HAT2292C

Silicon N Channel MOS FET
Power Switching

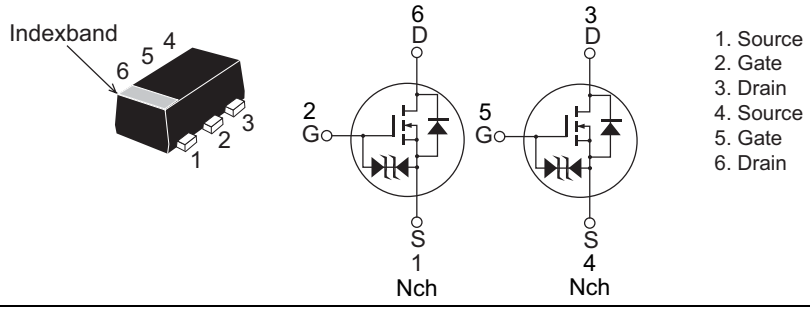
Rev.3
Jan.10.2007

Features

- 2 chips in 1 package
- 2.5V gate drive device
- Low on-resistance
- High density mounting

Outline

RENESAS Package code: PWSF0006JA-A
(Package name: CMFPAK-6)



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to Source voltage	V_{DSS}	20	V
Gate to Source voltage	V_{GSS}	±12	V
Drain current	I_D	1.5	A
Drain peak current	$I_{D\ (pulse)}$ Note1	6	A
Body - Drain diode reverse Drain current	I_{DR}	1.5	A
Channel dissipation	Pch Note2	650	mW
	Pch Note3	900	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%
2. 1 drive operation; When using the glass epoxy board (FR4 40 x 40 x 1.6mm), PW ≤ 10 s
3. 2 drive operation; When using the glass epoxy board (FR4 40 x 40 x 1.6mm), PW ≤ 10 s

Electrical Characteristics

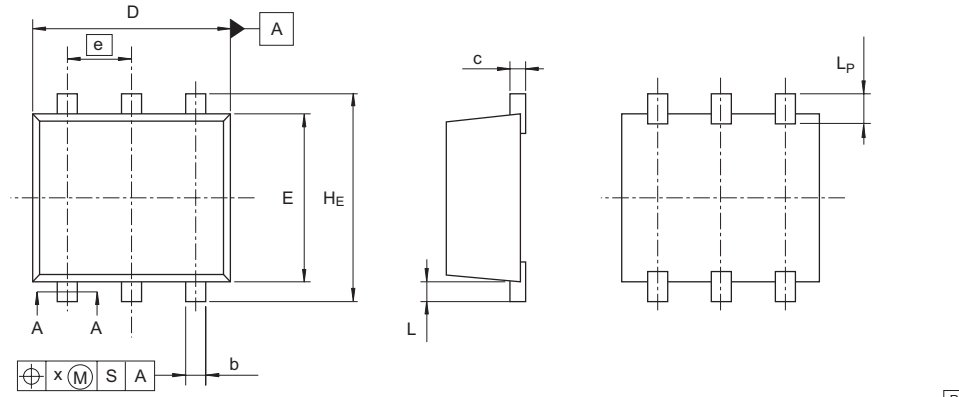
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to Source breakdown voltage	$V_{(BR)DSS}$	20	—	—	V	I_D = 10 mA, V_{GS} = 0
Gate to Source breakdown voltage	$V_{(BR)GSS}$	±12				I_G = ±100 μA, V_{DS} = 0
Gate to Source leak current	I_{GSS}	—	—	±10	μA	V_{GS} = ±10 V, V_{DS} = 0
Drain to Source leak current	I_{DSS}	—	—	1	μA	V_{DS} = 20 V, V_{GS} = 0
Gate to Source cutoff voltage	$V_{GS(off)}$	0.4	—	1.4	V	V_{DS} = 10 V, I_D = 1 mA
Drain to Source on state resistance	$R_{DS(on)}$	—	165	205	mΩ	I_D = 0.8 A, V_{GS} = 4.5 V Note4
	$R_{DS(on)}$	—	255	370	mΩ	I_D = 0.8 A, V_{GS} = 2.5 V Note4
Forward transfer admittance	|yfs|	1.3	2	—	S	I_D = 0.8 A, V_{DS} = 10 V Note4
Input capacitance	Ciss	—	70	—	pF	V_{DS} = 10 V, V_{GS} = 0
Output capacitance	Coss	—	29	—	pF	f = 1 MHz
Reverse transfer capacitance	Crss	—	10	—	pF	
Turn - on delay time	td(on)	—	14	—	ns	V_{GS} = 4.5 V, I_D = 0.8 A
Rise time	tr	—	12	—	ns	V_{DD} = 10 V
Turn - off delay time	td(off)	—	50	—	ns	R_L = 12.5 Ω , Rg = 4.7 Ω
Fall time	tf	—	10	—	ns	
Total Gate charge	Qg	—	1.1	—	nC	V_{DD} = 10 V, V_{GS} = 4.5 V
Gate to Source charge	Qgs	—	0.3	—	nC	I_D = 1.5 A
Gate to Drain charge	Qgd	—	0.4	—	nC	
Body - Drain diode forward voltage	V_{DF}	—	0.85	1.20	V	I_F = 1.5 A, V_{GS} = 0 Note3

Notes: 4. Pulse test

Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
—	PWSF0006JA-A	CMFPAK-6 / CMFPAK-6V	0.0065g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.6	—	0.8
A_1	0	—	0.01
A_2	0.7	—	0.79
b	0.15	0.22	0.3
b_1	—	0.2	—
c	0.1	0.13	0.15
c_1	—	0.11	—
D	1.9	2.0	2.1
E	1.6	1.7	1.8
e	—	0.65	—
H_E	2.05	2.1	2.15
L	0.1	0.2	0.3
L_P	0.15	—	0.45
x	—	—	0.05
y	—	—	0.05
b_2	—	—	0.35
e_1	—	1.65	—
l_1	—	—	0.5

Ordering Information

Part Name	Quantity	Shipping Container
HAT2292C-EL-E	3000 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.