

HAT1108C

Silicon P Channel MOS FET
Power Switching

R07DS1176EJ0600
(Previous: REJ03G1234-0500)
Rev.6.00
Mar 19, 2014

Features

- Low on-resistance
 $R_{DS(on)} = 155 \text{ m}\Omega$ typ. (at $V_{GS} = -10 \text{ V}$)
- Low drive current.
- 4.5 V gate drive devices.
- High density mounting

Outline

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

1. Source
2. Drain
3. Drain
4. Drain
5. Drain
6. Gate

Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Drain to Source voltage	V_{DSS}	-30	V
Gate to Source voltage	V_{GSS}	-20 / +10	V
Drain current	I_D	-1.5	A
Drain peak current	$I_{D(pulse)}$ ^{Note 1}	-6	A
Body - Drain diode reverse drain current	I_{DR}	-1.5	A
Channel dissipation	P_{ch} ^{Note 2}	830	mW
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Notes: 1. $PW \leq 10 \mu\text{s}$, duty cycle $\leq 1\%$

2. When using the glass epoxy board. (FR4 $40 \times 40 \times 1.6\text{mm}$), $T_a = 25^\circ\text{C}$

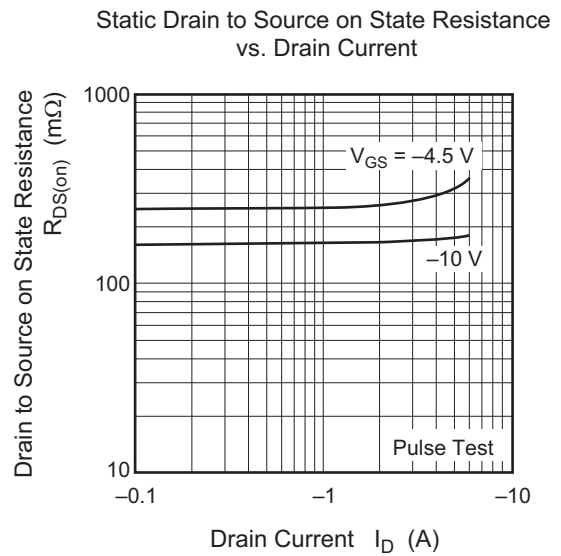
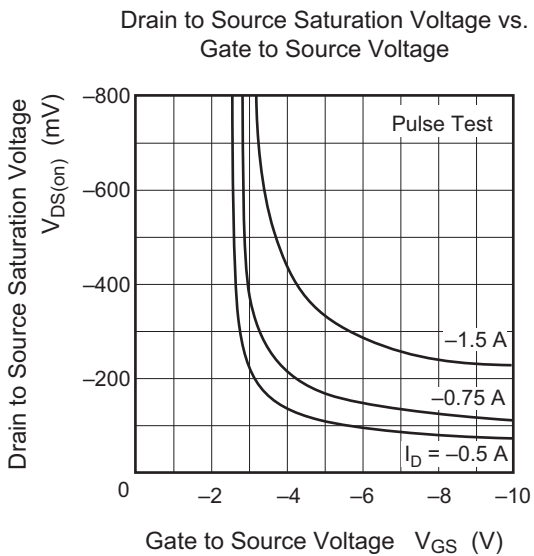
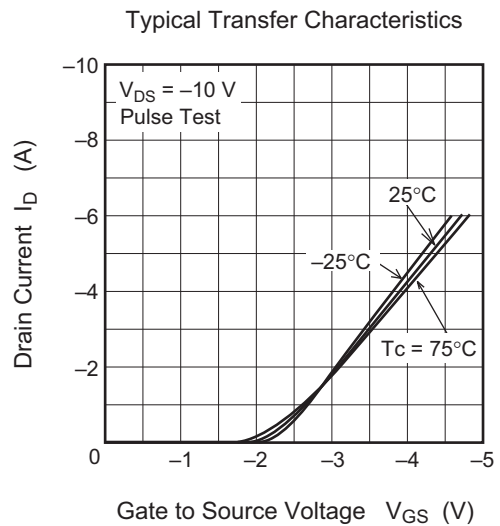
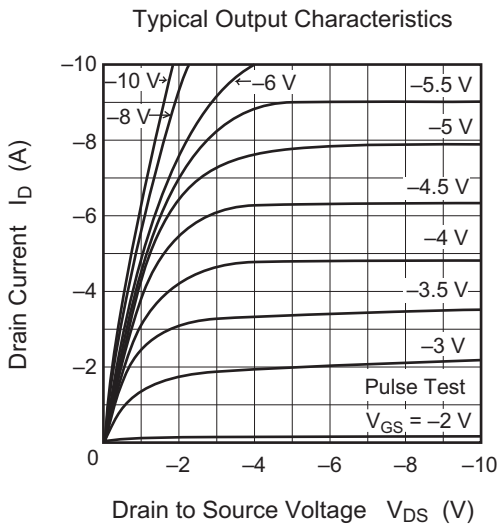
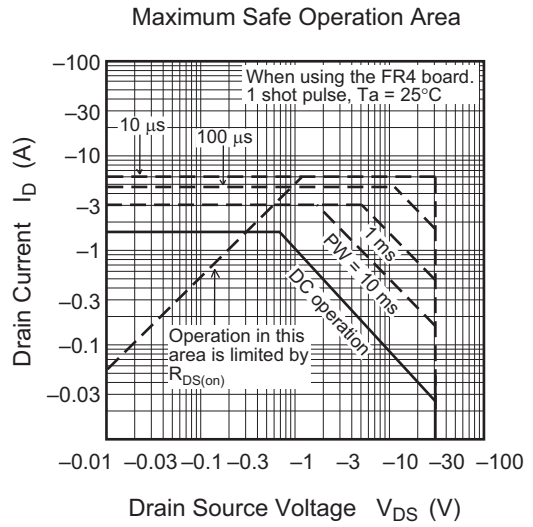
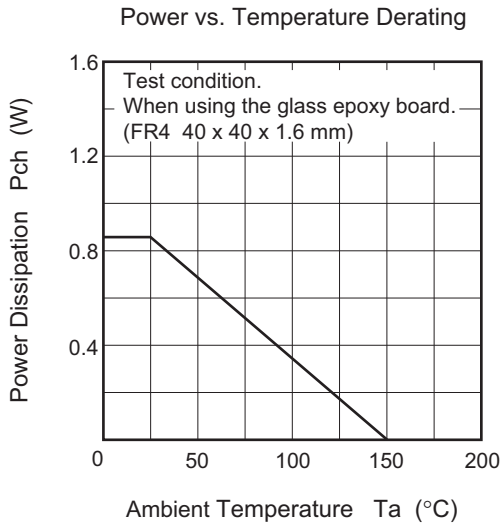
Electrical Characteristics

