

2SJ528(L),2SJ528(S)

Silicon P Channel MOS FET
High Speed Power Switching

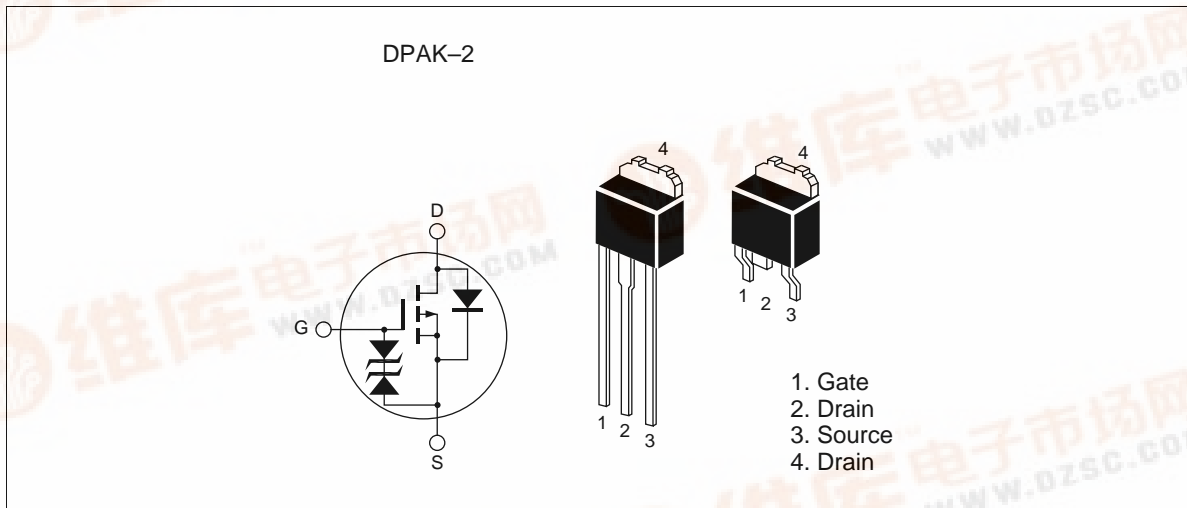
HITACHI

ADE-208-641A (Z)
2nd. Edition
Jun 1998

Features

- Low on-resistance $R_{DS(on)} = 0.17 \Omega$ typ.
- 4 V gate drive devices
- High speed switching

Outline



2SJ528(L),2SJ528(S)

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|--|---------------------------------|-------------|------|
| Drain to source voltage | V_{DSS} | -60 | V |
| Gate to source voltage | V_{GSS} | ±20 | V |
| Drain current | I_D | -7 | A |
| Drain peak current | $I_{D(pulse)}$ ^{Note1} | -28 | A |
| Body-drain diode reverse drain current | I_{DR} | -7 | A |
| Avalanche current | I_{AP} ^{Note3} | -7 | A |
| Avalanche energy | E_{AR} ^{Note3} | 4.2 | mJ |
| Channel dissipation | P_{ch} ^{Note2} | 20 | W |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

