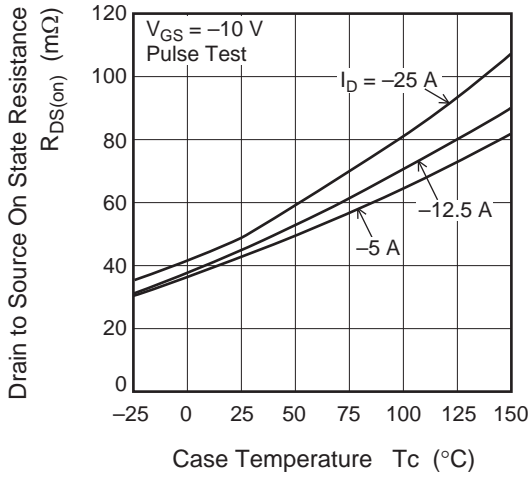
(T_c = 25°C)

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
Output capacitance	C _{oss}	—	190	—	pF	V _{GS} = 0 V
Reverse transfer capacitance	C _{rss}	—	100	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	15	—	ns	V _{DD} = -30 V
Rise time	t _r	—	25	—	ns	I _D = -12.5 A
Turn-off delay time	t _{d(off)}	—	100	—	ns	V _{GS} = -10 V
Fall time	t _f	—	50	—	ns	R _G = 25 Ω
Body-drain diode forward voltage	V _{DF}	—	-0.9	-1.5	V	I _F = -12.5 A, V _{GS} = 0 V

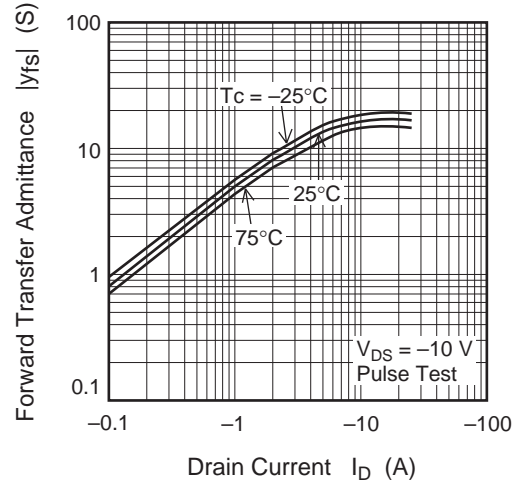
Main Characteristics



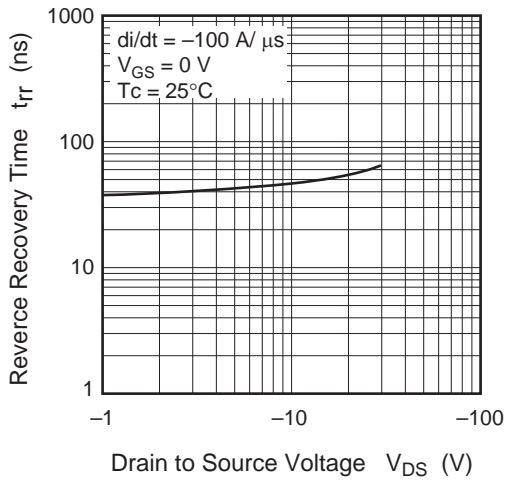
Drain to Source on State Resistance vs. Temperature



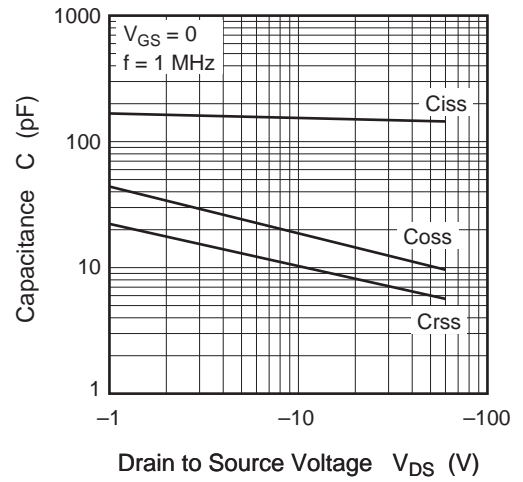
Forward Transfer Admittance vs. Drain Current



