

**Panasonic**

MOS FET

MTM862270LBF

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Silicon N-channel MOSFET

For Switching

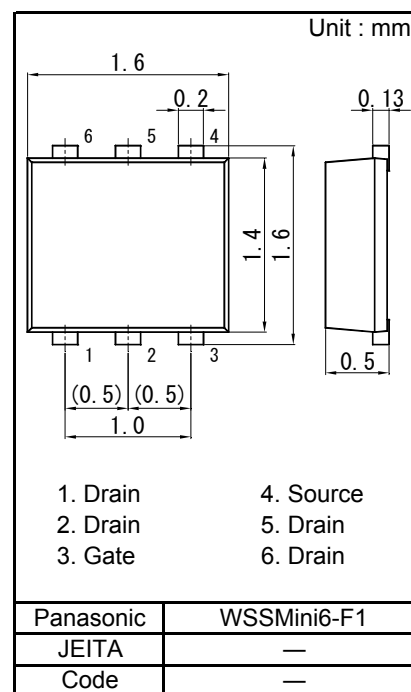
#### ■ Features

- Low drain-source On-state Resistance :  $R_{DS(on)}$  typ =  $80\text{ m}\Omega$  ( $V_{GS} = 4.0\text{ V}$ )
- Low drive voltage: 1.8V drive
- Halogen-free / RoHS compliant  
(EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

#### ■ Marking Symbol : JF

#### ■ Packaging

Embossed type (Thermo-compression sealing) : 10 000 pcs / reel (standard)

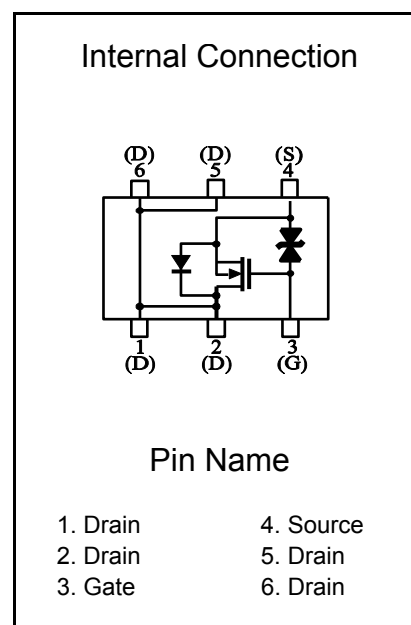


#### ■ Absolute Maximum Ratings $T_a = 25\text{ }^{\circ}\text{C}$

| Parameter                             | Symbol    | Rating      | Unit               |
|---------------------------------------|-----------|-------------|--------------------|
| Drain to Source Voltage               | $V_{DS}$  | 20          | V                  |
| Gate to Source Voltage                | $V_{GS}$  | $\pm 10$    |                    |
| Drain Current                         | $I_D$     | 2.2         | A                  |
| Drain Current (Pulsed) <sup>*1</sup>  | $I_{Dp}$  | 8.0         |                    |
| Total Power Dissipation <sup>*2</sup> | PD        | 540         | mW                 |
| Channel Temperature                   | $T_{ch}$  | 150         | $^{\circ}\text{C}$ |
| Operating Ambient Temperature         | $T_{opr}$ | -40 to +85  |                    |
| Storage Temperature Range             | $T_{stg}$ | -55 to +150 |                    |

Note) <sup>\*1</sup> Pulse width  $t \leq 10\text{ }\mu\text{s}$ , Duty cycle  $\leq 1\%$

<sup>\*2</sup> Measuring on ceramic substrate at  $40\text{ mm} \times 38\text{ mm} \times 0.2\text{ mm}$   
PD absolute maximum rating without a heat sink: 150 mW



