
2SK1618(L), 2SK1618(S)

Silicon N-Channel MOS FET

HITACHI

Application

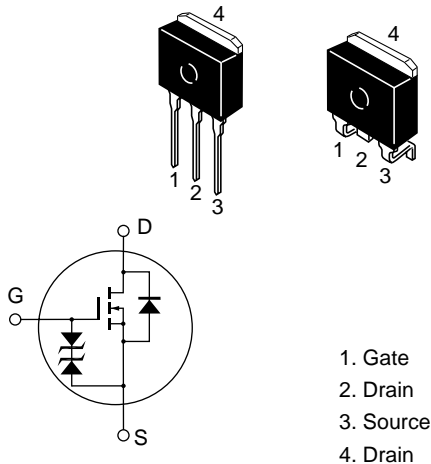
High speed power switching

Features

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

Outline

LDBPAK



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

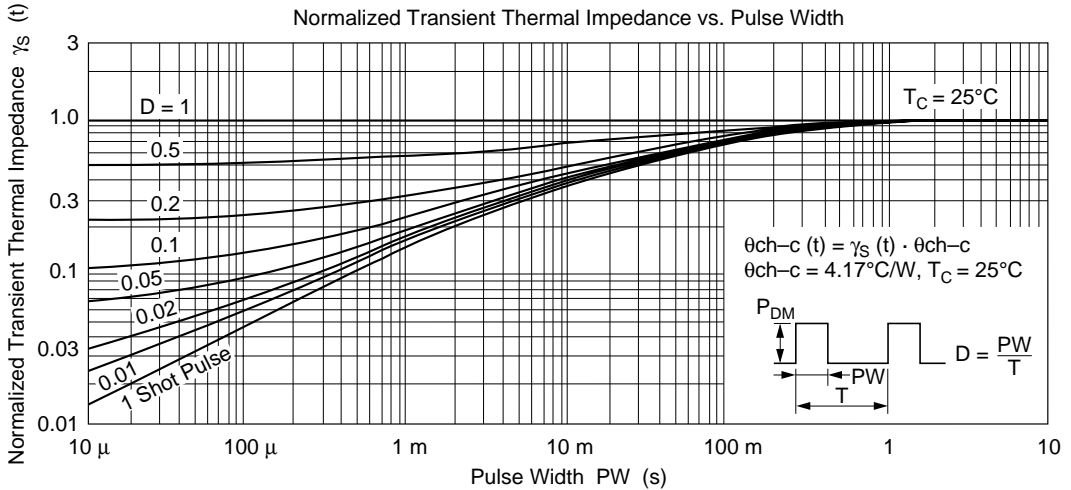
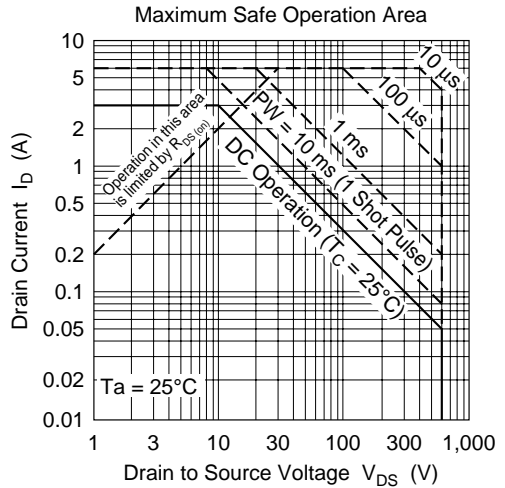
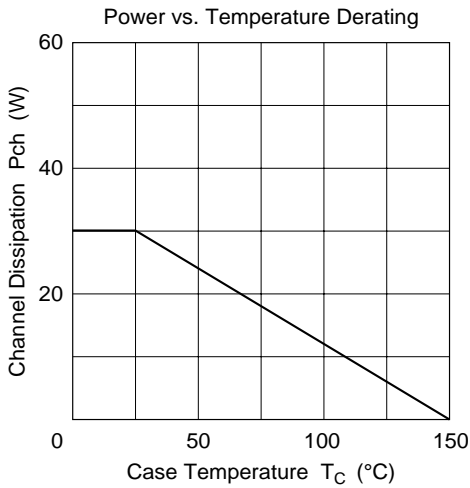
Electrical Characteristics (Ta = 25°C)

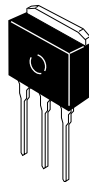
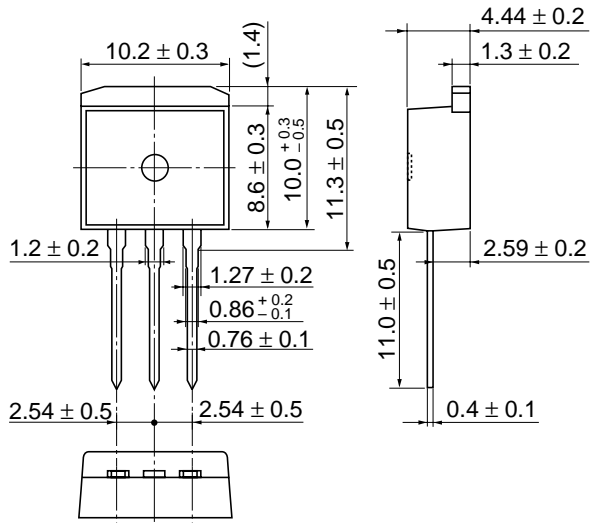
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|--|---------------|----------|-----|----------|---------------|---|
| Drain to source breakdown voltage | $V_{(BR)DSS}$ | 600 | — | — | V | $I_D = 10 \text{ mA}, V_{GS} = 0$ |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | ± 30 | — | — | 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 | $V_{DS} = 10 \text{ V}, V_{GS} = 0,$ |
| Output capacitance | C_{oss} | — | 70 | — | pF | $f = 1 \text{ MHz}$ |
| Reverse transfer capacitance | C_{rss} | — | 12 | — | pF | |
| Turn-on delay time | $t_{d(on)}$ | — | 8 | — | ns | $I_D = 1 \text{ A}, V_{GS} = 10 \text{ V},$ |
| Rise time | t_r | — | 25 | — | ns | $R_L = 30 \text{ }\Omega$ |
| 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.

2SK1618(L), 2SK1618(S)





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

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