

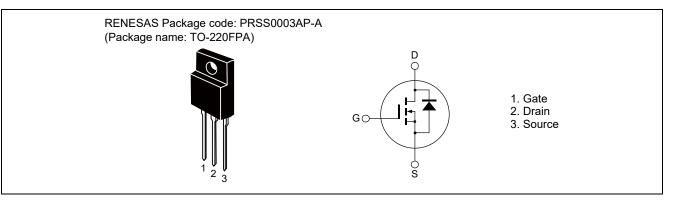
RJK6035DPP-A0

600V - 6A - MOS FET High Speed Power Switching R07DS1434EJ0100 Rev.1.00 Mar.10.2021

Features

- Low on-resistance
- $R_{DS(on)}$ = 1.1 Ω typ. (at I_D = 3 A, V_{GS} = 10 V, Ta = 25 °C)
- Low leakage current
- High speed switching
- Quality grade: Standard

Outline



Absolute Maximum Ratings

			(Ta = 25 °C)
Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	600	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	ID Notes4	6	А
Drain peak current	I _{D (pulse)} Notes1	24	А
Body-drain diode reverse drain current	I _{DR}	6	А
Body-drain diode reverse drain peak current	I _{DR (pulse)} Notes1	24	А
Avalanche current	AP Notes3	6	А
Avalanche energy	EAR Notes3	1.65	mJ
Channel dissipation	Pch Notes2	29.5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: Continuous heavy condition (e.g. high temperature/voltage/current or high variation of temperature) may affect a reliability even if it is within the absolute maximum ratings. Please consider derating condition for appropriate reliability in reference Renesas Semiconductor Reliability Handbook (Recommendation for Handling and Usage of Semiconductor Devices) and individual reliability data.

- Notes: 1. $PW \leq$ 10 $\mu s,\,duty\,\,cycle \leq$ 1 %
 - 2. Value at Tc = 25 °C
 - 3. STch = 25 °C, Tch \leq 150 °C
 - 4. Limited by maximum safe operation area



Thermal Resistance Characteristics

(Ta = 25 °C)

Item	Symbol	Max. Value Notes5	Unit
Channel to case thermal impedance	θch-c	4.23	°C/W

Notes: 5. Designed target value on Renesas measurement condition. (Not tested)

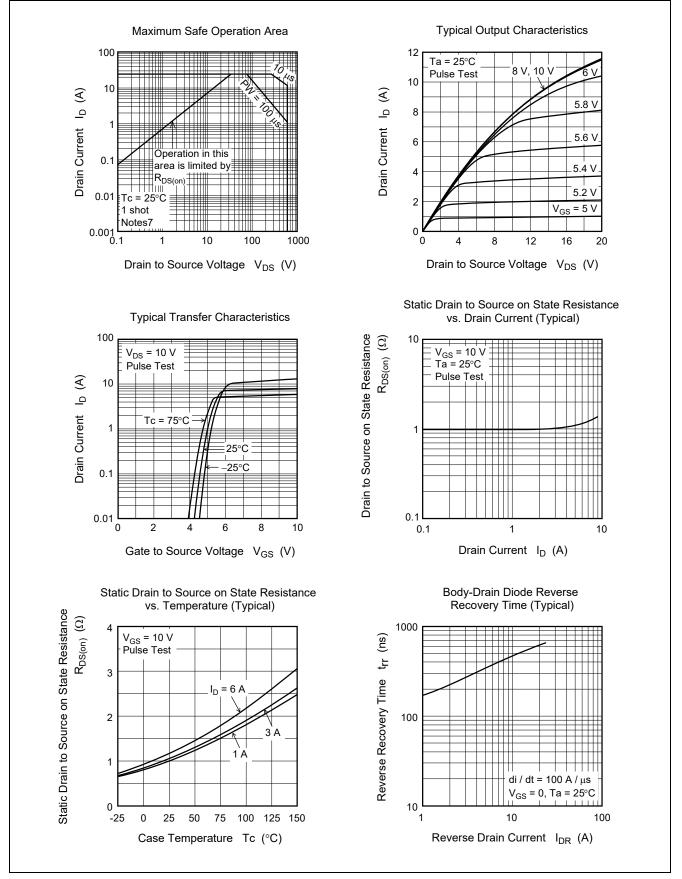
Electrical Characteristics

						(Ta = 25 °C)
Item	Symbol	Min	Тур	Мах	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	600	_		V	I _D = 10 mA, V _{GS} = 0
Zero gate voltage drain current	IDSS	_	_	1	μA	V _{DS} = 600 V, V _{GS} = 0
Gate to source leak current	lgss	_	_	±0.1	μA	$V_{GS} = \pm 30 \text{ V}, \text{ V}_{DS} = 0$
Gate to source cutoff voltage	V _{GS(off)}	3.0	_	4.5	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state	R _{DS(on)}	_	1.10	1.37	Ω	I_D = 3 A, V_{GS} = 10 V ^{Notes6}
resistance						
Input capacitance	Ciss		765		pF	V _{DS} = 25 V
Output capacitance	Coss	_	78	—	pF	V _{GS} = 0 f = 1 MHz
Reverse transfer capacitance	Crss	_	9	—	pF	
Turn-on delay time	t _{d(on)}	_	12	—	ns	I _D = 3 A
Rise time	tr	_	4.6	_	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	_	65		ns	R _L = 100 Ω Rg = 10 Ω
Fall time	tf	_	5.3		ns	
Total gate charge	Qg	_	20		nC	V _{DD} = 480 V
Gate to source charge	Qgs		4		nC	V _{GS} = 10 V I _D = 6 A
Gate to drain charge	Qgd		10		nC	
Body-drain diode forward voltage	VDF	_	0.9	1.5	V	$I_F = 6 A, V_{GS} = 0^{Notes6}$
Body-drain diode reverse recovery time	t _{rr}		360	—	ns	I _F = 6 A, V _{GS} = 0 di _F /dt = 100 A/μs