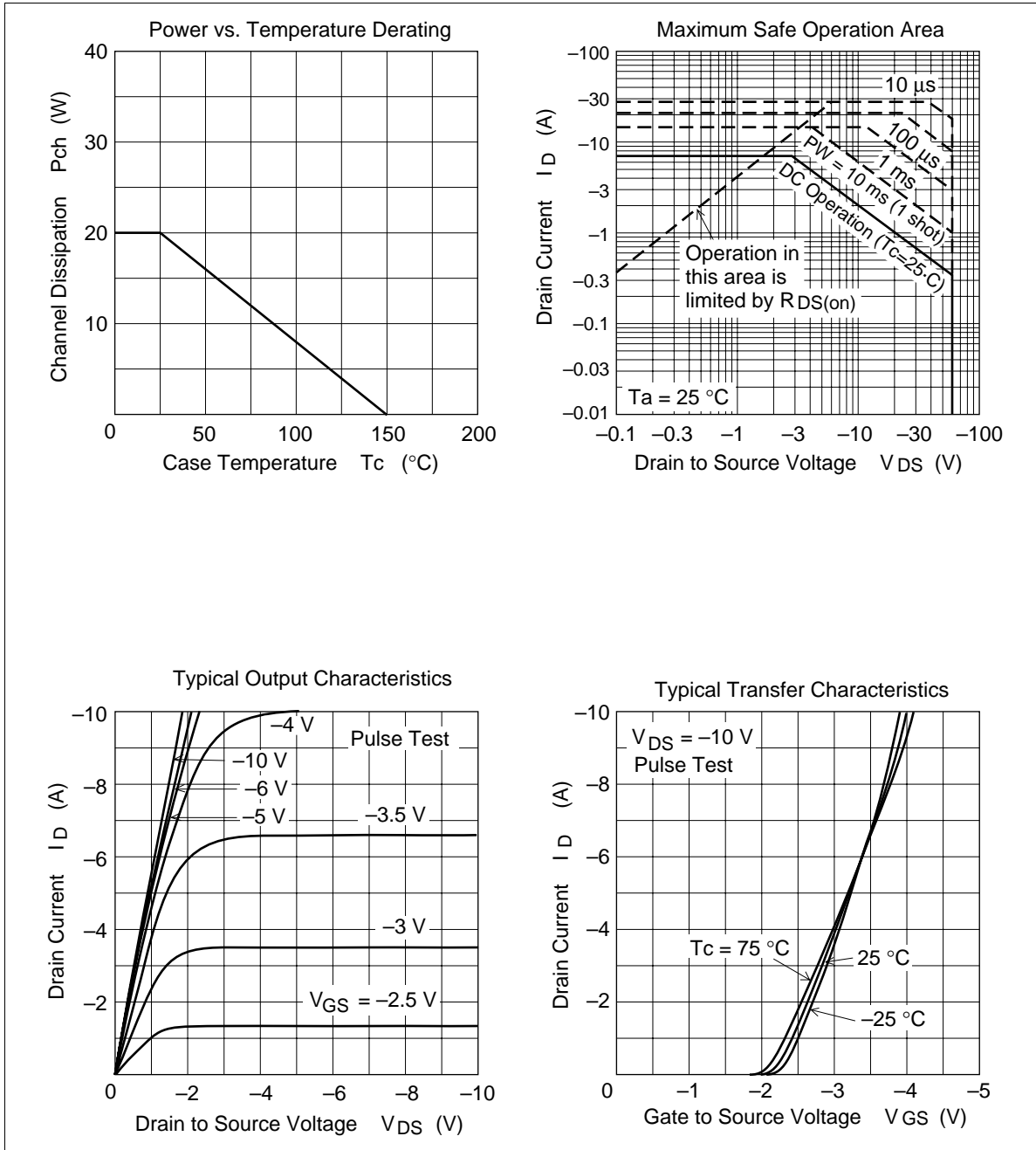
Note: 1. $PW \leq 10\mu s$, duty cycle $\leq 1\%$
 2. Value at $T_c = 25^\circ C$
 3. Value at $T_{ch} = 25^\circ C$, $R_g \geq 50 \Omega$

Electrical Characteristics (Ta = 25°C)

