

2SK1070

Silicon N-Channel Junction FET

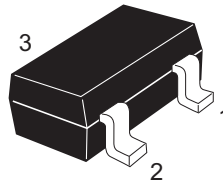
R07DS0282EJ0400
Rev.4.00
Jan 10, 2014

Application

- Low frequency / High frequency amplifier

Outline

RENESAS Package code: PLSP0003ZB-A
(Package name: MPAK)



1. Drain
2. Source
3. Gate

Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|---------------------------|-----------|-------------|------|
| Gate to drain voltage | V_{GD0} | -22 | V |
| Gate to source voltage | V_{GS0} | -22 | V |
| Drain current | I_D | 50 | mA |
| Gate current | I_G | 10 | mA |
| Channel power dissipation | P_{ch} | 150 | mW |
| Channel temperature | T_{ch} | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Electrical Characteristics

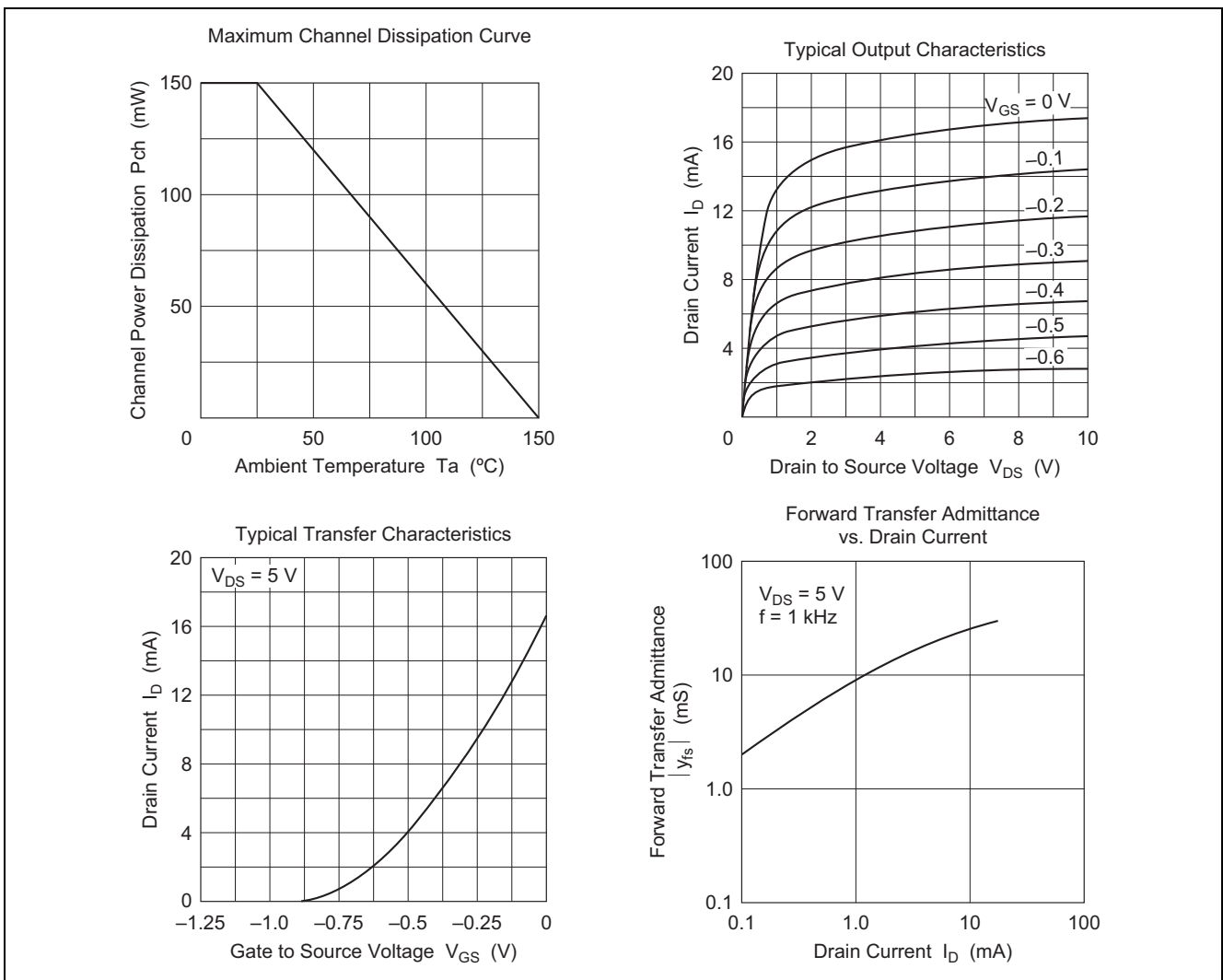
(Ta = 25°C)

