To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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# 2SK3289

## Silicon N Channel MOS FET
## High Speed Switching

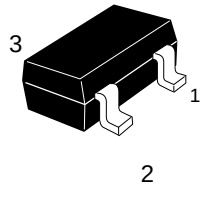
ADE-208-743B(Z)
Target Specification 3rd.Edition.
December 1998

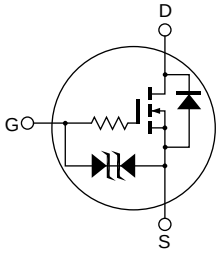
### Features

- Low on-resistance
  $R_{DS}$ = 1.26Ω typ. (at $V_{GS}$ =10V , $I_D$ =150mA)
  $R_{DS}$ = 2.8Ω typ. (at $V_{GS}$ =4V , $I_D$ =50mA)
- 4V gate drive device
- Small package (CMPAK)

### Outline

CMPAK




1. Source
2. Gate
3. Drain

## 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 | $I_D$ | 300 | mA |
| Drain peak current | $I_{D(pulse)}$ Note1 | 1.2 | A |
| Body-drain diode reverse drain current | $I_{DR}$ | 300 | mA |
| Channel dissipation | Pch Note 2 | 400 | mW |
| Channel temperature | Tch | 150 | °C |
| Storage temperature | Tstg | –55 to +150 | °C |

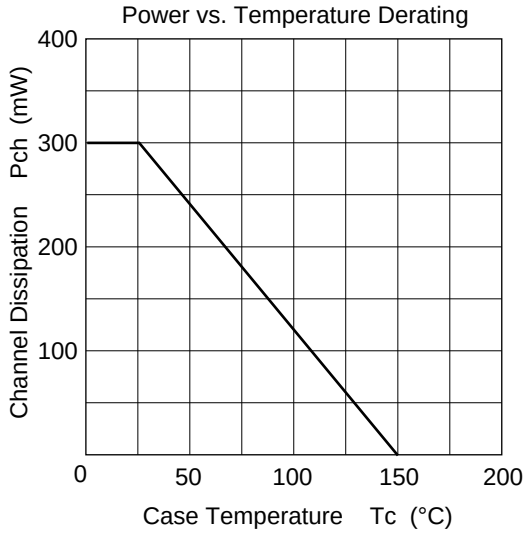
Note: 1. PW ≤ 10µs, duty cycle ≤ 1 %
2. Value on the alumina ceramic board (12.5x20x0.7mm)

## Electrical Characteristics (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Drain to source breakdown voltage | $V_{(BR)DSS}$ | 30 | — | — | V | $I_D$ = 100µA, $V_{GS}$ = 0 |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | ±20 | — | — | V | $I_G$ = ±100µA, $V_{DS}$ = 0 |
| Gate to source leak current | $I_{GSS}$ | — | — | ±5 | µA | $V_{GS}$ = ±16V, $V_{DS}$ = 0 |
| Zero gate voltege drain current | $I_{DSS}$ | — | — | 1 | µA | $V_{DS}$ = 30 V, $V_{GS}$ = 0 |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 1.3 | — | 2.3 | V | $I_D$ = 10µA, $V_{DS}$ = 5V |
| Static drain to source on state resistance | $R_{DS(on)}$ | — | 1.26 | 1.44 | Ω | $I_D$ = 150mA,$V_{GS}$ = 10V Note 3 |
| | $R_{DS(on)}$ | — | 2.8 | 3.44 | Ω | $I_D$ = 50mA,$V_{GS}$ = 4V Note 3 |
| Forward transfer admittance | $\|y_{fs}\|$ | 145 | 220 | — | mS | $I_D$ = 150mA, $V_{DS}$ = 10V Note 3 |
| Input capacitance | Ciss | — | 4 | — | pF | $V_{DS}$ = 10V |
| Output capacitance | Coss | — | 15 | — | pF | $V_{GS}$ = 0 |
| Reverse transfer capacitance | Crss | — | 2 | — | pF | f = 1MHz |
| Turn-on delay time | $t_{d(on)}$ | — | 200 | — | ns | $I_D$ = 150mA, $V_{GS}$ = 10V |
| Rise time | $t_r$ | — | 600 | — | ns | $R_L$ = 66.6Ω |
| Turn-off delay time | $t_{d(off)}$ | — | 1100 | — | ns | |
| Fall time | $t_f$ | — | 1100 | — | ns | |

Note: 3. Pulse test
4. Marking is " AN "

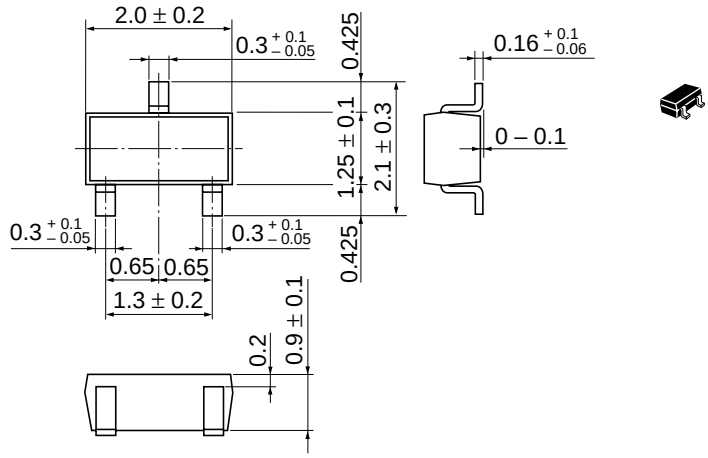
## Main Characteristics



## Package Dimensions

As of January, 2001

Unit: mm




| | |
|---|---|
| Hitachi Code | CMPAK |
| JEDEC | — |
| EIAJ | Conforms |
| Mass (reference value) | 0.006 g |

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