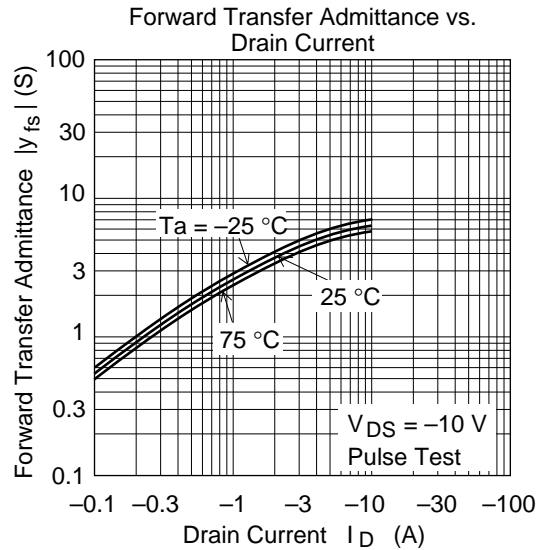
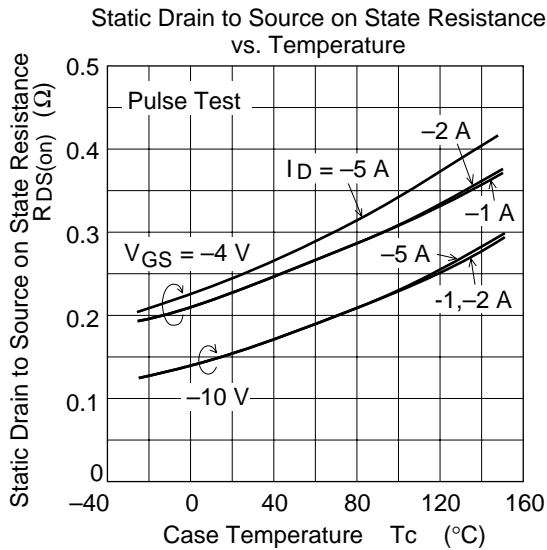
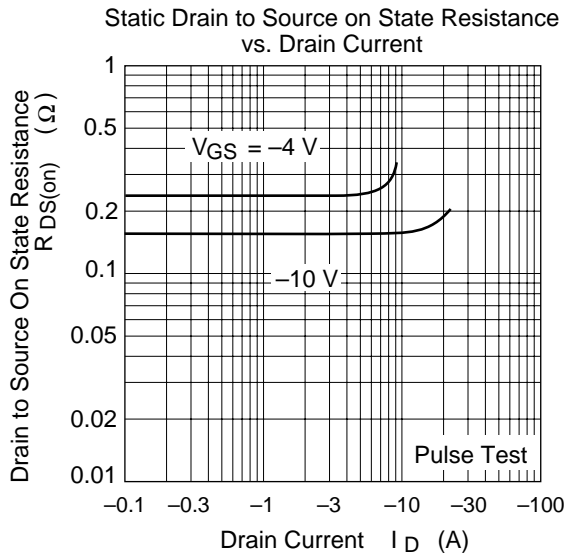
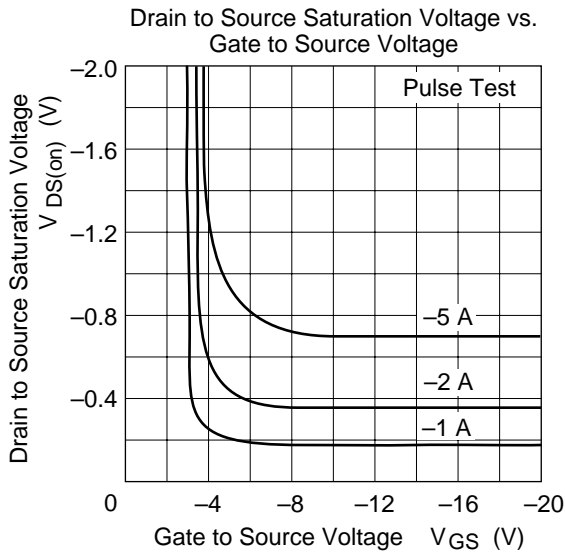
| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|--|---------------|------|------|------|------|--|
| Drain to source breakdown voltage | $V_{(BR)DSS}$ | -60 | — | — | V | $I_D = -10mA$, $V_{GS} = 0$ |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | ±20 | — | — | V | $I_G = \pm 100\mu A$, $V_{DS} = 0$ |
| Zero gate voltage drain current | I_{DSS} | — | — | -10 | μA | $V_{DS} = -60V$, $V_{GS} = 0$ |
| Gate to source leak current | I_{GSS} | — | — | ±10 | μA | $V_{GS} = \pm 16V$, $V_{DS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | -1.0 | — | -2.0 | V | $I_D = -1mA$, $V_{DS} = -10V$ |
| Static drain to source on state resistance | $R_{DS(on)}$ | — | 0.17 | 0.22 | Ω | $I_D = -4A$, $V_{GS} = -10V$ ^{Note4} |
| | $R_{DS(on)}$ | — | 0.24 | 0.37 | Ω | $I_D = -4A$, $V_{GS} = -4V$ ^{Note4} |
| Forward transfer admittance | $ y_{fs} $ | 3.0 | 5.0 | — | S | $I_D = -4A$, $V_{DS} = -10V$ ^{Note4} |
| Input capacitance | Ciss | — | 400 | — | pF | $V_{DS} = -10V$ |
| Output capacitance | Coss | — | 220 | — | pF | $V_{GS} = 0$ |
| Reverse transfer capacitance | Crss | — | 75 | — | pF | $f = 1MHz$ |
| Turn-on delay time | $t_{d(on)}$ | — | 10 | — | ns | $V_{GS} = -10V$, $I_D = -4A$ |
| Rise time | t_r | — | 40 | — | ns | $R_L = 7.5\Omega$ |
| Turn-off delay time | $t_{d(off)}$ | — | 75 | — | ns | |
| Fall time | t_f | — | 65 | — | ns | |
| Body-drain diode forward voltage | V_{DF} | — | -1.1 | — | V | $I_F = -7A$, $V_{GS} = 0$ |
| Body-drain diode reverse recovery time | t_{rr} | — | 65 | — | ns | $I_F = -7A$, $V_{GS} = 0$ $diF/dt = 50A/\mu s$ |

