

2SK2885(L), 2SK2885(S)

Silicon N Channel MOS FET
High Speed Power Switching

HITACHI

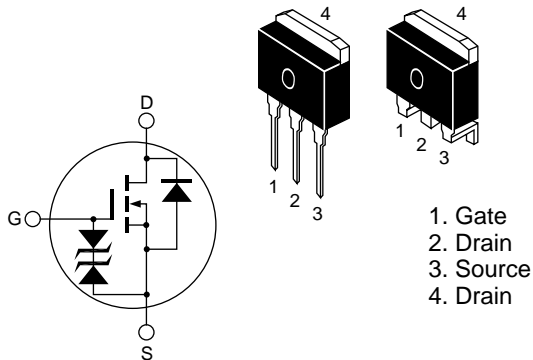
ADE-208-545 A
2nd. Edition

Features

- Low on-resistance
 $R_{DS(on)} = 10m\Omega$ typ.
- 4V gate drive devices.
- High speed switching

Outline

LDDPAK



2SK2885(L), 2SK2885(S)

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 | 45 | A |
| Drain peak current | I _{D(pulse)} ^{*1} | 180 | A |
| Body to drain diode reverse drain current | I _{DR} | 45 | A |
| Channel dissipation | Pch ^{*2} | 75 | W |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

Notes: 1. PW ≤ 10μs, duty cycle ≤ 1 %

2. Value at Tc = 25°C

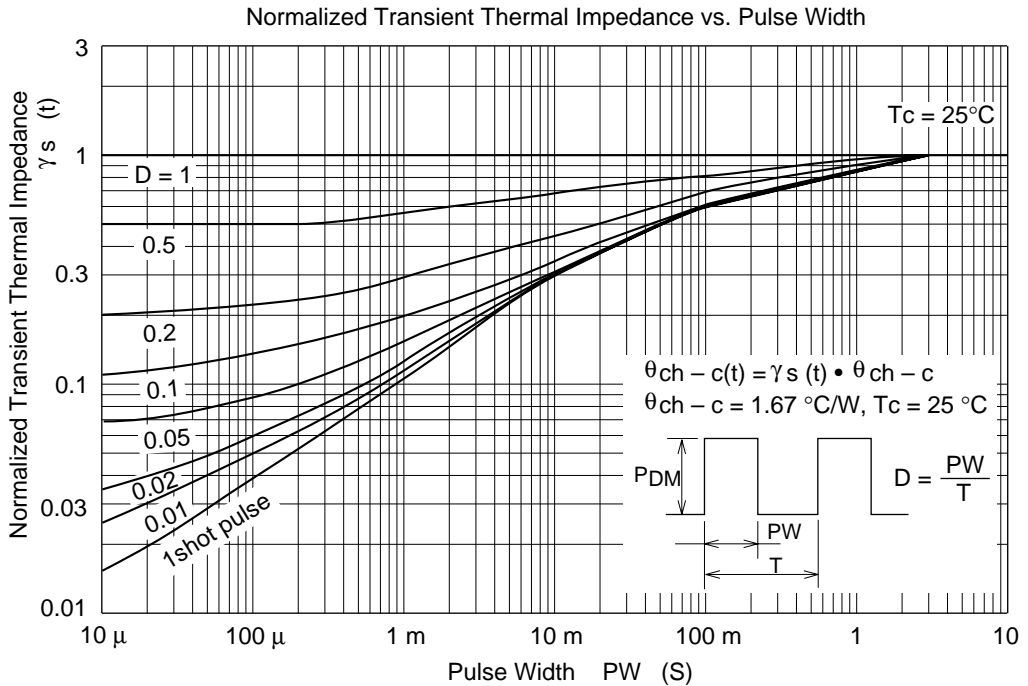
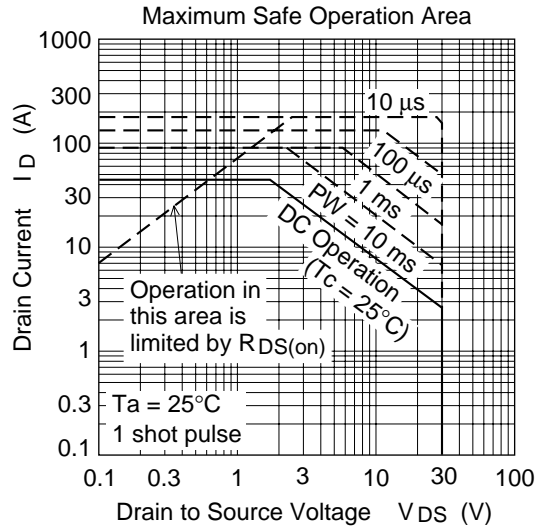
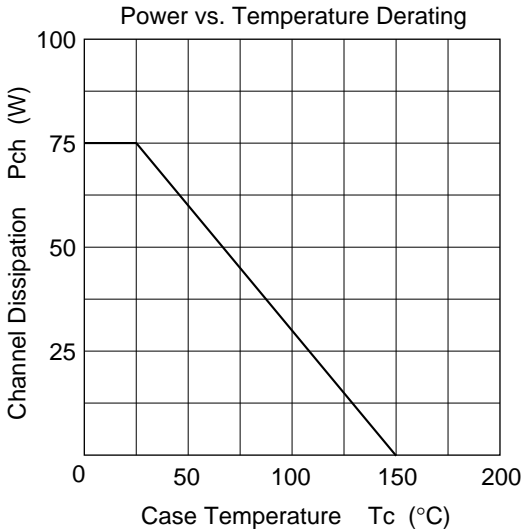
Electrical Characteristics (Ta = 25°C)

