
2SK1772

Silicon N-Channel MOS FET

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Application

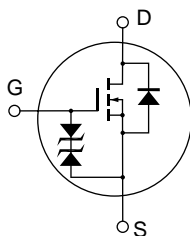
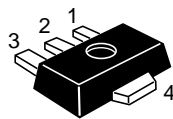
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- 4 V gate drive device - - - can be driven from 5 V source.
- Suitable for DC-DC converter, motor drive, power switch, solenoid drive

Outline

UPAK



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

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	30	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	1	A
Drain peak current	I _{D(pulse)} ^{*1}	2	A
Body to drain diode reverse drain current	I _{DR}	1	A
Channel dissipation	Pch ^{*2}	1	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 alumina ceramic board (12.5 × 20 × 0.7mm)
 3. Marking is "HY".

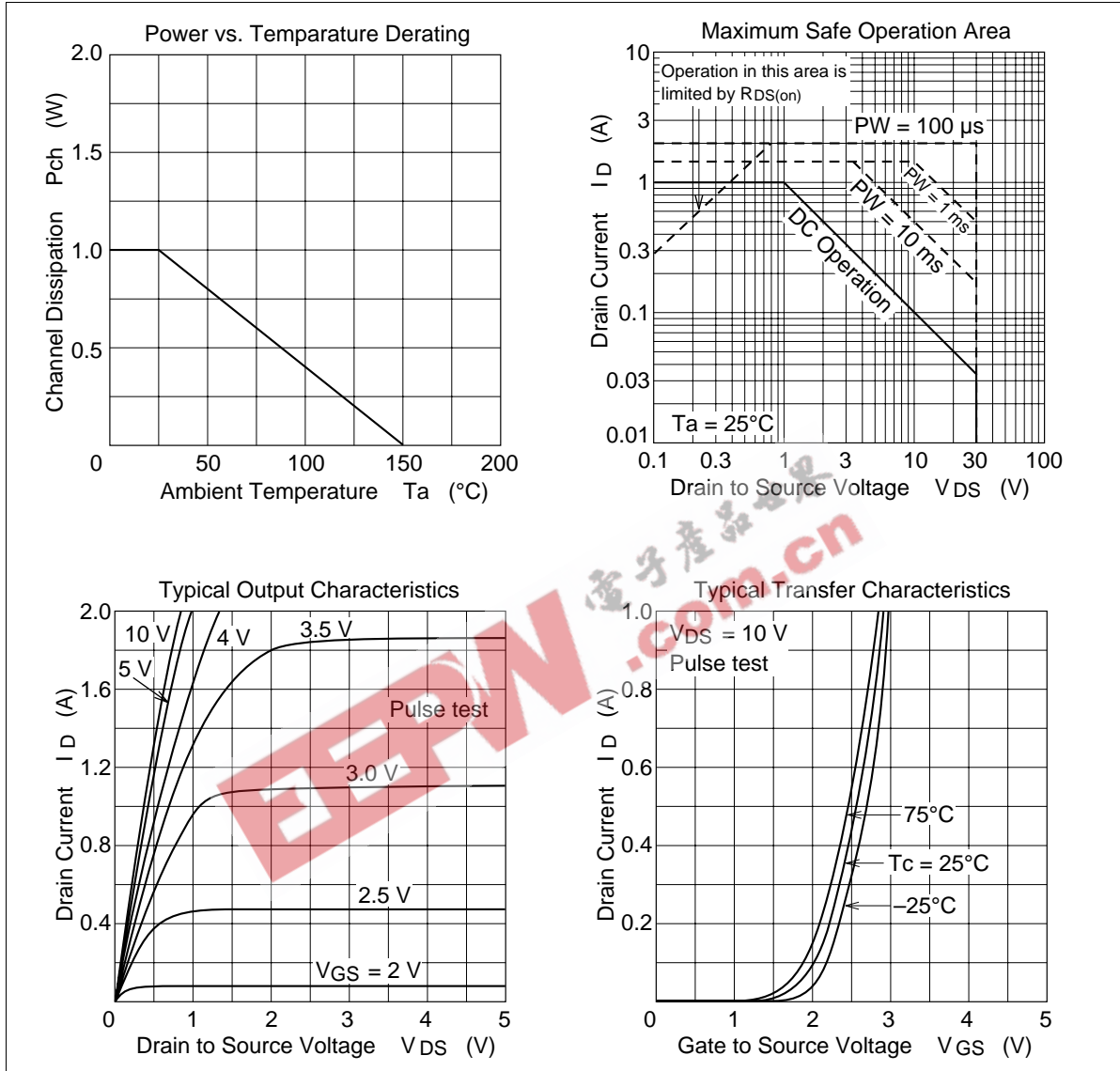
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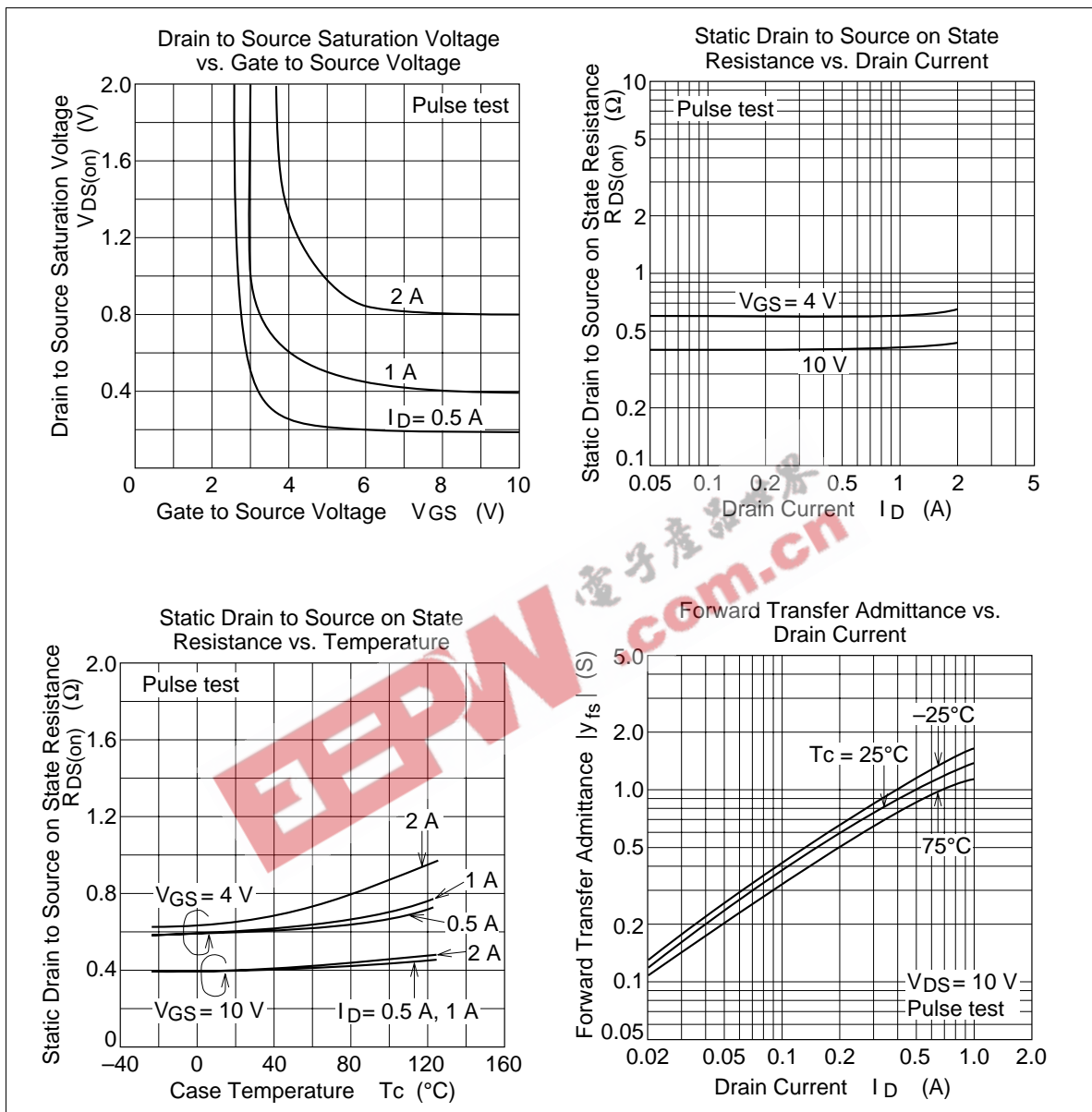
Electrical Characteristics (T_a = 25°C)

