

2SK1056, 2SK1057, 2SK1058

Silicon N Channel MOS FET

REJ03G0906-0200
(Previous: ADE-208-1244)
Rev.2.00
Sep 07, 2005

Application

Low frequency power amplifier

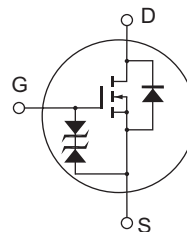
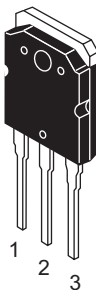
Complementary pair with 2SJ160, 2SJ161 and 2SJ162

Features

- Good frequency characteristic
- High speed switching
- Wide area of safe operation
- Enhancement-mode
- Good complementary characteristics
- Equipped with gate protection diodes
- Suitable for audio power amplifier

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name: TO-3P)



1. Gate
2. Source (Flange)
3. Drain

Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---|---------------|-------------|------|
| Drain to source voltage | V_{DSX} | 120 | V |
| | | 140 | |
| | | 160 | |
| Gate to source voltage | V_{GSS} | ±15 | V |
| Drain current | I_D | 7 | A |
| Body to drain diode reverse drain current | I_{DR} | 7 | A |
| Channel dissipation | P_{ch}^{*1} | 100 | W |
| Channel temperature | T_{ch} | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Note: 1. Value at $T_C = 25^\circ\text{C}$

