

2SK1618(L), 2SK1618(S)

Silicon N-Channel MOS FET

HITACHI

Application

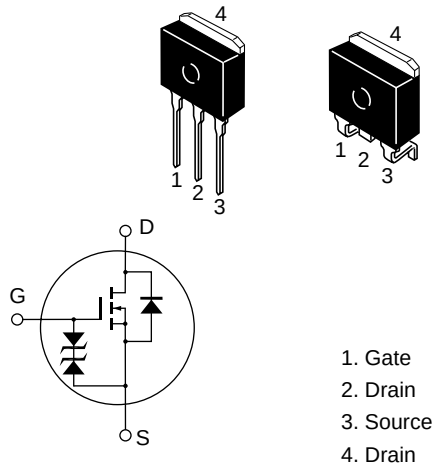
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator and DC-DC converter

Outline

LDPAK



2SK1618(L), 2SK1618(S)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	600	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	3	A
Drain peak current	I _{D(pulse)} ^{*1}	6	A
Body to drain diode reverse drain current	I _{DR}	3	A
Channel dissipation	Pch ^{*2}	30	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	−55 to +150	°C

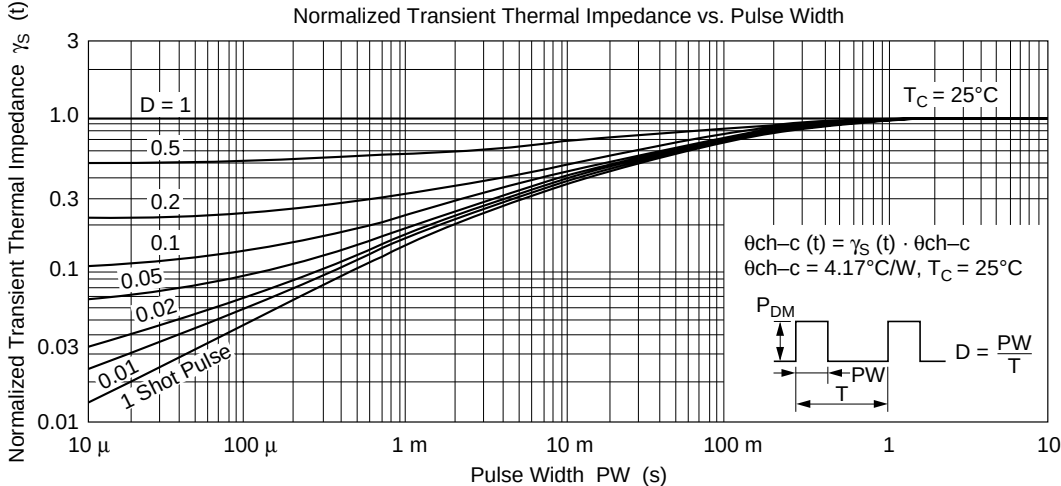
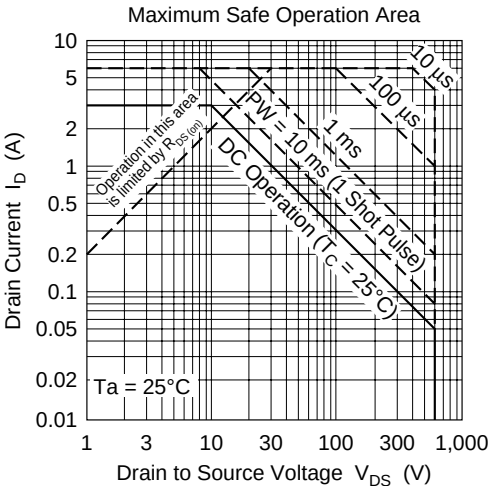
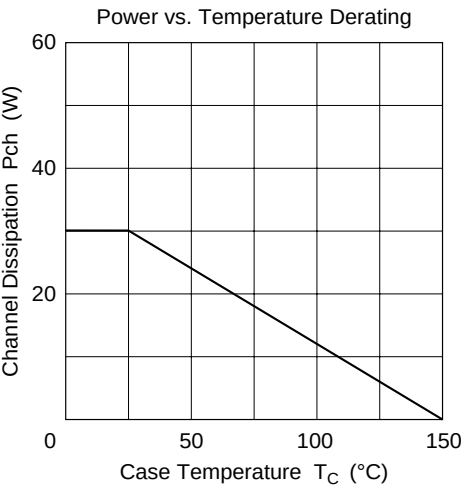
Notes 1. PW ≤ 10 μs, duty cycle ≤ 1%
 2. Value at T_c = 25°C

Electrical Characteristics (Ta = 25°C)

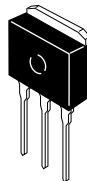
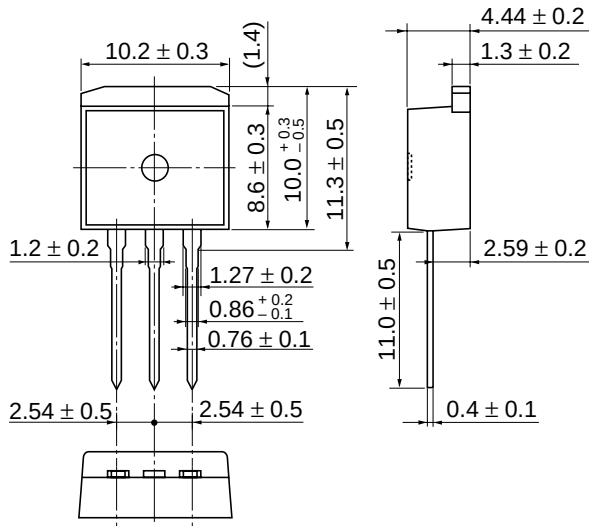
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	600	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30	—	—	V	$I_G = \pm 100 \text{ } \mu\text{A}$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	±10	μA	$V_{GS} = \pm 25 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	250	μA	$V_{DS} = 500 \text{ V}$, $V_{GS} = 0$
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	$R_{DS(on)}$	—	3.8	5.0	Ω	$I_D = 1 \text{ A}$, $V_{GS} = 10 \text{ V}^{*1}$
Forward transfer admittance	$ y_{fs} $	1.2	2.0	—	S	$I_D = 1 \text{ A}$, $V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	C_{iss}	—	295	—	pF	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	70	—	pF	
Reverse transfer capacitance	C_{rss}	—	12	—	pF	
Turn-on delay time	$t_{d(on)}$	—	8	—	ns	$I_D = 1 \text{ A}$, $V_{GS} = 10 \text{ V}$, $R_L = 30 \text{ } \Omega$
Rise time	t_r	—	25	—	ns	
Turn-off delay time	$t_{d(off)}$	—	65	—	ns	
Fall time	t_f	—	30	—	ns	
Body to drain diode forward voltage	V_{DF}	—	0.9	—	V	$I_F = 2 \text{ A}$, $V_{GS} = 0$
Body to drain diode reverse recovery time	t_{rr}	—	220	—	ns	$I_F = 2 \text{ A}$, $V_{GS} = 0$, $di_F/dt = 100 \text{ A}/\mu\text{s}$

Note 1. Pulse test

See characteristic curves of 2SK1572.



Unit: mm



Hitachi Code	LDBAK (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 Straße 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
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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
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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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