

HAT2085R

Silicon N Channel MOS FET
High Speed Power Switching

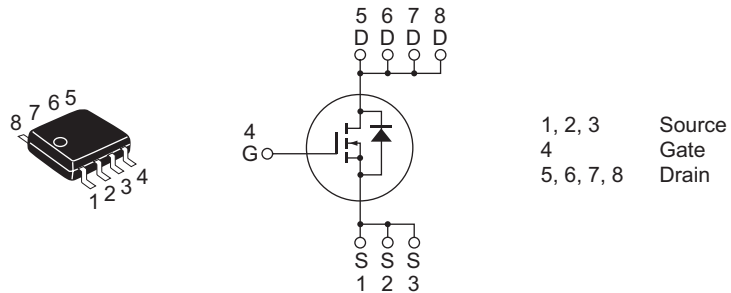
REJ03G1181-0200
(Previous: ADE-208-1232)
Rev.2.00
Sep 07, 2005

Features

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

Outline

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



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	200	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	2	A
Drain peak current	I _{D (pulse)} ^{Note 1}	16	A
Body to drain diode reverse drain current	I _{DR}	2	A
Channel dissipation	P _{ch} ^{Note 2}	2.5	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	–55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%

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

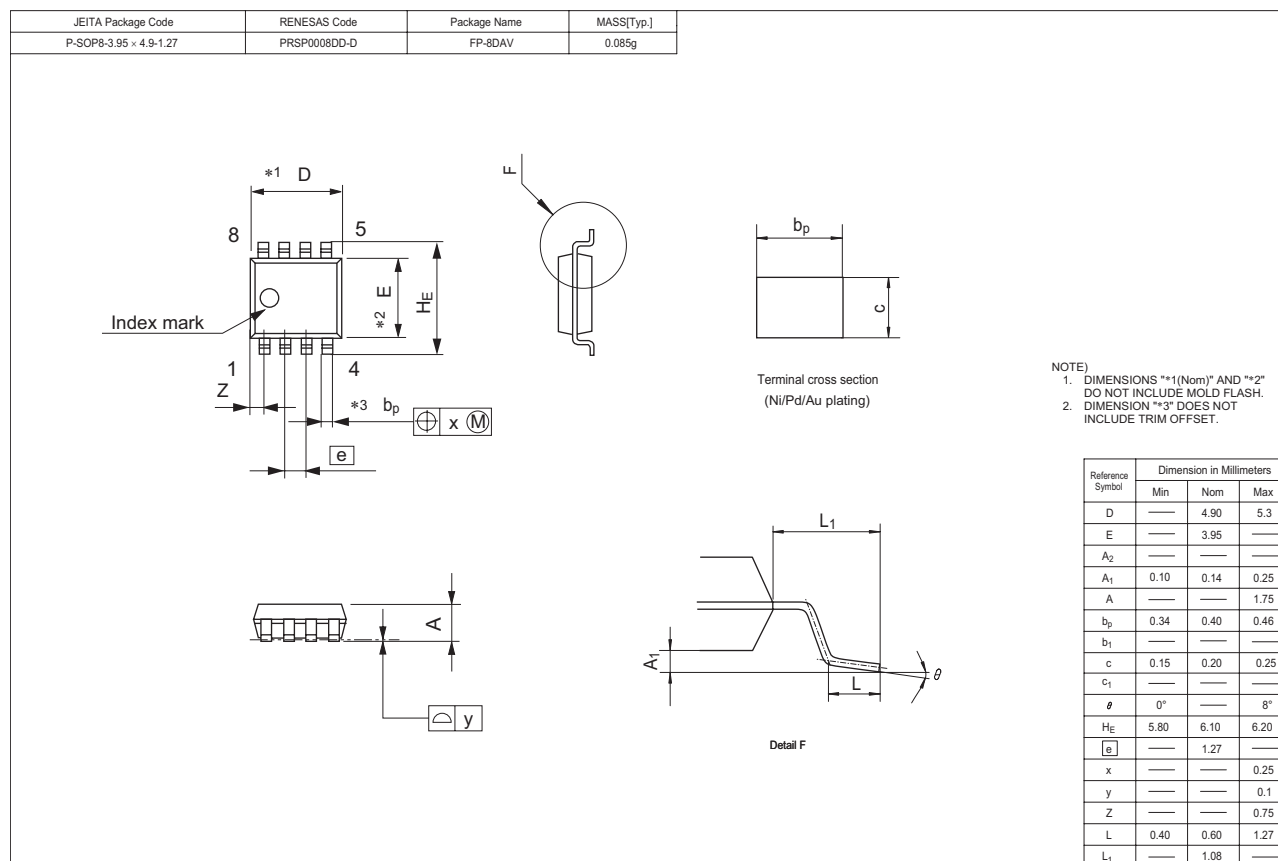
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	200	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source leak current	I _{GSS}	—	—	±0.1	μA	V _{GS} = ±30 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	1	μA	V _{DS} = 200 V, V _{GS} = 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 resistance	R _{DS (on)}	—	0.49	0.64	Ω	I _D = 1 A, V _{GS} = 10 V ^{Note 3}
Forward transfer admittance	y _{fs}	1.2	2.0	—	S	I _D = 1 A, V _{DS} = 10 V ^{Note 3}
Input capacitance	C _{iSS}	—	300	—	pF	V _{DS} = 25 V
Output capacitance	C _{oss}	—	43	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	12	—	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	—	21	—	ns	V _{DD} = 100 V, I _D = 1 A
Rise time	t _r	—	12	—	ns	V _{GS} = 10 V
Turn-off delay time	t _{d (off)}	—	45	—	ns	R _L = 100 Ω
Fall time	t _f	—	10.5	—	ns	R _g = 10 Ω
Total gate charge	Q _g	—	10.2	—	nC	V _{DD} = 160 V
Gate to source charge	Q _{gs}	—	1.8	—	nC	V _{GS} = 10 V
Gate to drain charge	Q _{gd}	—	4.8	—	nC	I _D = 2 A
Body to drain diode forward voltage	V _{DF}	—	0.8	1.2	V	I _F = 2 A, V _{GS} = 0 ^{Note 3}
Body to drain diode reverse recovery time	t _{rr}	—	75	—	ns	I _F = 2 A, V _{GS} = 0 di _F /dt = 100 A/μs

Note: 3. Pulse test

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
HAT2085R-EL-E	2500 pcs	Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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Renesas Technology America, Inc.

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 Hong Kong Ltd.

7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.

10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology (Shanghai) Co., Ltd.

Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China
Tel: <86> (21) 6472-1001, Fax: <86> (21) 6415-2952

Renesas Technology Singapore Pte. Ltd.

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, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510