

HAT2087R

Silicon N Channel MOS FET High Speed Power Switching

REJ03G1182-0200

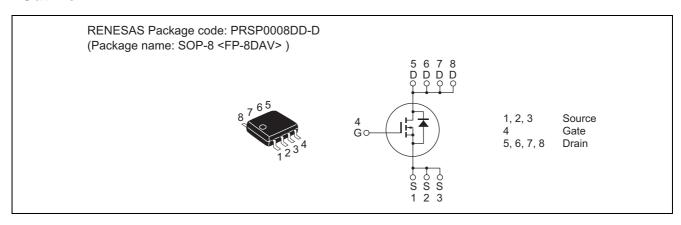
(Previous: ADE-208-1233)

Rev.2.00 Sep 07, 2005

Features

- Low on-resistance
- www.DataSheet&U.Low drive current
 - High density mounting

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Value	Unit	
Drain to source voltage	V_{DSS}	250	V	
Gate to source voltage	V_{GSS}	±30	V	
Drain current	I _D	2.5	A	
Drain peak current	I _{D (pulse)} Note 1	20	A	
Body to drain diode reverse drain current	I _{DR}	2.5	A	
Channel dissipation	Pch Note 2	2.5	W	
Channel temperature	Tch	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

Notes: 1. PW \leq 10 μ s, duty cycle \leq 1%

www.DataSheet4U.com 2. When using the glass epoxy board (FR4 $40 \times 40 \times 1.6$ mm), PW ≤ 10 s

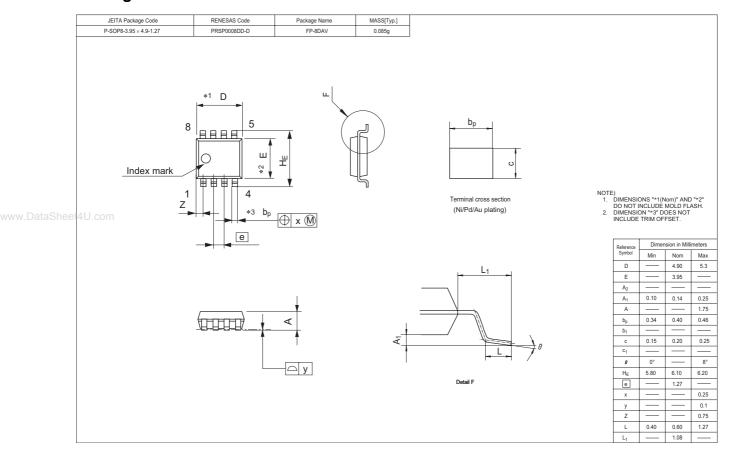
Electrical Characteristics

 $(Ta = 25^{\circ}C)$

Item	Symbol	Min	Тур	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	250			V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source leak current	I _{GSS}			±0.1	μΑ	$V_{GS} = \pm 30 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I _{DSS}	_	_	1	μΑ	$V_{DS} = 250 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	V _{GS (off)}	3.0	_	4.5	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	R _{DS (on)}	_	0.24	0.31	Ω	$I_D = 1.25 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note 3}}$
Forward transfer admittance	y _{fs}	2.1	3.5	_	S	$I_D = 1.25 \text{ A}, V_{DS} = 10 \text{ V}^{\text{Note 3}}$
Input capacitance	Ciss	_	830	_	pF	V _{DS} = 25 V
Output capacitance	Coss	_	105	_	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	_	21	_	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	_	22.5	_	ns	$V_{DD} = 125 \text{ V}, I_D = 1.25 \text{ A}$
Rise time	t _r	_	12.5	_	ns	V _{GS} = 10 V
Turn-off delay time	t _{d (off)}	_	82	_	ns	$R_L = 100 \Omega$
Fall time	t _f	_	17	_	ns	$Rg = 10 \Omega$
Total gate charge	Qg	_	23	_	nC	V _{DD} = 200 V
Gate to source charge	Qgs	_	3.2	_	nC	V _{GS} = 10 V
Gate to drain charge	Qgd	_	10.4	_	nC	I _D = 2.5 A
Body to drain diode forward voltage	V_{DF}	_	0.75	1.15	V	$I_F = 2.5 \text{ A}, V_{GS} = 0^{\text{Note } 3}$
Body to drain diode reverse recovery	t _{rr}	_	88	_	ns	$I_F = 2.5 \text{ A}, V_{GS} = 0$
time						di _F /dt = 100 A/μs

Note: 3. Pulse test

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
HAT2087R-EL-E	2500 pcs	Taping

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