| 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 | $I_G = \pm 100\mu\text{A}, V_{DS} = 0$ |
| Zero gate voltage drain current | I_{DSS} | — | — | 10 | μA | $V_{DS} = 30\text{V}, V_{GS} = 0$ |
| Gate to source leak current | I_{GSS} | — | — | ±10 | μA | $V_{GS} = \pm 16\text{V}, V_{DS} = 0$ |
| 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 | $R_{DS(on)}$ | — | 10 | 14 | mΩ | $I_D = 20\text{A}, V_{GS} = 10\text{V}^{*1}$ |
| | $R_{DS(on)}$ | — | 15 | 25 | mΩ | $I_D = 20\text{A}, V_{GS} = 4\text{V}^{*1}$ |
| Forward transfer admittance | $ y_{fs} $ | 20 | 30 | — | S | $I_D = 20\text{A}, V_{DS} = 10\text{V}^{*1}$ |
| Input capacitance | C_{iss} | — | 1570 | — | pF | $V_{DS} = 10\text{V}$ |
| Output capacitance | C_{oss} | — | 1100 | — | pF | $V_{GS} = 0$ |
| Reverse transfer capacitance | C_{rss} | — | 410 | — | pF | $f = 1\text{MHz}$ |
| Turn-on delay time | $t_{d(on)}$ | — | 32 | — | ns | $V_{GS} = 10\text{V}, I_D = 20\text{A}$ |
| Rise time | t_r | — | 300 | — | ns | $R_L = 0.5\Omega$ |
| Turn-off delay time | $t_{d(off)}$ | — | 180 | — | ns | |
| Fall time | t_f | — | 200 | — | ns | |
| Body to drain diode forward voltage | V_{DF} | — | 1.0 | — | V | $I_F = 45\text{A}, V_{GS} = 0$ |
| Body to drain diode reverse recovery time | t_{rr} | — | 75 | — | ns | $I_F = 45\text{A}, V_{GS} = 0$ $di_F/dt = 50\text{A}/\mu\text{s}$ |