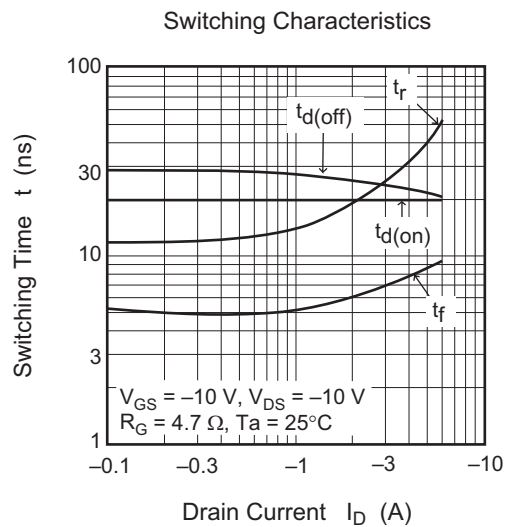
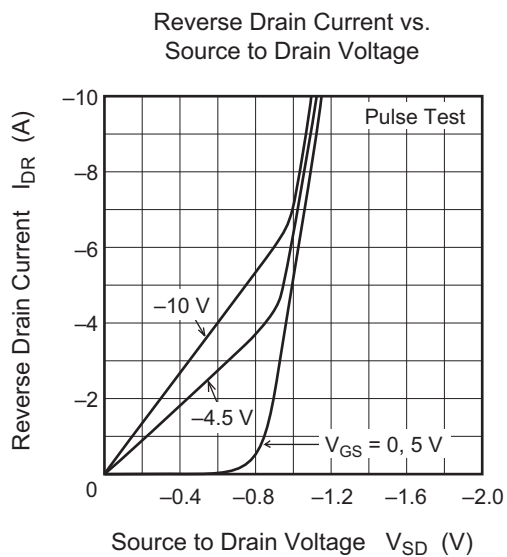
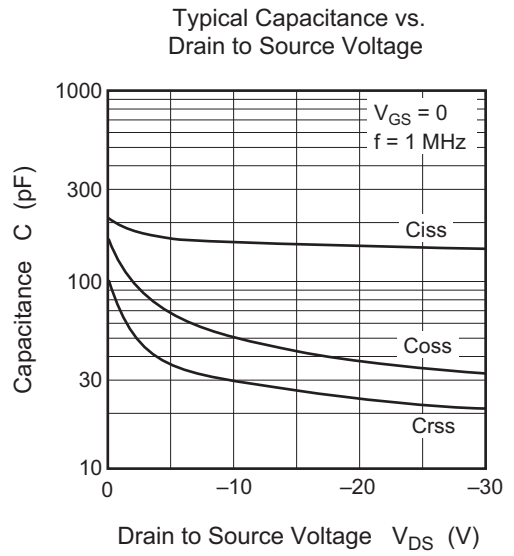
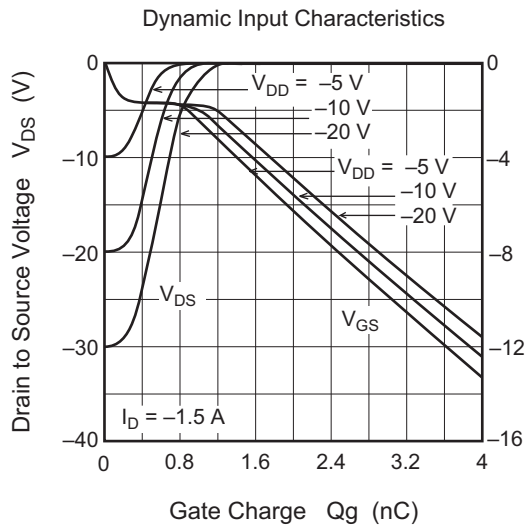
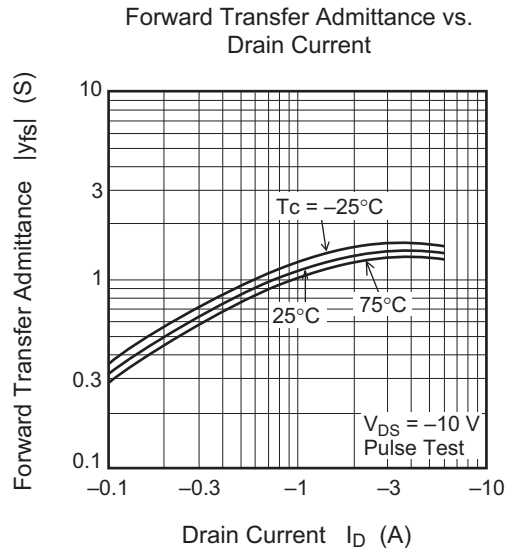
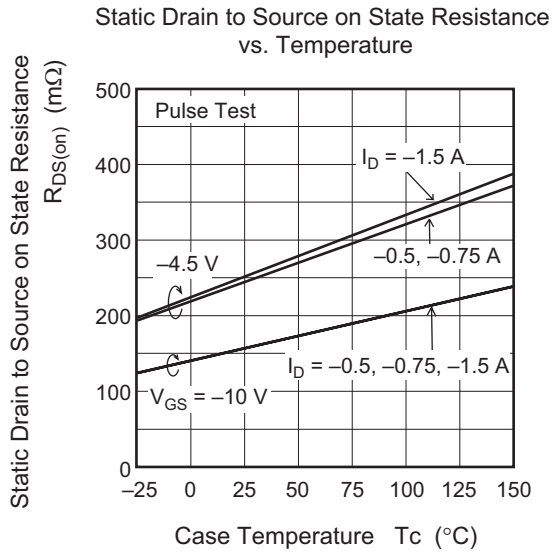
(Ta = 25°C)

