# DSKTJ07

## Silicon N-channel Junction FET

For impedance conversion in low frequency

### ■ Features

- Low noise voltage NV
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

Embossed type (Thermo-compression sealing): 10000 pcs / reel (standard)

### ■ Package

- Code
  TSSSMini3-F2-B
- Pin Name
  1: Drain
  2: Source
  3: Gate

### ■ Marking Symbol: B

### ■ Absolute Maximum Ratings $T_a = 25°C$

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-source voltage (Gate open) | $V_{DSO}$ | 20 | V |
| Drain-gate voltage (Souece open) | $V_{DGO}$ | 20 | V |
| Drain-source current (Gate open) | $I_{DSO}$ | 2 | mA |
| Drain-gate current (Souece open) | $I_{DGO}$ | 2 | mA |
| Power dissipation | $P_D$ | 100 | mW |
| Operating ambient temperature | $T_{opr}$ | –20 to +80 | °C |
| Storage temperature | $T_{stg}$ | –55 to +150 | °C |

### ■ Electrical Characteristics $T_a = 25°C \pm 3°C$

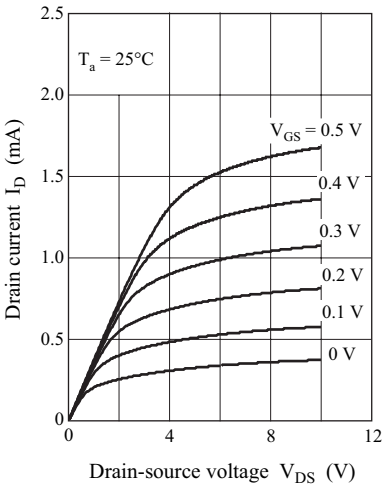
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain current*1 | $I_D$ | $V_{DS}$ = 2.0 V, $R_d$ = 2.2 kΩ ± 1% | 180 | | 470 | μA |
| Drain-source cutoff current *2 | $I_{DSS}$ | $V_{DS}$ = 2.0 V, $R_d$ = 2.2 kΩ ± 1%, $V_{GS}$ = 0 | 190 | | 460 | μA |
| Forward transfer admittance | $\|Y_{fs}\|$ | $V_D$ = 2.0 V, $V_{GS}$ = 0, f = 1 MHz | 660 | 1 500 | | μS |
| Noise voltage *3 | NV | $V_D$ = 2.0 V, $R_d$ = 2.2 kΩ ± 1%, $C_O$ = 5 pF, A-curve | | | 4 | μV |
| Voltage gain | $G_{V1}$ | $V_D$ = 2.0 V, $R_d$ = 2.2 kΩ ± 1%, $C_O$ = 5 pF, eG = 10 mV, f = 1 kHz | –5.0 | –1.0 | | dB |
| | $G_{V2}$ | $V_D$ = 1.5 V, $R_d$ = 2.2 kΩ ± 1%, $C_O$ = 5 pF, eG = 10 mV, f = 1 kHz | –7.0 | –1.5 | | dB |
| | $\Delta\|G_V . f\|$ *4 | $V_D$ = 2.0 V, $R_d$ = 2.2 kΩ ± 1%, $C_O$ = 5 pF, eG = 10 mV, f = 1 kHz to 70 Hz | | 0 | 1.7 | dB |
| Voltage gain difference | $\|G_{V1} - G_{V2}\|$ | | 0 | | 2.0 | dB |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. A protection diode is built-in between gate and source of transistor. However if forward current flows between gate and source transistor might be damaged. So please be careful not insert reverse.
3. *1: $I_D$ is assured for $I_{DSS}$.
*2: Rank classification

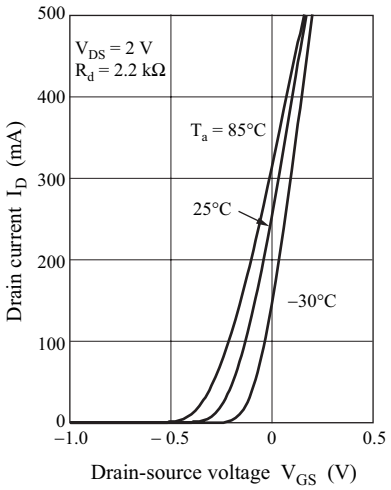
| Code | T | U |
|---|---|---|
| Rank | T | U |
| $I_D$ (μA) | 180 to 320 | 280 to 470 |
| $I_{DSS}$ (μA) | 190 to 310 | 290 to 460 |
| Marking Symbol | BT | BU |

*3: NV is assured for design.
*4: $\Delta|G_V . f|$ is assured for AQL 0.065%. (The measurement method is used by source-grounded circuit.)