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	—	—	V	$I_G = \pm 100 \text{ } \mu\text{A}, V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	50	μA	$V_{DS} = 25 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	—	2.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.4	0.6	Ω	$I_D = 0.5 \text{ A}$ $V_{GS} = 10 \text{ V}^{*1}$
		—	0.6	0.85	Ω	$I_D = 0.5 \text{ A}$ $V_{GS} = 4 \text{ V}^{*1}$
Forward transfer admittance	$ y_{fs} $	0.6	1.0	—	S	$I_D = 0.5 \text{ A}$ $V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	C_{iss}	—	85	—	pF	$V_{DS} = 10 \text{ V}$
Output capacitance	C_{oss}	—	65	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	20	—	pF	$f = 1 \text{ MHz}$
Turn-on delay time	$t_{d(on)}$	—	10	—	ns	$I_D = 0.5 \text{ A}$
Rise time	t_r	—	15	—	ns	$V_{GS} = 10 \text{ V}$
Turn-off delay time	$t_{d(off)}$	—	40	—	ns	$R_L = 60 \text{ } \Omega$
Fall time	t_f	—	30	—	ns	
Body to drain diode forward voltage	V_{DF}	—	1.2	—	V	$I_F = 1 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	30	—	ns	$I_F = 1 \text{ A}, V_{GS} = 0,$ $di_F/dt = 50 \text{ A}/\mu\text{s}$