Note: 4. Pulse test

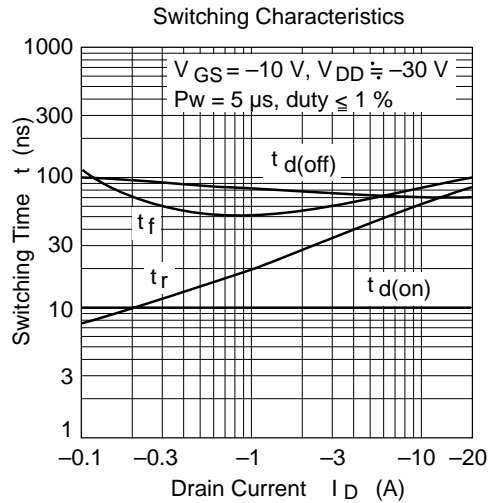
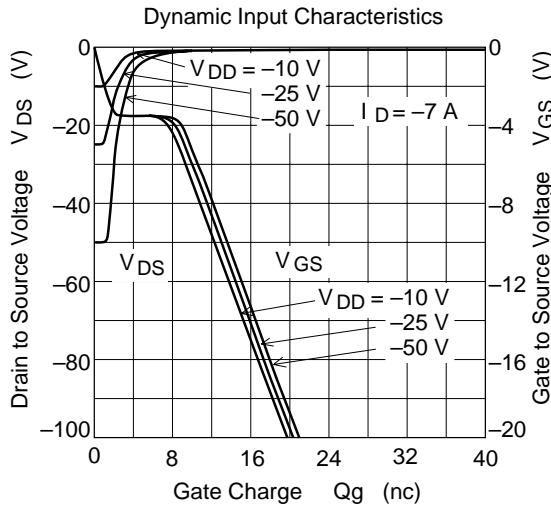
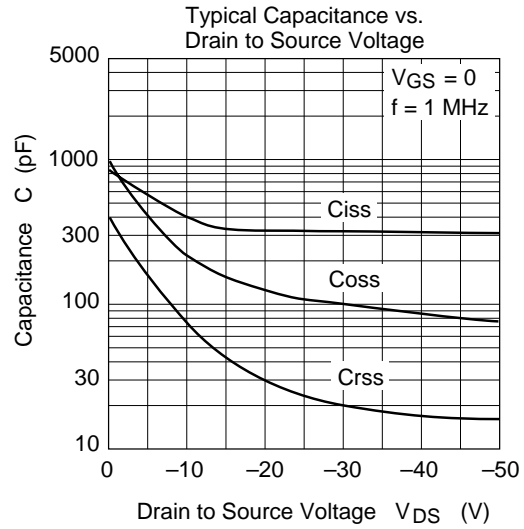
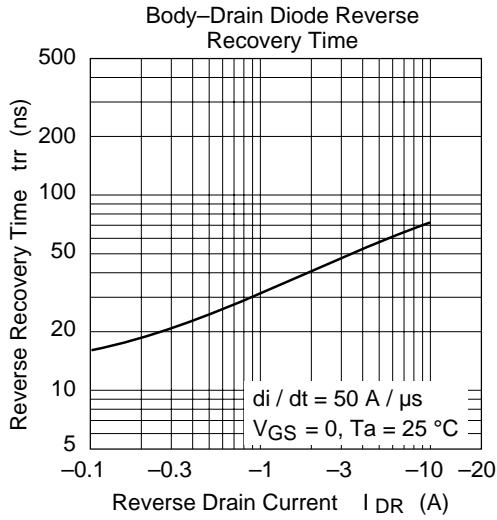
Main Characteristics