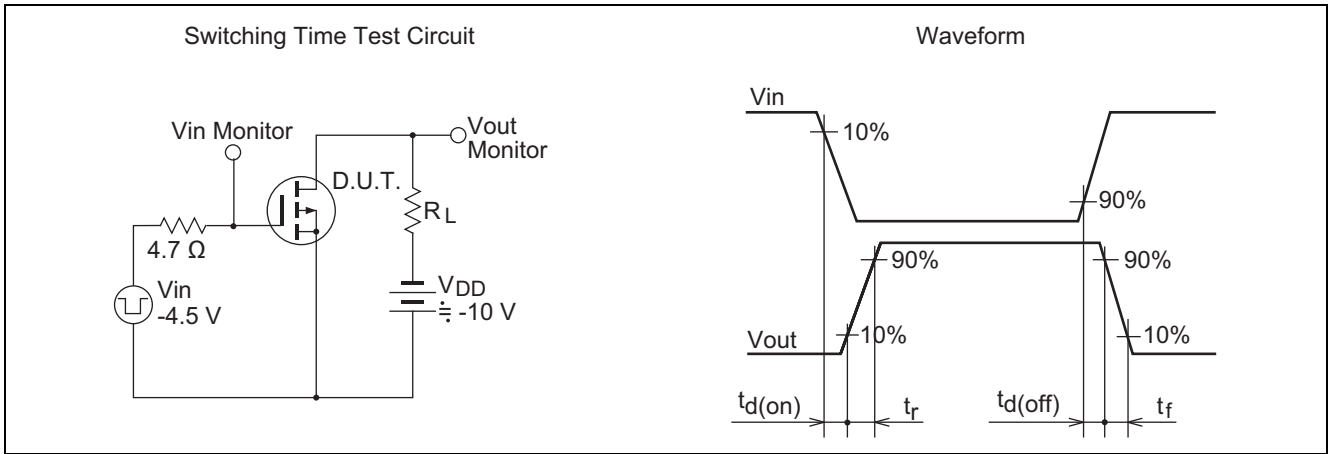
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to Source breakdown voltage	$V_{(BR)DSS}$	-30	—	—	V	$I_D = -10 \text{ mA}, V_{GS} = 0$
Gate to Source breakdown voltage	$V_{(BR)GSS}$	-20 +10	—	—	V	$I_G = \pm 100 \mu\text{A}, V_{DS} = 0$
Gate to Source leakage current	I_{GSS}	—	—	± 10	μA	$V_{GS} = -16/ +8 \text{ V}, V_{DS} = 0$
Drain to Source leakage current	I_{DSS}	—	—	-1	μA	$V_{DS} = -30 \text{ V}, V_{GS} = 0$
Gate to Source cutoff voltage	$V_{GS(th)}$	-0.5	—	-2.0	V	$I_D = -1 \text{ mA}, V_{DS} = -10 \text{ V}$ ^{Note3}
Drain to Source on state resistance	$R_{DS(on)}$	—	155	194	m Ω	$I_D = -0.75\text{A}, V_{GS} = -10 \text{ V}$ ^{Note3}
	$R_{DS(on)}$	—	245	356	m Ω	$I_D = -0.75\text{A}, V_{GS} = -4.5 \text{ V}$ ^{Note3}
Forward transfer admittance	$ y_{fs} $	0.65	1	—	S	$I_D = -0.75\text{A}, V_{DS} = -10 \text{ V}$ ^{Note3}
Input capacitance	C_{iss}	—	160	—	pF	$V_{DS} = -10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	50	—	pF	
Reverse transfer capacitance	C_{rss}	—	30	—	pF	
Total gate charge	Q_g	—	3	—	nC	$V_{DS} = -10 \text{ V}, V_{GS} = -10 \text{ V},$ $I_D = -1.5 \text{ A}$
Gate to Source charge	Q_{gs}	—	0.2	—	nC	
Gate to Drain charge	Q_{gd}	—	0.6	—	nC	
Turn - on delay time	$t_{d(on)}$	—	20	—	ns	$V_{DS} = -10 \text{ V}, V_{GS} = -10 \text{ V},$ $I_D = -0.75 \text{ A}, R_L = 13.3 \Omega,$ $R_g = 4.7 \Omega$
Rise time	t_r	—	13	—	ns	
Turn - off delay time	$t_{d(off)}$	—	28	—	ns	
Fall time	t_f	—	5	—	ns	
Body - Drain diode forward voltage	V_{DF}	—	-0.85	-1.2	V	$I_F = -1.5 \text{ A}, V_{GS} = 0$