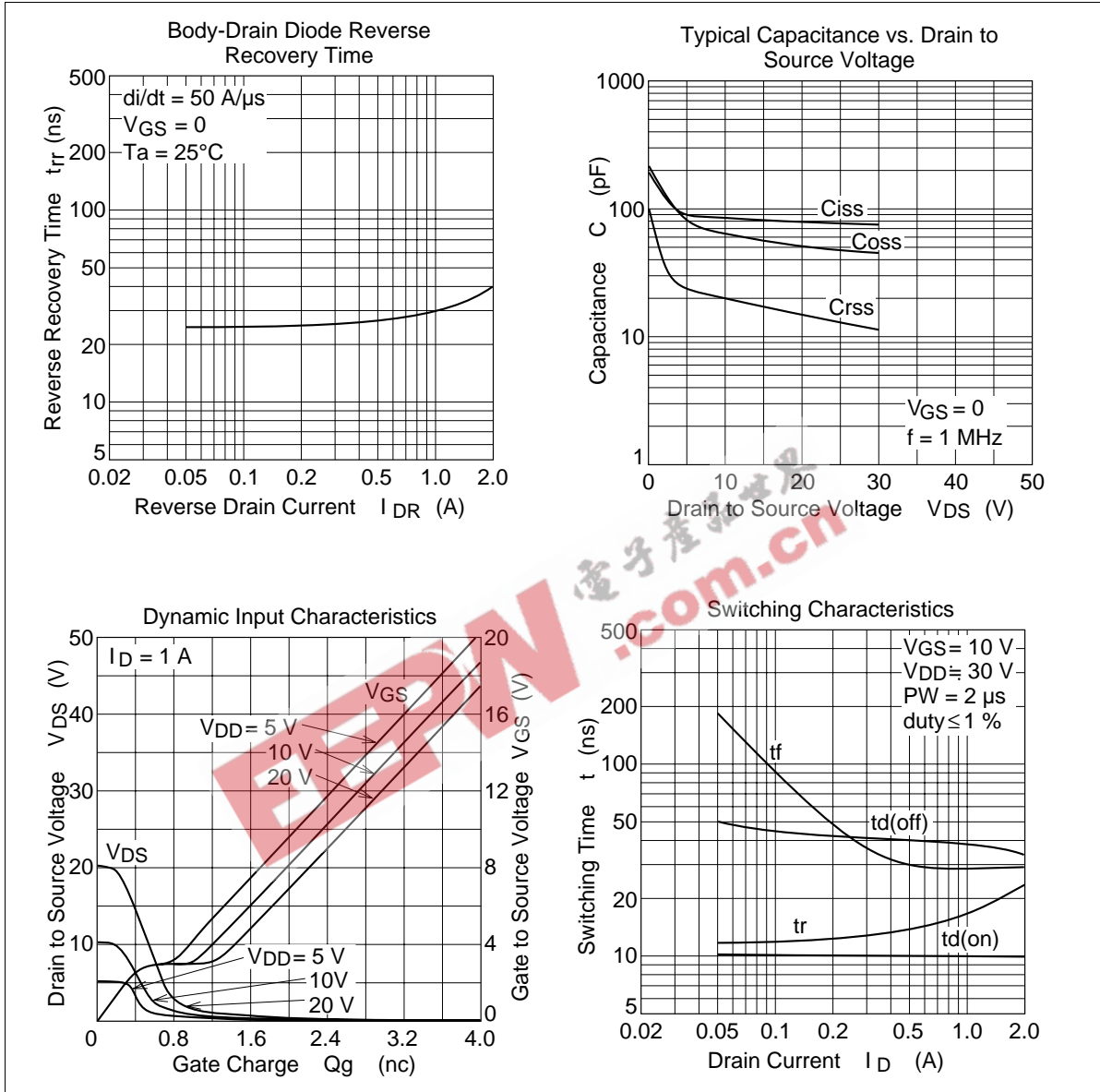
Note 1. Pulse Test

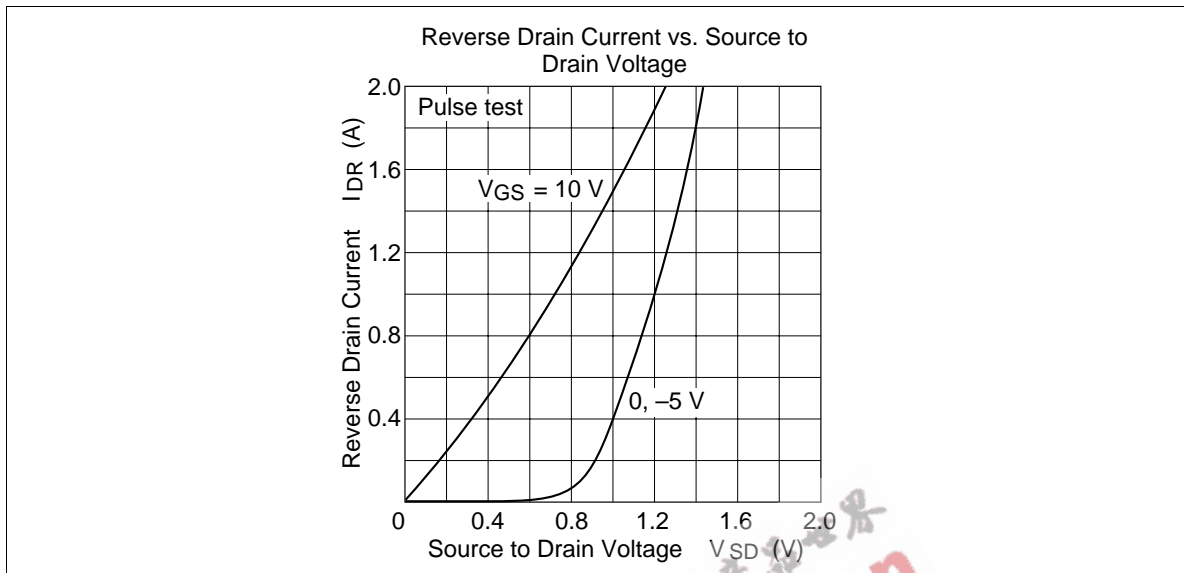
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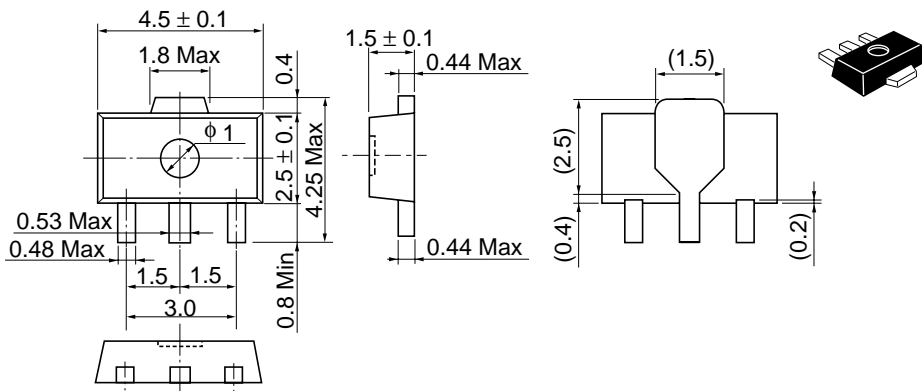




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Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.050 g

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