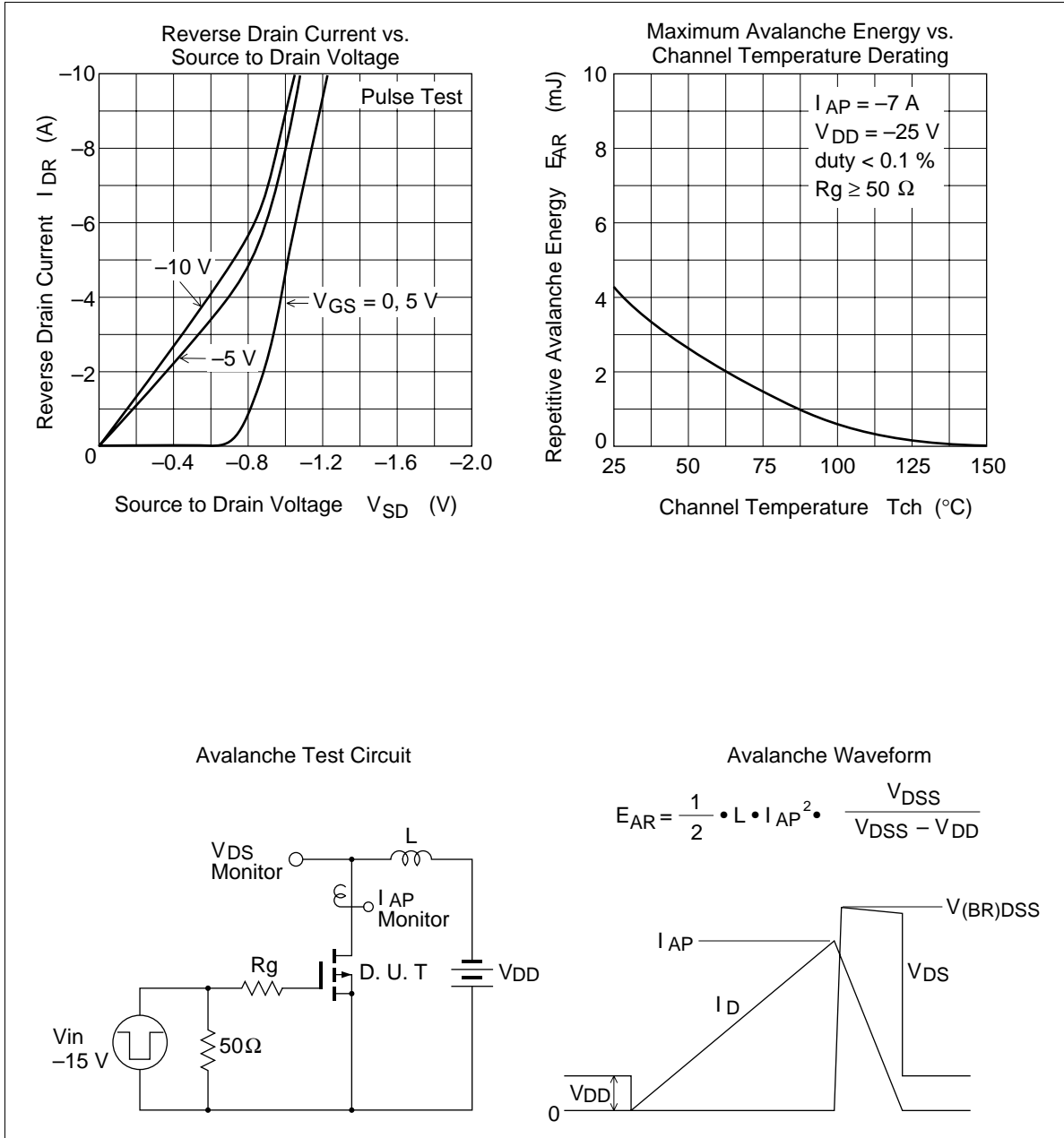
2SJ528(L),2SJ528(S)