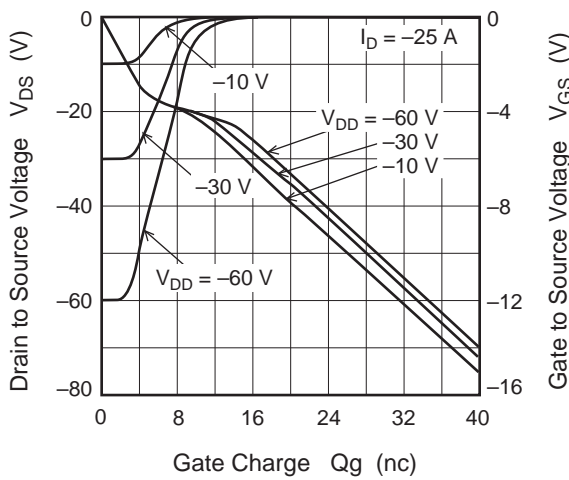
Body-Drain Diode Reverse Recovery Time



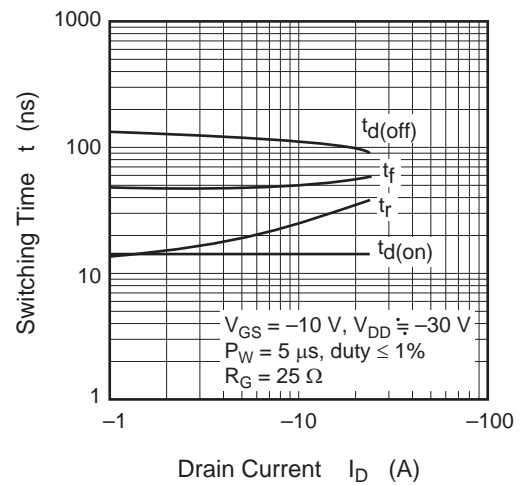
Typical Capacitance vs. Drain to Source Voltage



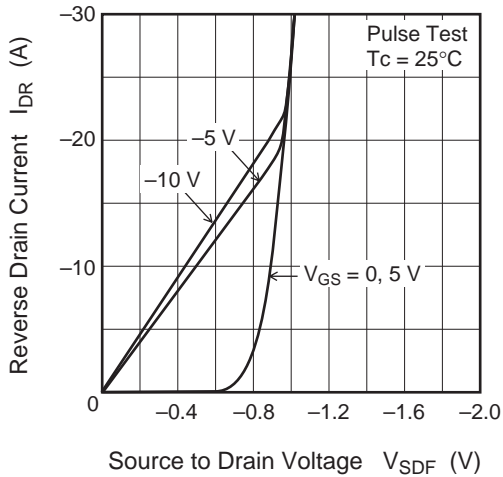
Dynamic Input Characteristics



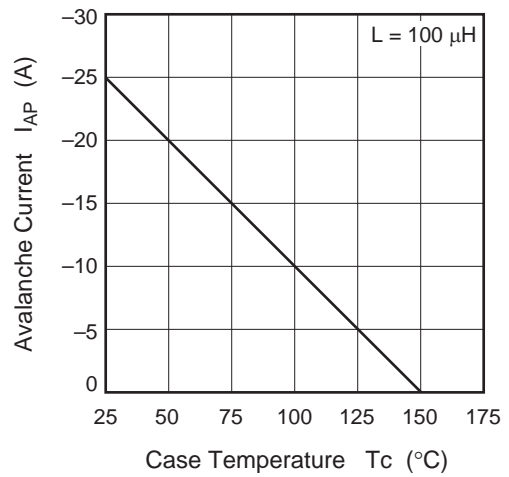
Switching Characteristics



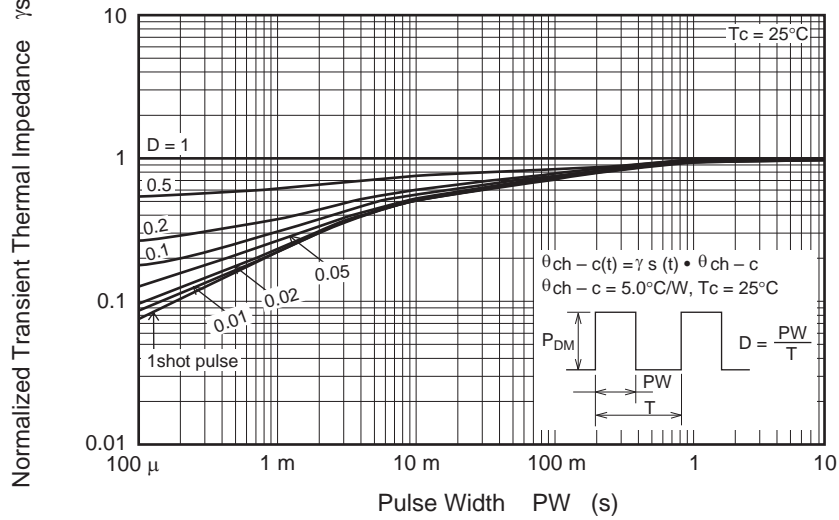
Reverse Drain Current vs. Source to Drain Voltage



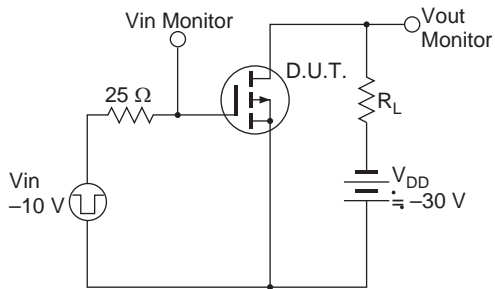
Avalanche Current vs. Case Temperature



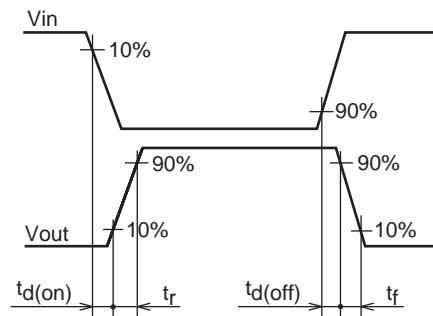
Normalized Transient Thermal Impedance vs. Pulse Width