■ Electrical Characteristics Ta = 25 °C ± 3 °C

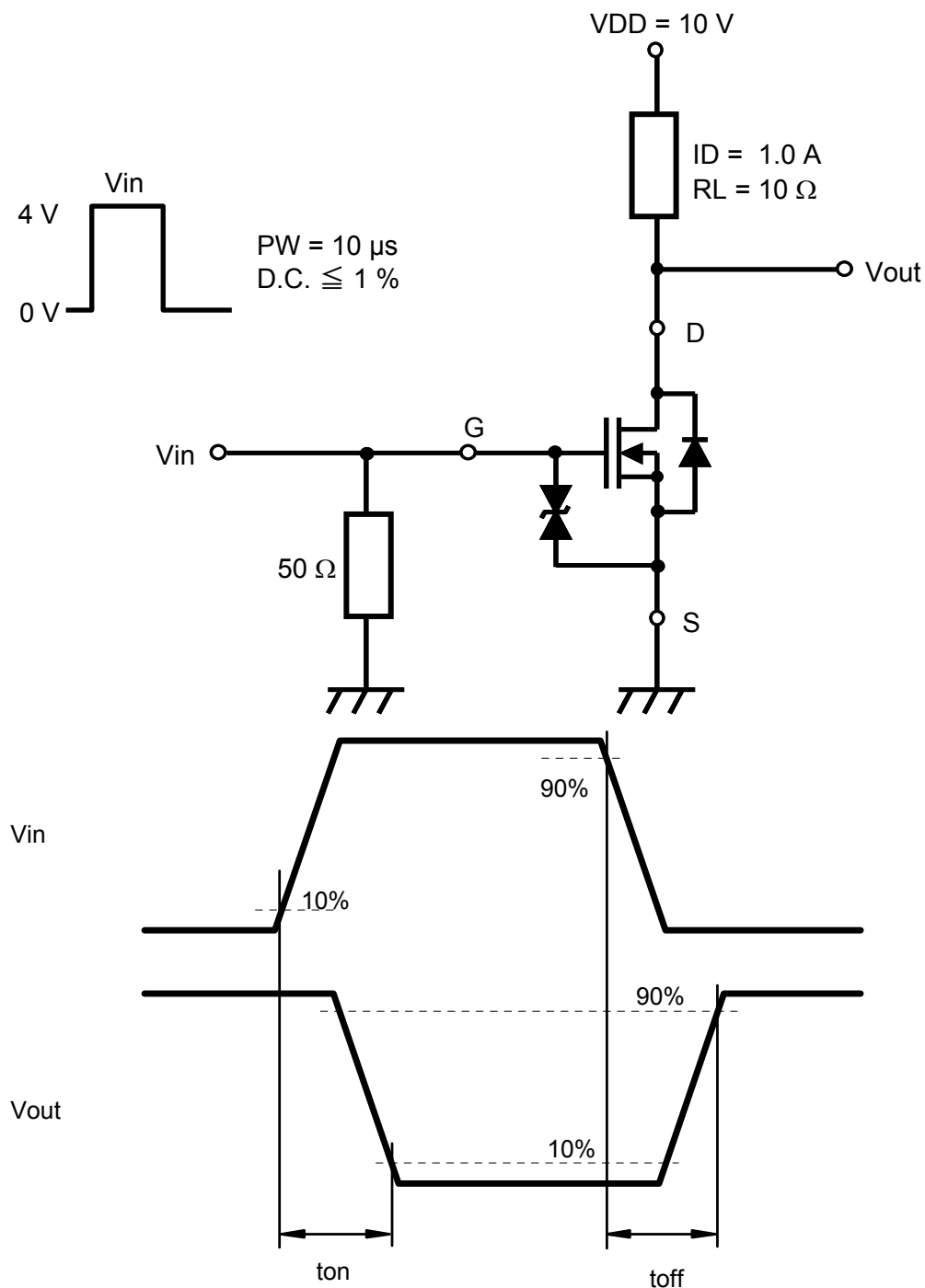
| Parameter                           | Symbol   | Conditions                               | Min | Typ  | Max | Unit |
|-------------------------------------|----------|------------------------------------------|-----|------|-----|------|
| Drain-source Breakdown Voltage      | VDSS     | ID = 1.0 mA, VGS = 0                     | 20  |      |     | V    |
| Zero Gate Voltage Drain Current     | IDSS     | VDS = 20 V, VGS = 0                      |     |      | 1.0 | μA   |
| Gate-source Leakage Current         | IGSS     | VGS = ±8.0 V, VDS = 0                    |     |      | ±10 | μA   |
| Gate-source Threshold Voltage       | Vth      | ID = 1.0 mA, VDS = 10 V                  | 0.4 | 0.85 | 1.3 | V    |
| Drain-source On-state Resistance *1 | RDS(on)1 | ID = 1.0 A, VGS = 4.0 V                  |     | 80   | 105 | mΩ   |
|                                     | RDS(on)2 | ID = 0.5 A, VGS = 2.5 V                  |     | 100  | 150 | mΩ   |
|                                     | RDS(on)3 | ID = 0.5 A, VGS = 1.8 V                  |     | 170  | 300 | mΩ   |
| Forward transfer admittance *1      | Yfs      | ID = 1.0 A, VDS = 10 V                   | 3.0 | 4.0  |     | S    |
| Input Capacitance                   | Ciss     | VDS = 10 V, VGS = 0, f = 1 MHz           |     | 280  |     | pF   |
| Output Capacitance                  | Coss     |                                          |     | 18   |     | pF   |
| Reverse Transfer Capacitance        | Crss     |                                          |     | 17   |     | pF   |
| Turn-on time *2                     | ton      | VDD = 10 V, VGS = 0 to 4 V<br>ID = 1.0 A |     | 12   |     | ns   |
| Turn-off time *2                    | toff     | VDD = 10 V, VGS = 4 to 0 V<br>ID = 1.0 A |     | 50   |     | ns   |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