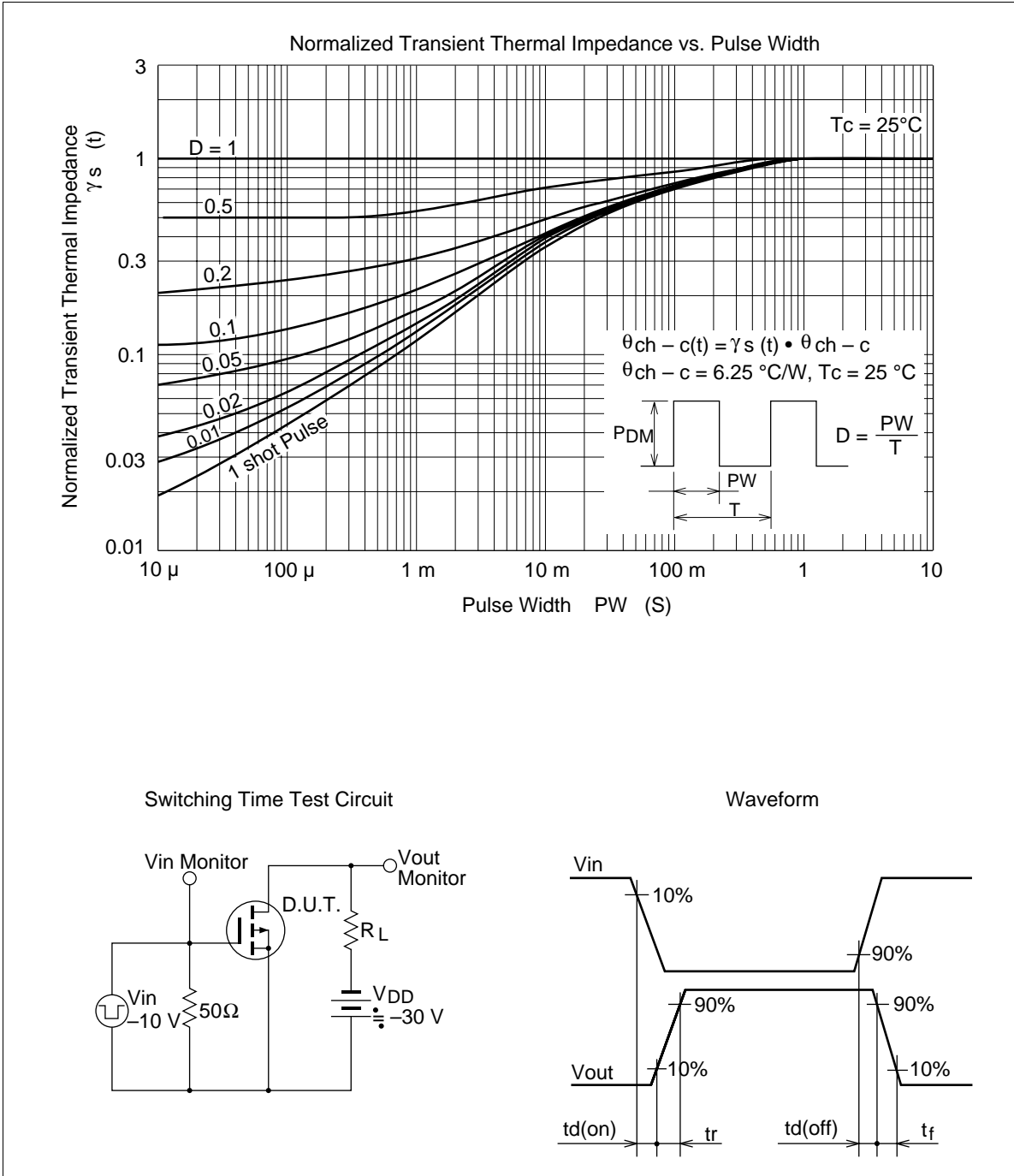


2SJ528(L), 2SJ528(S)



2SJ528(L), 2SJ528(S)

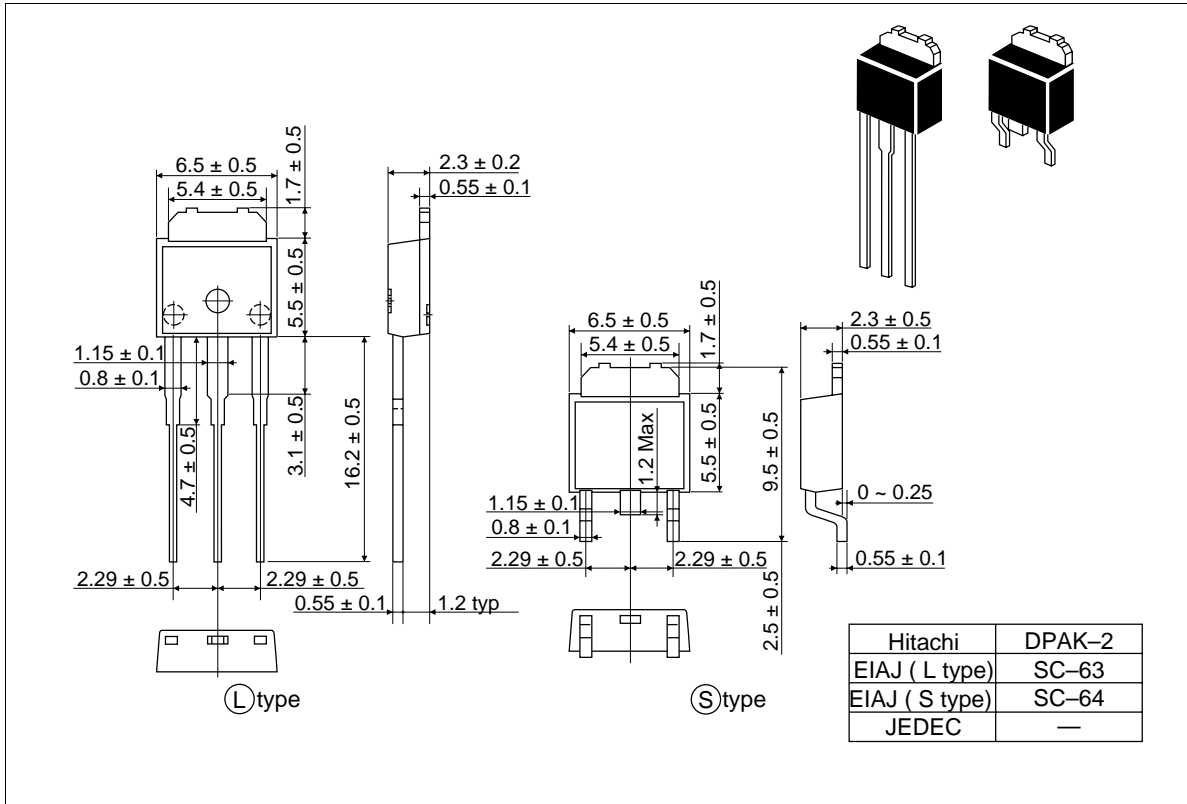




2SJ528(L),2SJ528(S)

Package Dimensions

Unit: mm



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HITACHI

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 NorthAmerica : <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