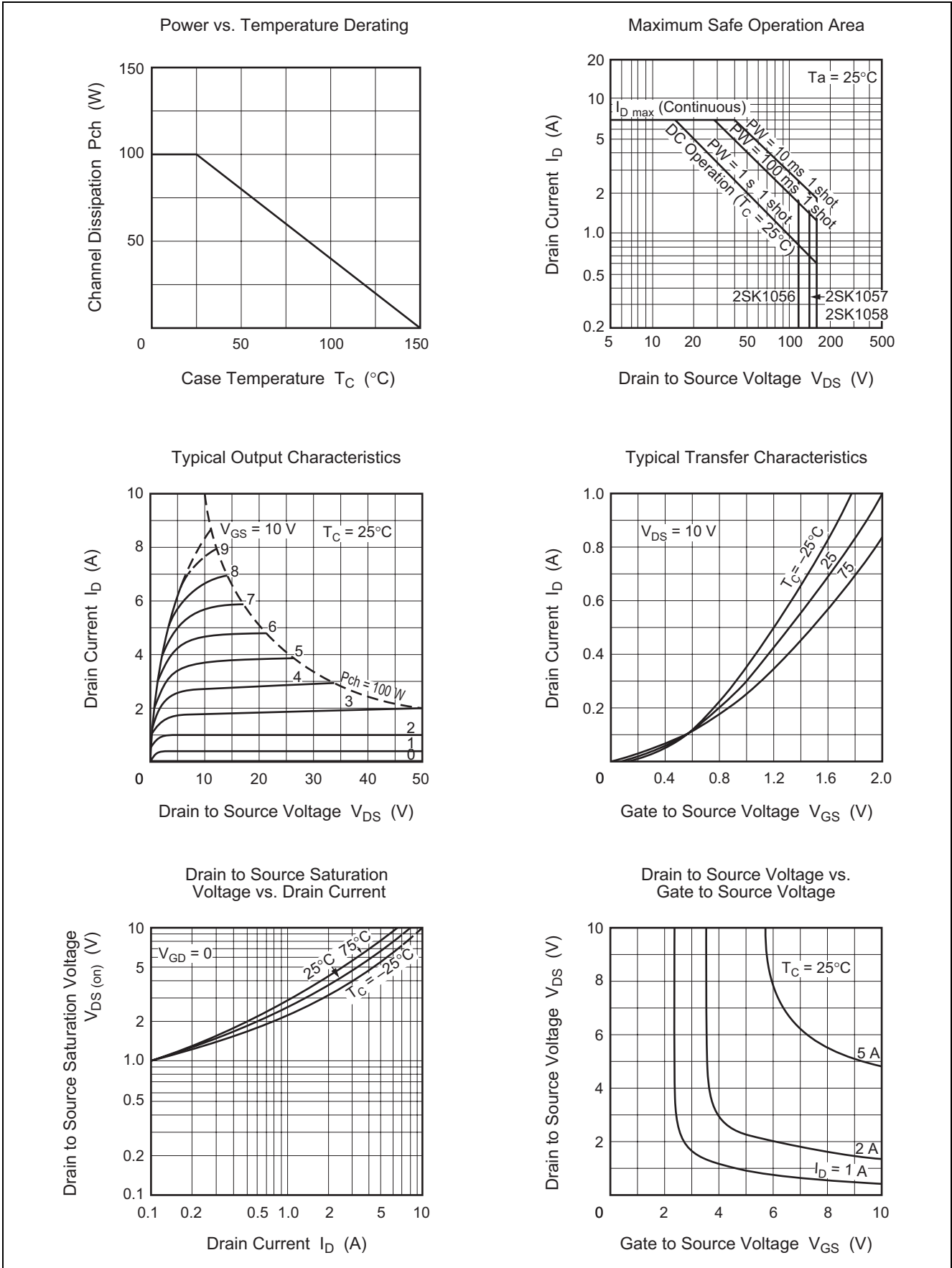
Electrical Characteristics

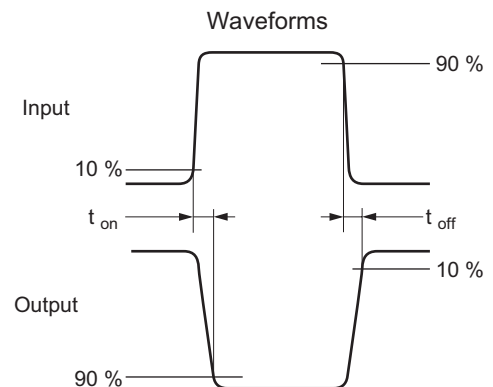
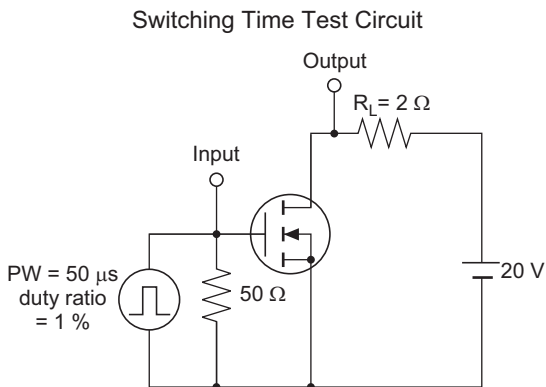
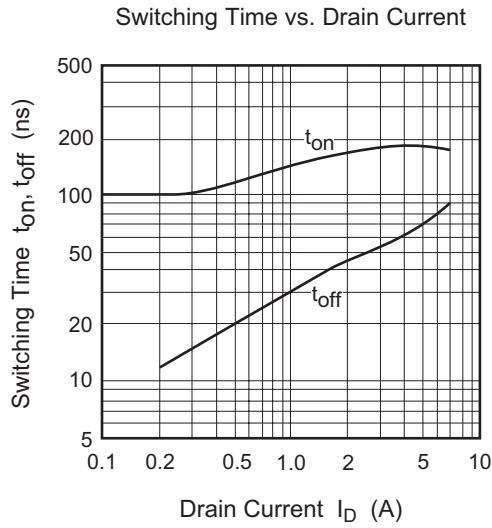
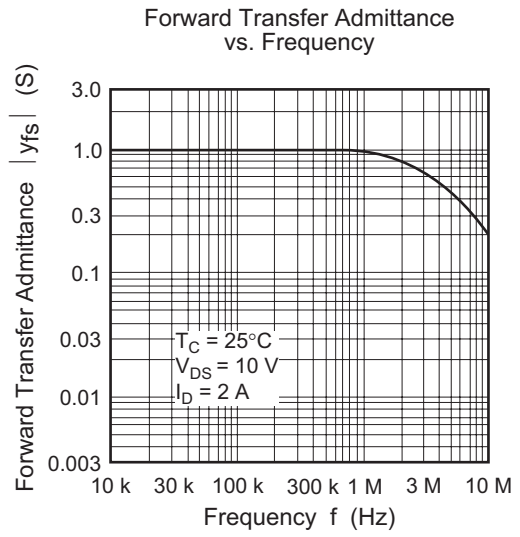
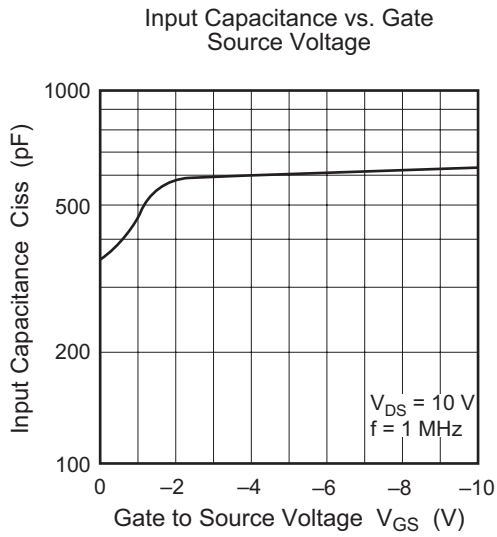
(Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|------------------------------------|---------------|------|-----|------|------|--|
| Drain to source breakdown voltage | $V_{(BR)DSX}$ | 120 | — | — | V | $I_D = 10 \text{ mA}, V_{GS} = -10 \text{ V}$ |
| | | 140 | | | | |
| | | 160 | | | | |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | ±15 | — | — | V | $I_G = \pm 100 \mu\text{A}, V_{DS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 0.15 | — | 1.45 | V | $I_D = 100 \text{ mA}, V_{DS} = 10 \text{ V}$ |
| Drain to source saturation voltage | $V_{DS(sat)}$ | — | — | 12 | V | $I_D = 7 \text{ A}, V_{GD} = 0^{*2}$ |
| Forward transfer admittance | $ y_{fs} $ | 0.7 | 1.0 | 1.4 | S | $I_D = 3 \text{ A}, V_{DS} = 10 \text{ V}^{*2}$ |
| Input capacitance | C_{iss} | — | 600 | — | pF | $V_{GS} = -5 \text{ V}, V_{DS} = 10 \text{ V},$ $f = 1 \text{ MHz}$ |
| Output capacitance | C_{oss} | — | 350 | — | pF | |
| Reverse transfer capacitance | C_{rss} | — | 10 | — | pF | |
| Turn-on time | t_{on} | — | 180 | — | ns | $V_{DD} = 20 \text{ V}, I_D = 4 \text{ A}$ |
| Turn-off time | t_{off} | — | 60 | — | ns | |

