
2SK1869(L), 2SK1869(S)

Silicon N-Channel MOS FET

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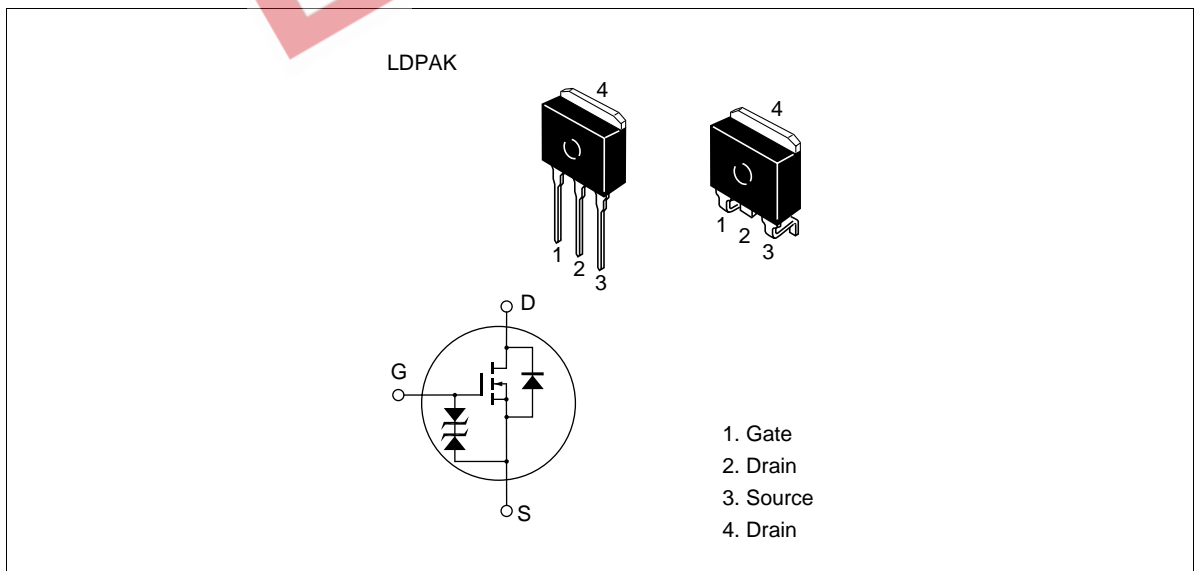
Application

High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No Secondary Breakdown
- Suitable for Switching regulator, DC - DC converter

Outline



2SK1869(L), 2SK1869(S)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	350	V
Gate to source voltage	V_{GSS}	±30	V
Drain current	I_D	7	A
Drain peak current	$I_{D(pulse)}^{*1}$	28	A
Body to drain diode reverse drain current	I_{DR}	7	A
Channel dissipation	Pch^{*2}	50	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes 1. $PW \leq 10 \mu s$, duty cycle $\leq 1\%$
2. Value at $Tc = 25^\circ C$

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2SK1869(L), 2SK1869(S)

Electrical Characteristics (T_a = 25°C)

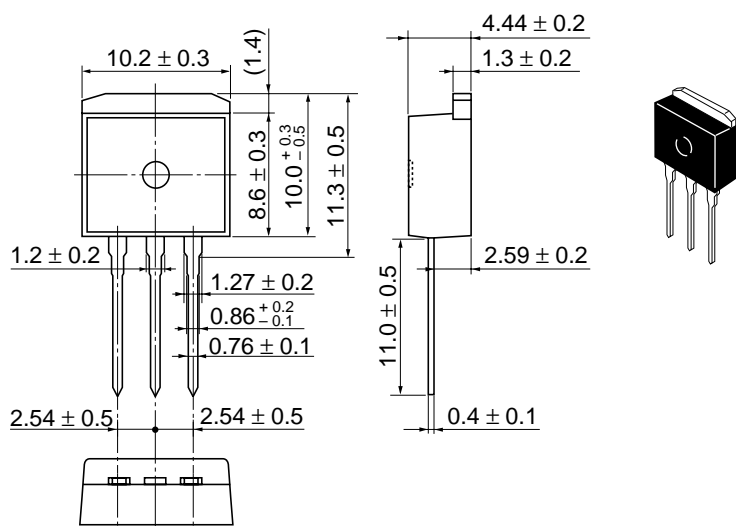
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	350	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30	—	—	V	$I_G = \pm 100 \mu\text{A}, V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 25 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	250	μA	$V_{DS} = 280 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	2.0	—	3.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.6	0.8	Ω	$I_D = 4 \text{ A}$ $V_{GS} = 10 \text{ V}^{*1}$
Forward transfer admittance	$ y_{fs} $	3.0	5.0	—	S	$I_D = 4 \text{ A}$ $V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	C_{iss}	—	635	—	pF	$V_{DS} = 10 \text{ V}$
Output capacitance	C_{oss}	—	230	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	C_{rss}	—	40	—	pF	$f = 1 \text{ MHz}$
Turn-on delay time	$t_{d(on)}$	—	10	—	ns	$I_D = 4 \text{ A}$
Rise time	t_r	—	50	—	ns	$V_{GS} = 10 \text{ V}$
Turn-off delay time	$t_{d(off)}$	—	60	—	ns	$R_L = 7.5 \Omega$
Fall time	t_f	—	40	—	ns	
Body to drain diode forward voltage	V_{DF}	—	0.95	—	V	$I_F = 7 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	240	—	ns	$I_F = 7 \text{ A}, V_{GS} = 0,$ $di_F / dt = 100 \text{ A} / \mu\text{s}$

Note 1. Pulse Test

See characteristic curves of 2SK1400A

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Unit: mm



Hitachi Code	LPAK (L)
JEDEC	—
EIAJ	—
Weight (reference value)	1.4 g

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Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose, CA 95134
Tel: <1> (408) 433-1990
Fax: <1> (408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher StraÙe 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building, No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX

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