RJK4007DPP

Nch Power MOS FET
High-Speed Switching Use

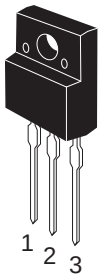
REJ03G0581-0100
Under development
Rev.1.00
Mar.24.2005

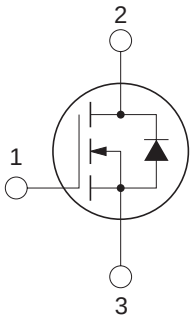
Features

- V_{DSS} : 400 V
- $r_{DS(ON)}$: 0.55 Ω (MAX.)
- I_D : 7.6 A
- Lead Mount Type (TO-220FN)

Outline

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





1. Gate
2. Drain
3. Source

Applications

- Inverter lighting equipment, SMPS, etc.

Maximum Ratings

(Tc = 25°C)

Parameter	Symbol	Ratings	Unit	Conditions
Drain-source voltage	V_{DSS}	400	V	V_{GS} = 0 V
Gate-source voltage	V_{GSS}	±30	V	V_{DS} = 0 V
Drain current (DC)	I_D	7.6	A	
Drain current (Pulsed)	$I_{D\ (pulse)}$	30	A	
Avalanche current	I_{DA}	14	A	L = 200 µH
Maximum power dissipation	P_{DS}	32	W	
Channel temperature	Tch	–55 to +150	°C	
Storage temperature	Tstg	–55 to +150	°C	

Electrical Characteristics

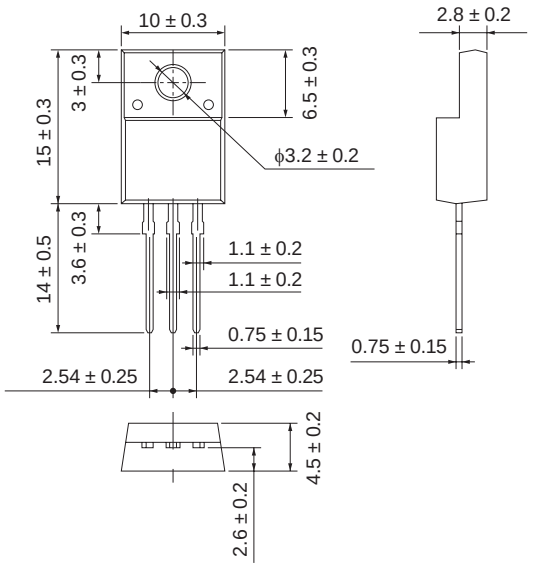
(Tch = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Drain-source breakdown voltage	$V_{(BR)DSS}$	400	—	—	V	I_D = 1 mA, V_{GS} = 0 V
Drain-source leakage current	I_{DSS}	—	—	1	mA	V_{DS} = 400 V, V_{GS} = 0 V
Gate-source leakage current	I_{GSS}	—	—	±0.1	µA	V_{GS} = ±25 V, V_{DS} = 0 V
Gate-source threshold voltage	$V_{GS(th)}$	3.0	3.5	4.0	V	I_D = 1 mA, V_{DS} = 10 V
Drain-source on-state resistance	$r_{DS(ON)}$	—	0.47	0.55	Ω	I_D = 7 A, V_{GS} = 10 V
Drain-source on-state voltage	$V_{DS(ON)}$	—	3.29	3.85	V	I_D = 7 A, V_{GS} = 10 V
Input capacitance	Ciss	—	850	—	pF	V_{DS}=25 V, V_{GS} = 0 V, f = 1 MHz
Output capacitance	Coss	—	140	—	pF	
Reverse transfer capacitance	Crss	—	20	—	pF	
Turn-on delay time	$t_{d(on)}$	—	35	—	ns	V_{DD} = 200 V, I_D = 7 A, V_{GS} = 10 V, R_{GEN} = R_{GS} = 50 Ω
Turn-on rise time	t_r	—	30	—	ns	
Turn-off delay time	$t_{d(off)}$	—	95	—	ns	
Turn-off fall time	t_f	—	35	—	ns	
Source-drain voltage	V_{SD}	—	1.0	1.5	V	I_S = 7 A, V_{GS} = 0 V
Thermal resistance	$R_{th(ch-c)}$	—	—	3.9	°C/W	Channel to case

Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
–	PRSS0003AB-A	TO-220FN	2.0g

Unit: mm



Order Code

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Straight type	Vinyl sack	50	Type name - 00T	RJK4007DPP-00T
Lead form	Vinyl sack	50	Type name - Lead forming code (1 figure of alphanumeric characters) + 0T	RJK4007DPP-80T

Note: It is the case of a standard. In addition, please confirm the packing specification for every product about the contents of packing.

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