Notes: 6. Pulse test

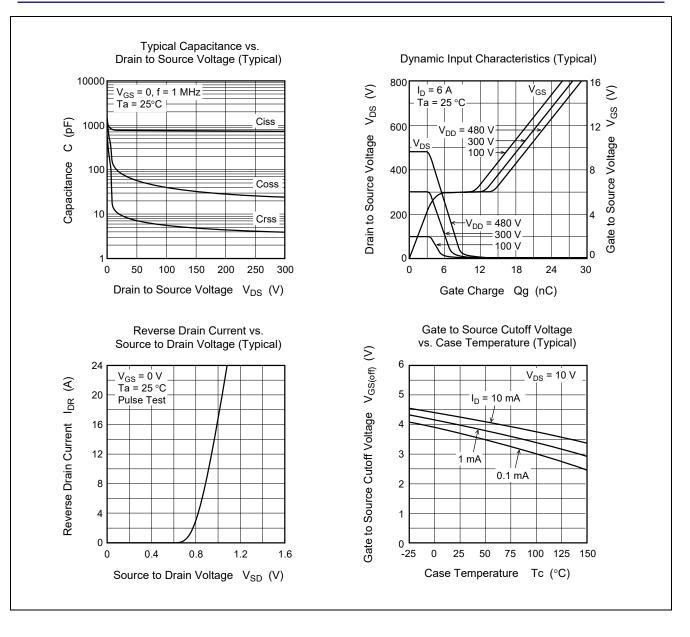


Main Characteristics

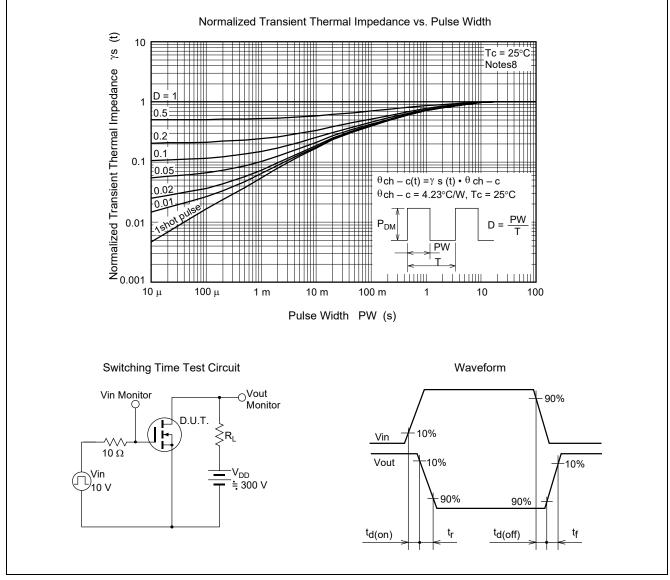


Notes: 7. Designed target value on Renesas measurement condition. (Not tested) Renesas recommends that operating conditions are designed according to a document "Power MOS FET • IGBT Attention of Handling Semiconductor Devices".





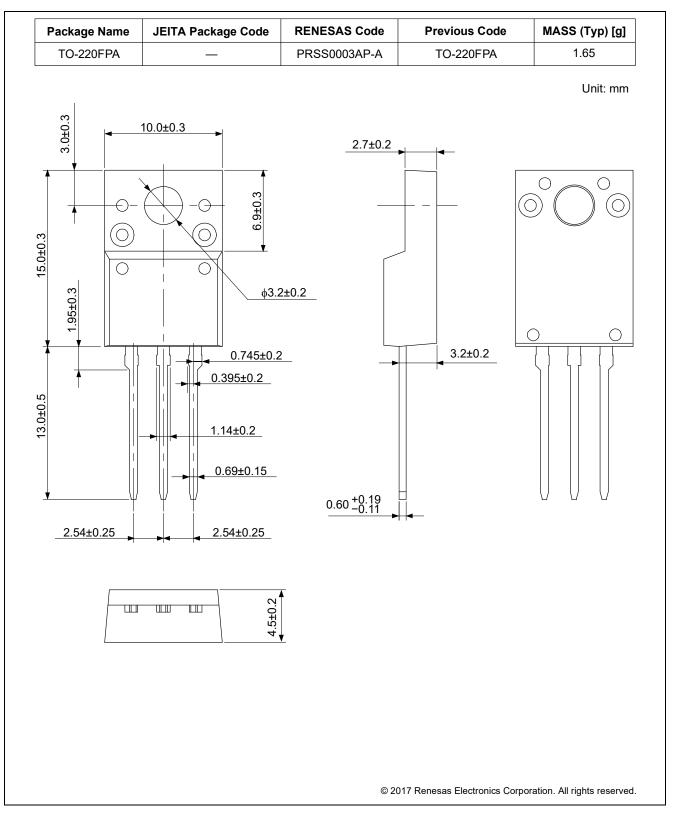




Notes: 8. Designed target value on Renesas measurement condition. (Not tested)



Package Dimensions



Ordering Information

Orderable Part No.	Quantity	Shipping Container	
RJK6035DPP-A0#T2	2500 pcs	Box (Tube)	



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