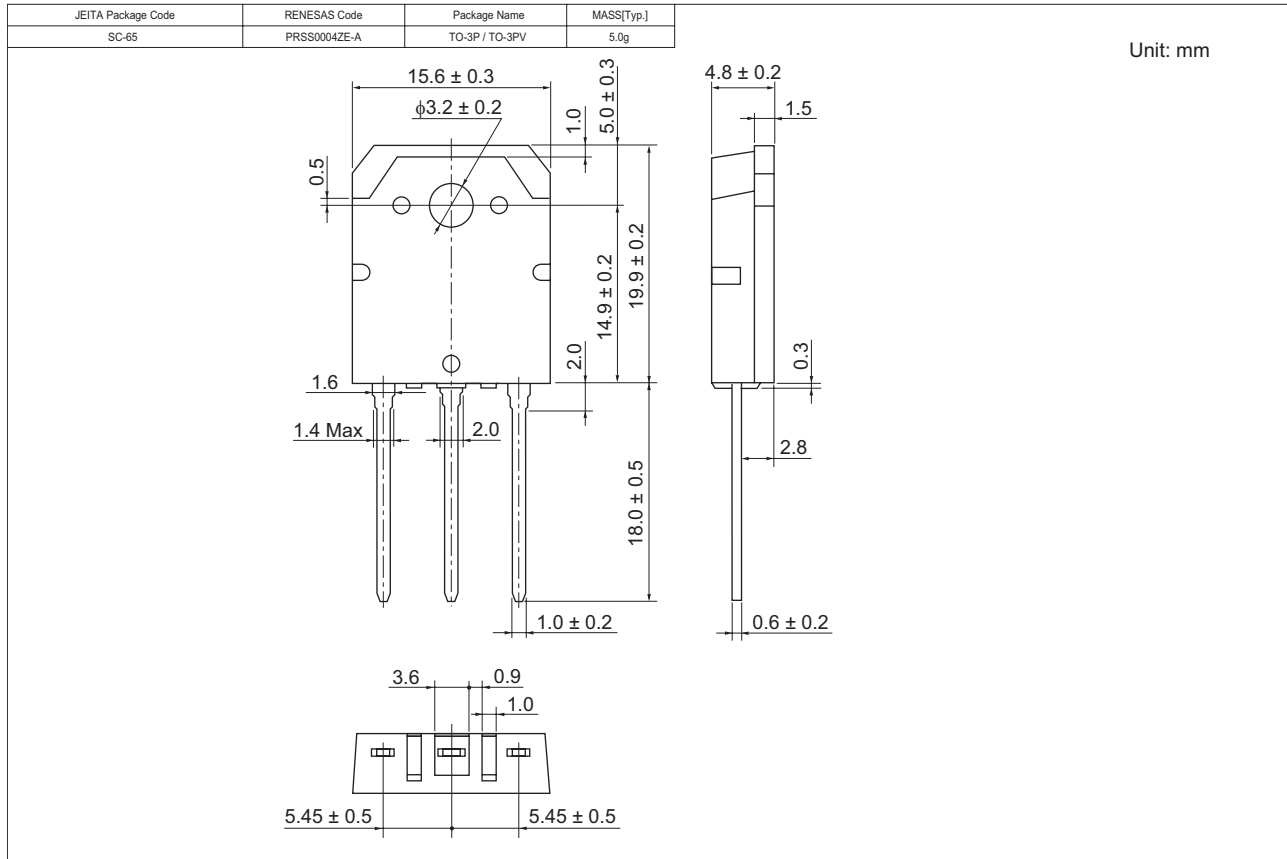
Note: 2. Pulse test

Main Characteristics





Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|-----------|----------|--------------------|
| 2SK1056-E | 360 pcs | Box (Tube) |
| 2SK1057-E | 360 pcs | Box (Tube) |
| 2SK1058-E | 360 pcs | Box (Tube) |

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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Renesas Technology America, Inc.

450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited

Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology Hong Kong Ltd.

7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.

10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology (Shanghai) Co., Ltd.

Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China
Tel: <86> (21) 6472-1001, Fax: <86> (21) 6415-2952

Renesas Technology Singapore Pte. Ltd.

1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.

Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> 2-796-3115, Fax: <82> 2-796-2145

Renesas Technology Malaysia Sdn. Bhd.

Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510