Notes: 3. Pulse test

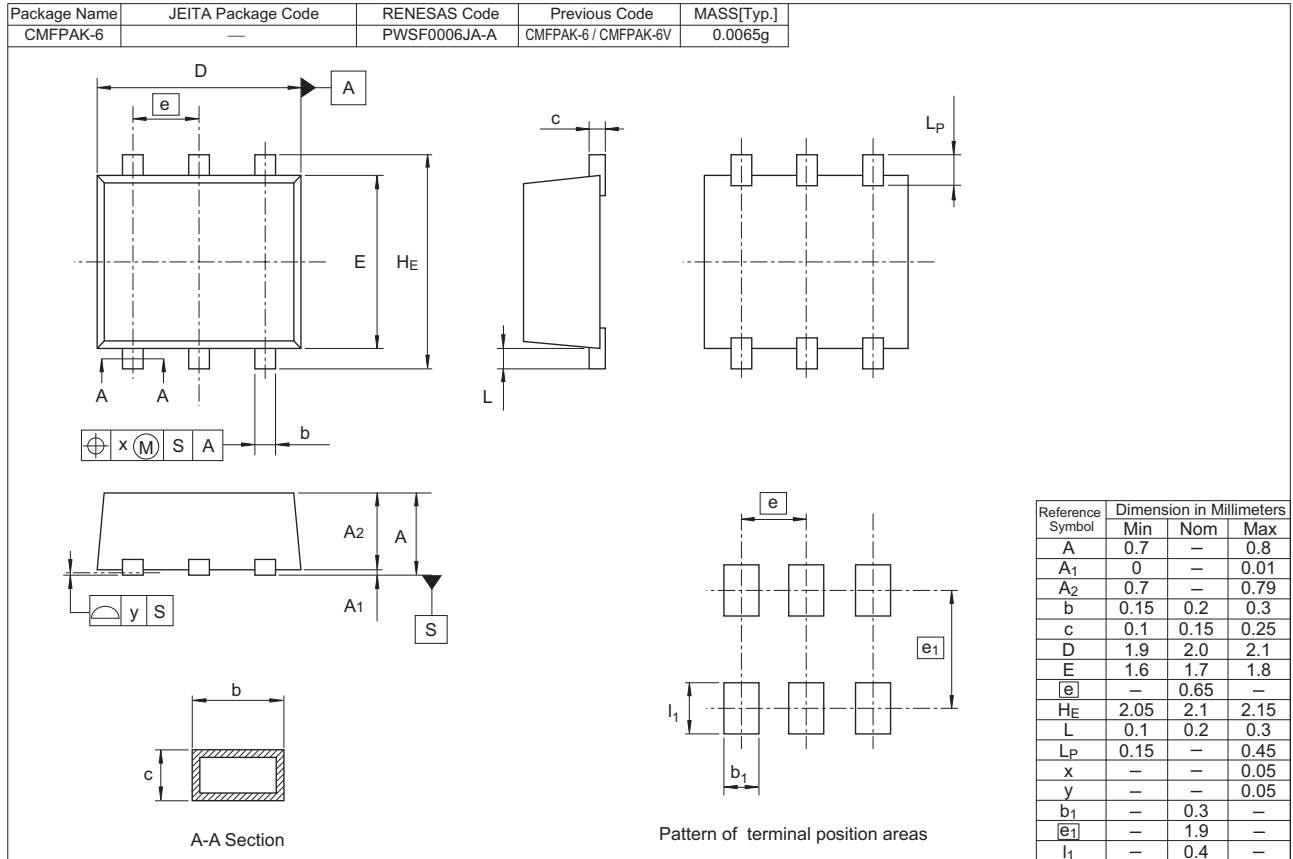
Main Characteristics







Package Dimensions



Ordering Information

Orderable Part Number	Quantity	Shipping Container
HAT1108C-EL-E	3000 pcs	Taping

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