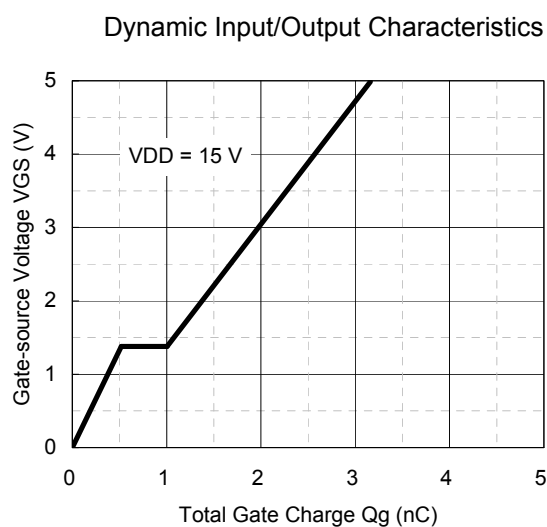
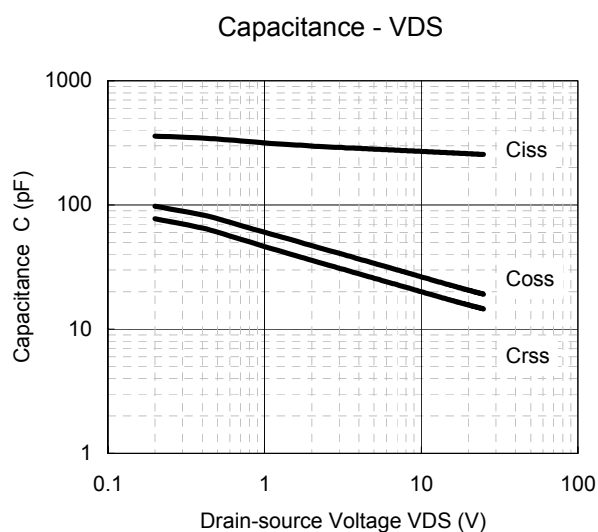
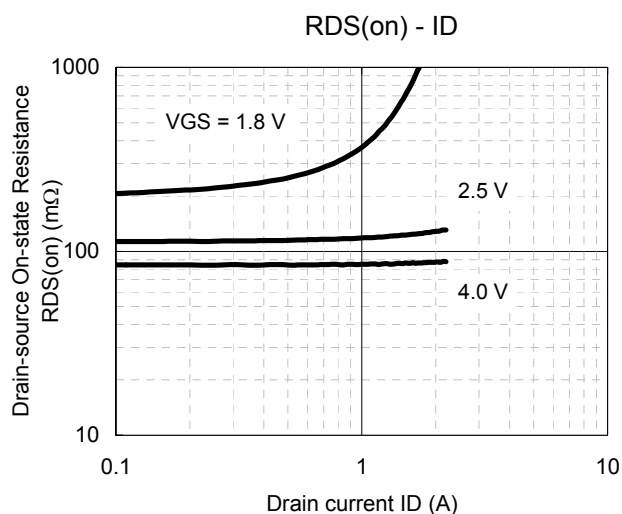
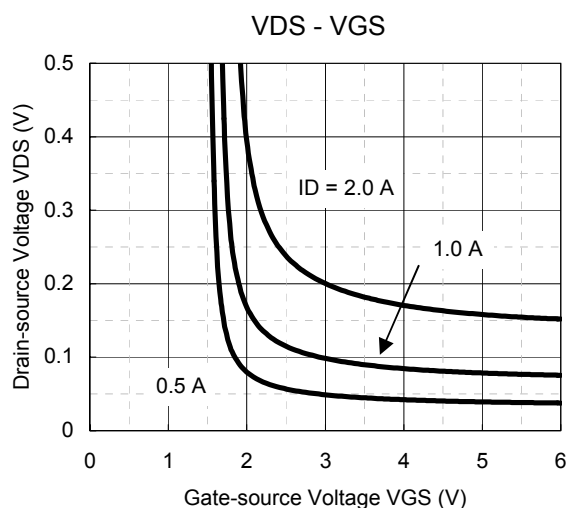
