

HAT2179R

Silicon N Channel MOS FET
High Speed Power Switching

REJ03G1570-0100

Rev.1.00

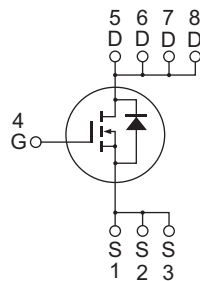
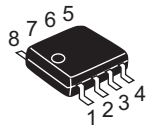
Jul 06, 2007

Features

- Low on-resistance
- Low drive current
- High density mounting

Outline

RENESAS Package code: PRSP0008DD-D
(Package name: SOP-8<FP-8DAV>)



1, 2, 3 Source
4 Gate
5, 6, 7, 8 Drain

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	I_D	0.7	A
Drain peak current	$I_{D(pulse)}$ ^{Note1}	2.0	A
Body-drain diode reverse drain current	I_{DR}	0.7	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ ^{Note1}	2.0	A
Channel dissipation	P_{ch} ^{Note2}	2.5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%

2. When using the glass epoxy board (FR4 40 x 40 x 1.6 mm), PW ≤ 10 s

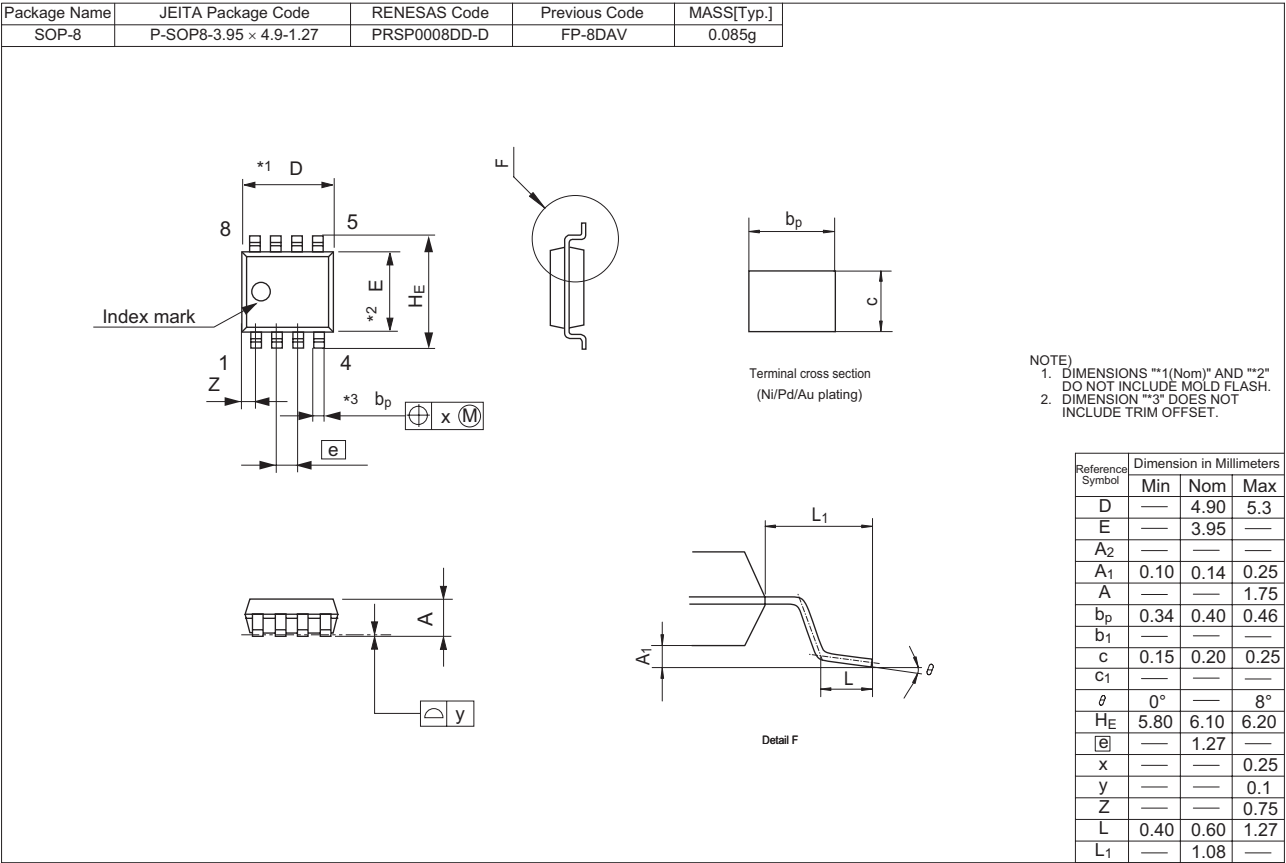
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	600	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	1	μA	$V_{DS} = 600 \text{ V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 0.1	μA	$V_{GS} = \pm 30 \text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	3.0	—	5.0	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ mA}$
Forward transfer admittance	$ y_{fs} $	0.8	1.2	—	S	$I_D = 0.4 \text{ A}$, $V_{DS} = 10 \text{ V}$ ^{Note3}
Static drain to source on state resistance	$R_{DS(on)}$	—	3.5	4.5	Ω	$I_D = 0.4 \text{ A}$, $V_{GS} = 10 \text{ V}$ ^{Note3}
Input capacitance	C_{iss}	—	280	—	pF	$V_{DS} = 25 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	31	—	pF	
Reverse transfer capacitance	C_{rss}	—	3.8	—	pF	
Turn-on delay time	$t_{d(on)}$	—	24	—	ns	$I_D = 0.4 \text{ A}$ $V_{GS} = 10 \text{ V}$ $R_L = 750 \Omega$ $R_g = 10 \Omega$
Rise time	t_r	—	15	—	ns	
Turn-off delay time	$t_{d(off)}$	—	50	—	ns	
Fall time	t_f	—	58	—	ns	
Total gate charge	Q_g	—	10	—	nC	$V_{DD} = 480 \text{ V}$ $V_{GS} = 10 \text{ V}$ $I_D = 0.7 \text{ A}$
Gate to source charge	Q_{gs}	—	1.6	—	nC	
Gate to drain charge	Q_{gd}	—	5.4	—	nC	
Body-drain diode forward voltage	V_{DF}	—	0.8	1.2	V	$I_F = 0.7 \text{ A}$, $V_{GS} = 0$ ^{Note3}
Body-drain diode reverse recovery time	t_{rr}	—	200	—	ns	$I_F = 0.7 \text{ A}$, $V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Notes: 3. Pulse test

Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
HAT2179R-EL-E	2500 pcs	Taping

Notes:

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