

2SK1624(L), 2SK1624(S)

Silicon N-Channel MOS FET

HITACHI

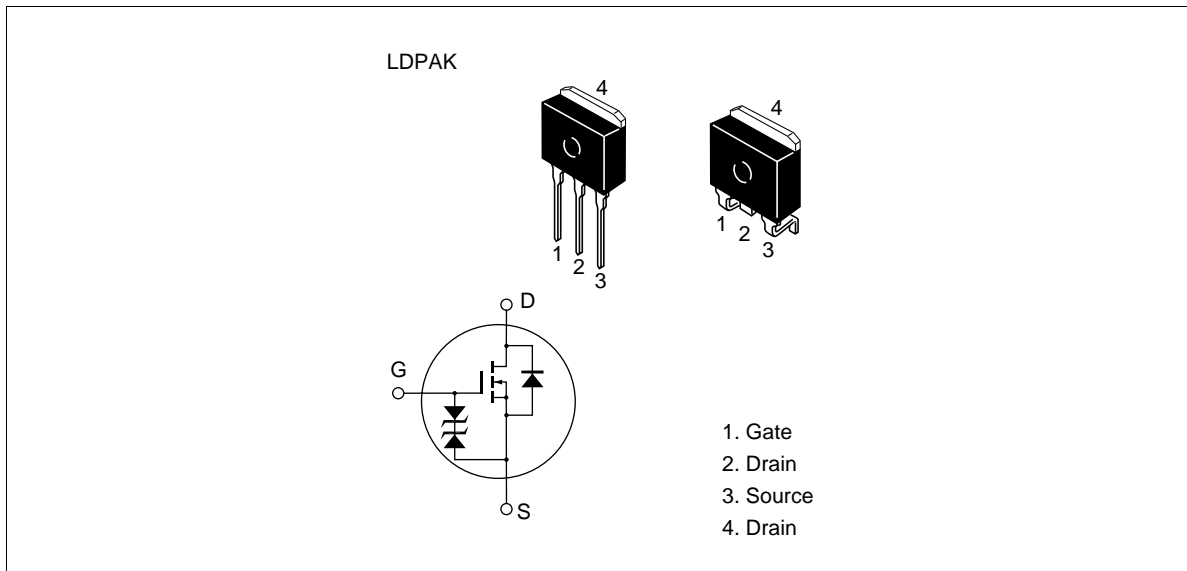
Application

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



2SK1624(L), 2SK1624(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 | 4 | A |
| Drain peak current | I _{D(pulse)} *1 | 16 | A |
| Body to drain diode reverse drain current | I _{DR} | 4 | A |
| Channel dissipation | Pch*2 | 50 | 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

2SK1624(L), 2SK1624(S)

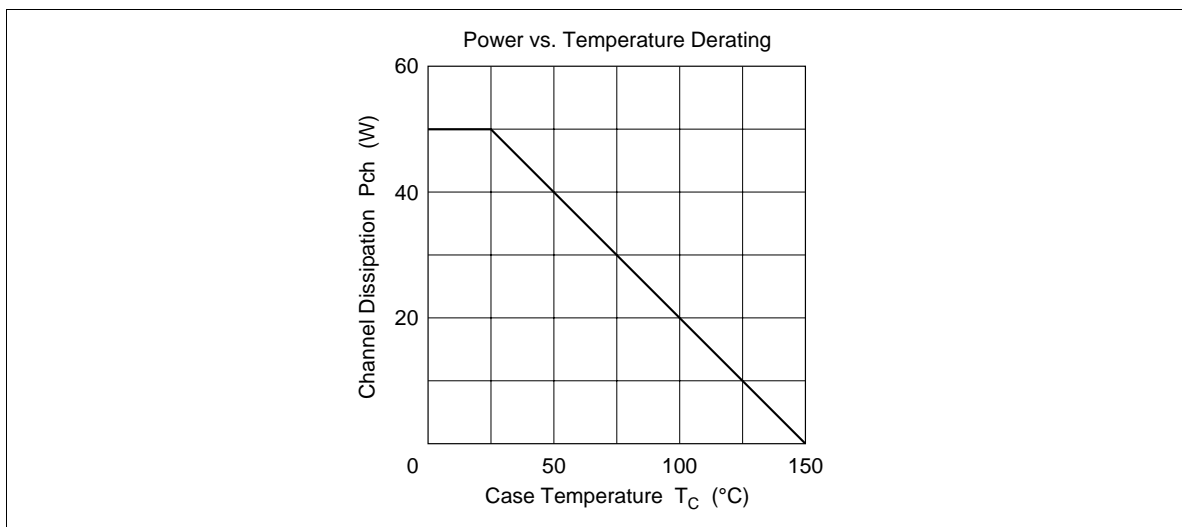
Electrical Characteristics (Ta = 25°C)