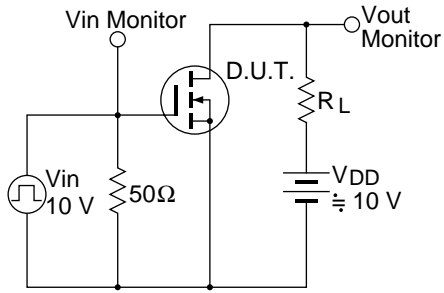
Note: 1. Pulse test

See characteristics curves of 2SK2737

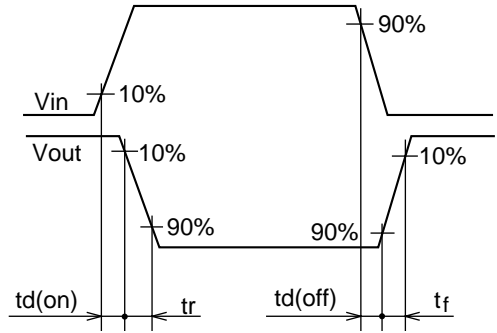
Main Characteristics



Switching Time Test Circuit



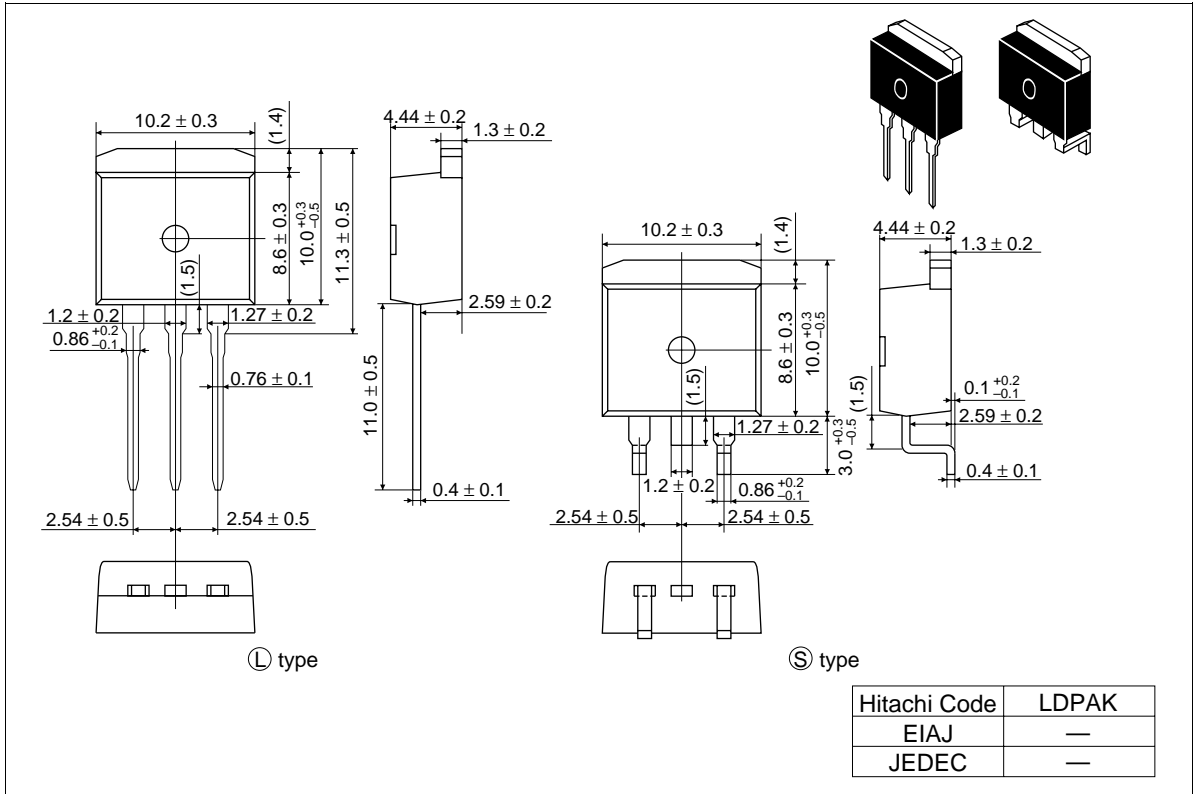
Switching Time Waveforms



2SK2885(L), 2SK2885(S)

Package Dimensions

Unit: mm



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