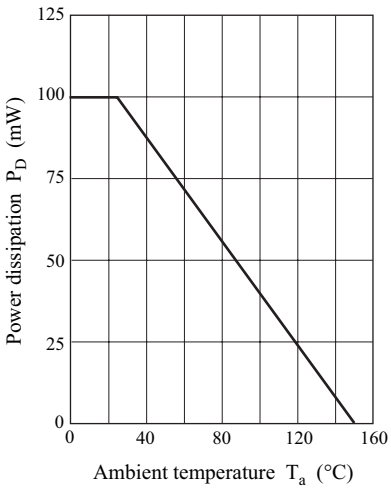
$I_D$ — $V_{DS}$




$I_D$ — $V_{GS}$

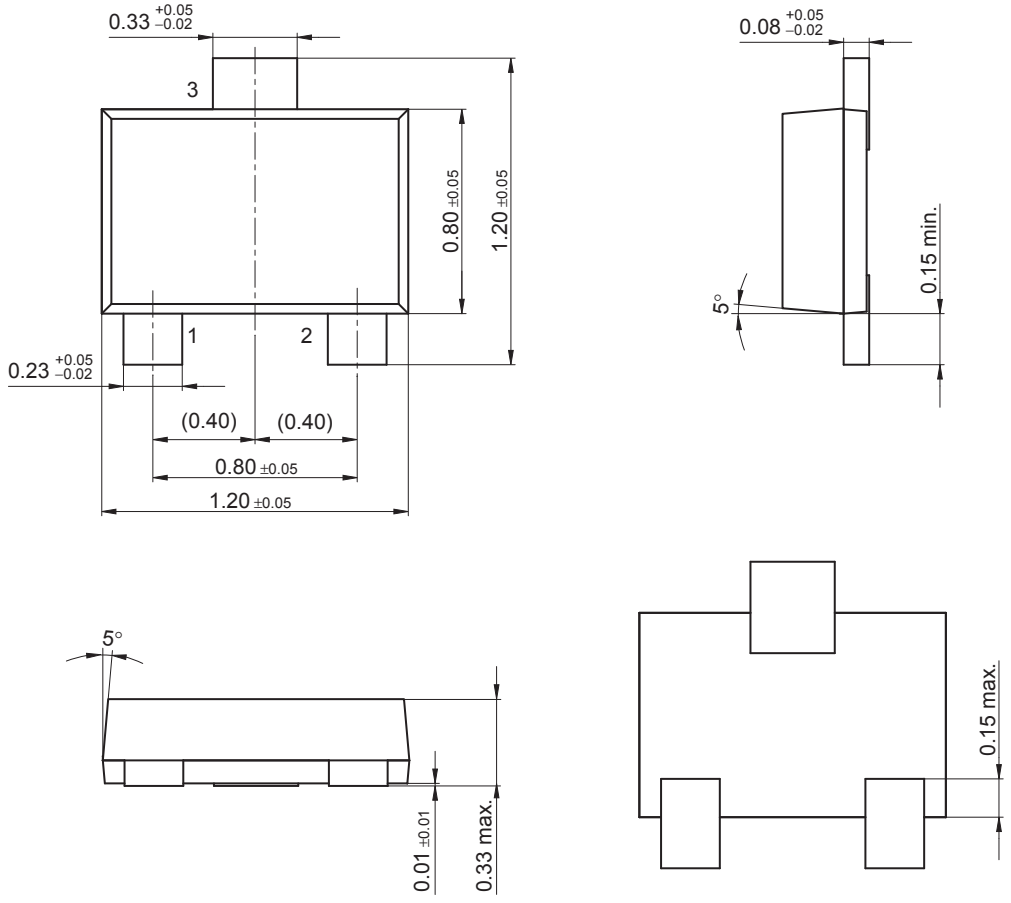



$P_D$ — $T_a$



# TSSSMini3-F2-B

Unit: mm



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