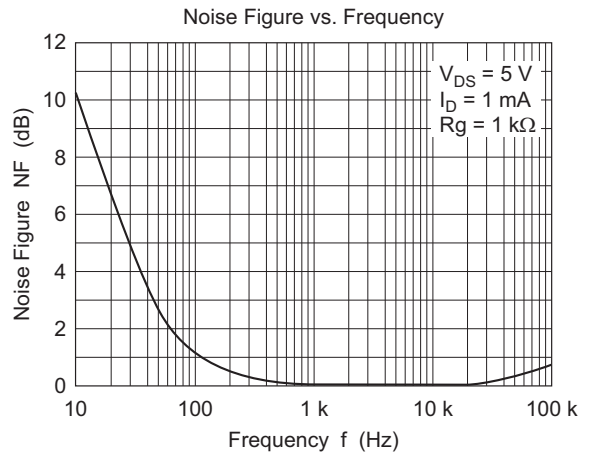
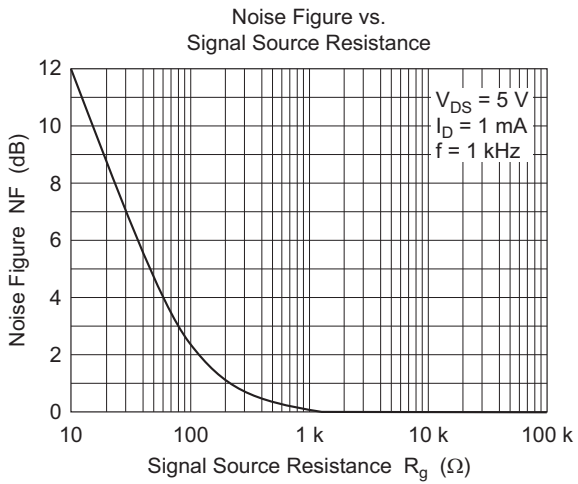
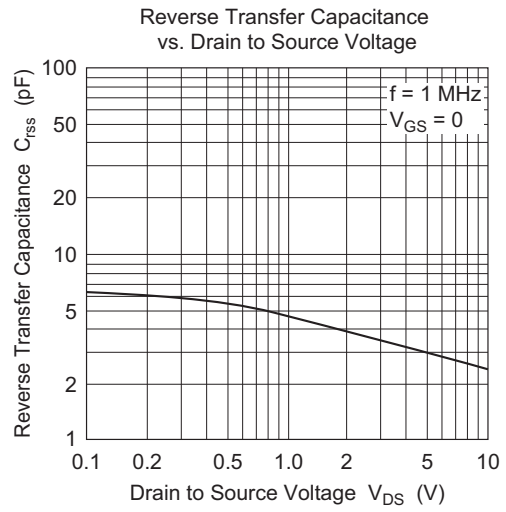
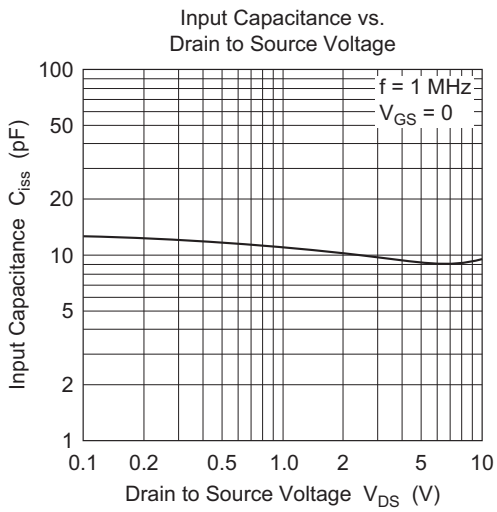
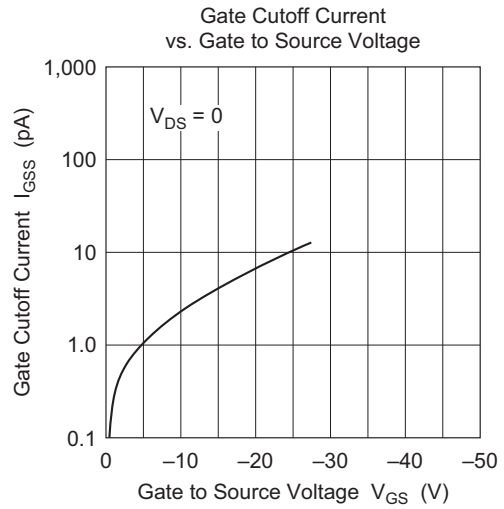
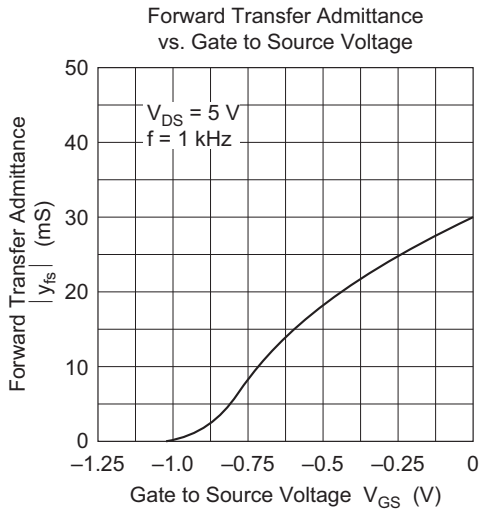
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|----------------------------------|----------------|-----|-----|------|------|---|
| Gate cutoff current | I_{GSS} | — | — | -10 | nA | $V_{GS} = -15\text{ V}, V_{DS} = 0$ |
| Gate to source breakdown voltage | $V_{(BR)GSS}$ | -22 | — | — | V | $I_G = -10\ \mu\text{A}, V_{DS} = 0$ |
| Drain current | I_{DSS}^{*1} | 12 | — | 40 | mA | $V_{DS} = 5\text{ V}, V_{GS} = 0$, Pulse test |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 0 | — | -2.5 | V | $V_{DS} = 5\text{ V}, I_D = 10\ \mu\text{A}$ |
| Forward transfer admittance | $ y_{fs} $ | 20 | 30 | — | mS | $V_{DS} = 5\text{ V}, V_{GS} = 0, f = 1\text{ kHz}$ |
| Input capacitance | C_{iss} | — | 9 | — | pF | $V_{DS} = 5\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$ |