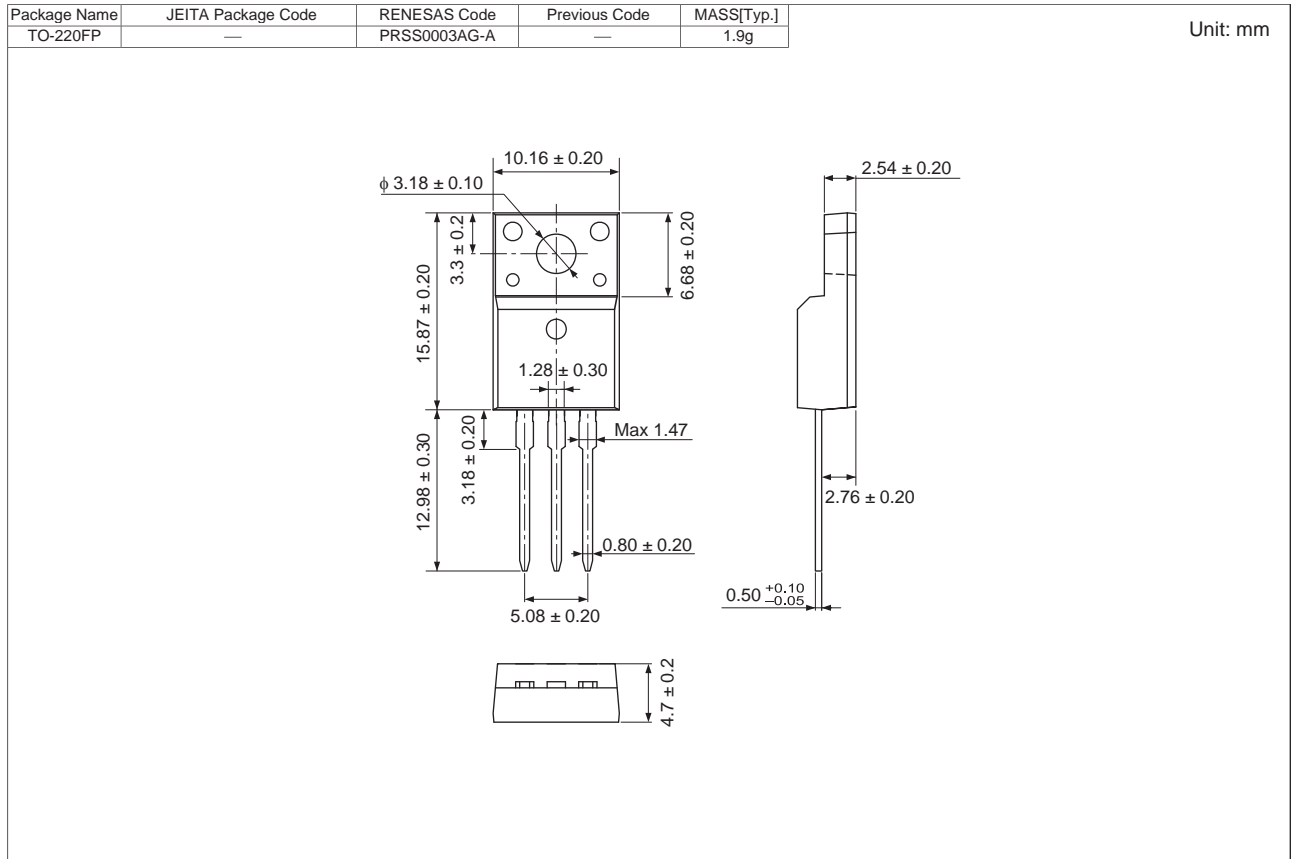
Switching Time Test Circuit



Switching Time Waveform



Package Dimensions



Ordering Information

Orderable Part Number	Quantity	Shipping Container
RJJ0621DPP-E0-T2	50 pcs	Magazine (Tube)

Note: The symbol of 2nd "-" is occasionally presented as "#".

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Renesas Electronics America Inc.
2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.
Tel: +1-408-588-6000, Fax: +1-408-588-6130

Renesas Electronics Canada Limited
1101 Nicholson Road, Newmarket, Ontario L3Y 9C3, Canada
Tel: +1-905-898-5441, Fax: +1-905-898-3220

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: +44-1628-585-100, Fax: +44-1628-585-900

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-65030, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
7th Floor, Quantum Plaza, No.27 ZhiChunLu Haidian District, Beijing 100083, P.R.China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

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

Renesas Electronics Hong Kong Limited
Unit 1601-1613, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2886-9318, Fax: +852 2886-9022/9044

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei, Taiwan
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
1 HarbourFront Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: +65-6213-0200, Fax: +65-6278-9001

Renesas Electronics 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: +60-3-7955-3390, Fax: +60-3-7955-9510

Renesas Electronics Korea Co., Ltd.
11F., Samik Laved or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5141