| 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 | $I_G = \pm 100 \mu\text{A}, V_{DS} = 0$ |
| 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 | $R_{DS(on)}$ | — | 1.8 | 2.4 | Ω | $I_D = 2 \text{ A}, V_{GS} = 10 \text{ V}^{*1}$ |
| Forward transfer admittance | $ y_{fs} $ | 2.2 | 3.5 | — | S | $I_D = 2 \text{ A}, V_{DS} = 10 \text{ V}^{*1}$ |
| Input capacitance | C_{iss} | — | 600 | — | pF | $V_{DS} = 10 \text{ V}, V_{GS} = 0,$ |
| Output capacitance | C_{oss} | — | 140 | — | pF | $f = 1 \text{ MHz}$ |
| Reverse transfer capacitance | C_{rss} | — | 25 | — | pF | |
| Turn-on delay time | $t_{d(on)}$ | — | 8 | — | ns | $I_D = 2 \text{ A}, V_{GS} = 10 \text{ V},$ |
| Rise time | t_r | — | 30 | — | ns | $R_L = 15 \Omega$ |
| Turn-off delay time | $t_{d(off)}$ | — | 60 | — | ns | |
| Fall time | t_f | — | 35 | — | ns | |
| Body to drain diode forward voltage | V_{DF} | — | 0.9 | — | V | $I_F = 4 \text{ A}, V_{GS} = 0$ |
| Body to drain diode reverse recovery time | t_{rr} | — | 300 | — | ns | $I_F = 4 \text{ A}, V_{GS} = 0,$ $di_F/dt = 100 \text{ A}/\mu\text{s}$ |

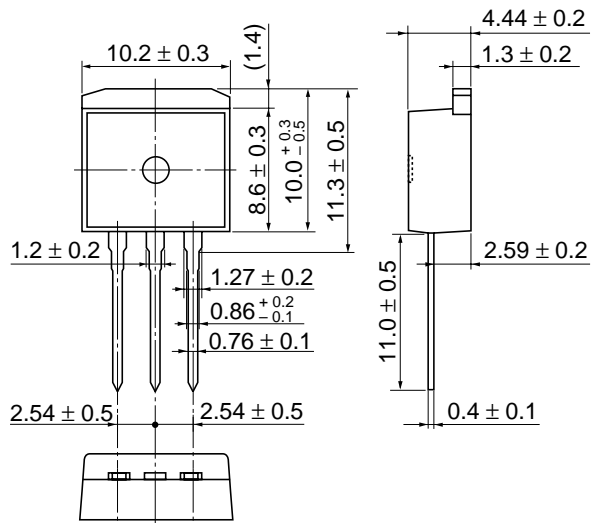
Note 1. Pulse test

See characteristic curves of 2SK1402.

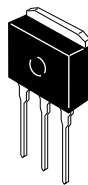
2SK1624(L), 2SK1624(S)



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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

URL North America : <http://semiconductor.hitachi.com/>
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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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