Notes: 1. The 2SK1070 is grouped by I_{DSS} as follows.

| Grade | C | D | E |
|-----------|----------|----------|----------|
| Mark | PIC | PID | PIE |
| I_{DSS} | 12 to 22 | 18 to 30 | 27 to 40 |

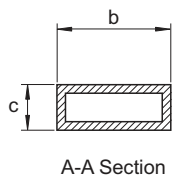
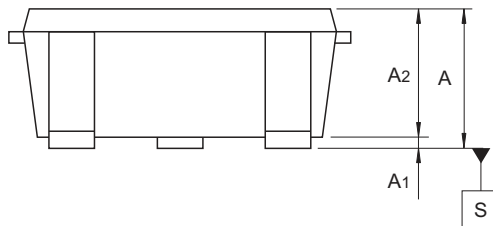
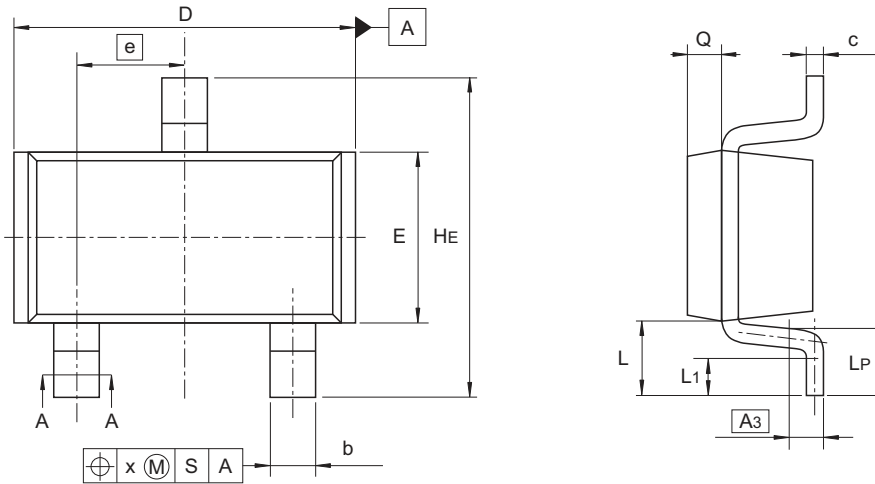
Main Characteristics





Package Dimensions

| JEITA Package Code | RENESAS Code | Previous Code | MASS (Typ) [g] |
|--------------------|--------------|--------------------|----------------|
| SC-59A | PLSP0003ZB-A | MPAK(T) / MPAK(T)V | 0.011 |



| Reference Symbol | Dimensions in millimeters | | |
|------------------|---------------------------|------|------|
| | Min | Nom | Max |
| A | 1.0 | — | 1.3 |
| A1 | 0 | — | 0.1 |
| A2 | 1.0 | 1.1 | 1.2 |
| A3 | — | 0.25 | — |
| b | 0.35 | 0.4 | 0.5 |
| c | 0.1 | 0.16 | 0.26 |
| D | 2.7 | — | 3.1 |
| E | 1.35 | 1.5 | 1.65 |
| e | — | 0.95 | — |
| HE | 2.2 | 2.8 | 3.0 |
| L | 0.35 | — | 0.75 |
| L1 | 0.15 | — | 0.55 |
| LP | 0.25 | — | 0.65 |
| x | — | — | 0.05 |
| Q | — | 0.3 | — |

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Ordering Information

| Orderable Part Number | Quantity | Shipping Container |
|--|-----------------|----------------------------------|
| 2SK1070PICTL-E 2SK1070PIDTL-E 2SK1070PIETL-E 2SK1070PICTL-H 2SK1070PIDTL-H 2SK1070PIETL-H | 3000 | φ178 mm reel, 8 mm Emboss Taping |

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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