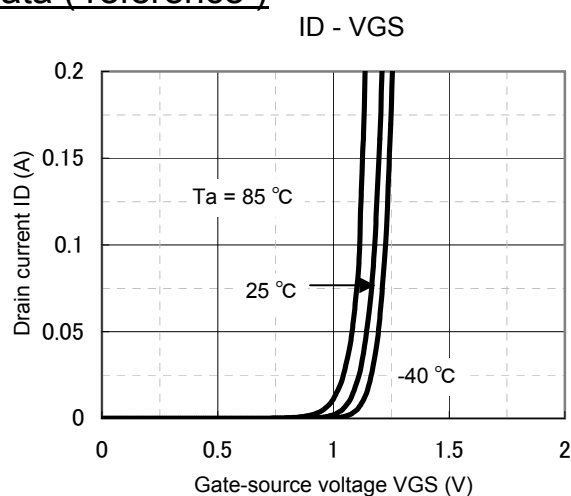
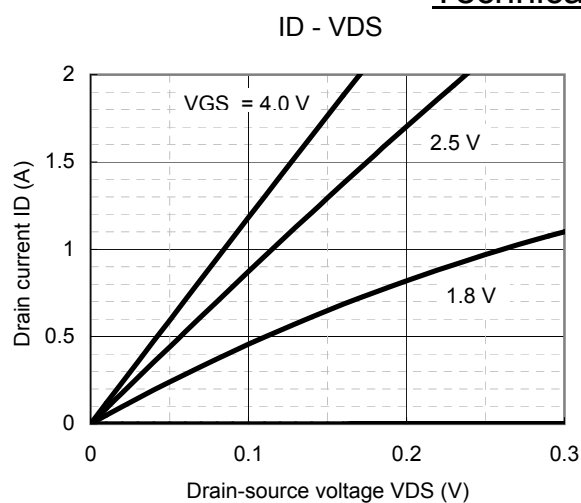
2. \*1 Pulse test

\*2 Measurement circuit for Turn-on Time / Turn-off Time

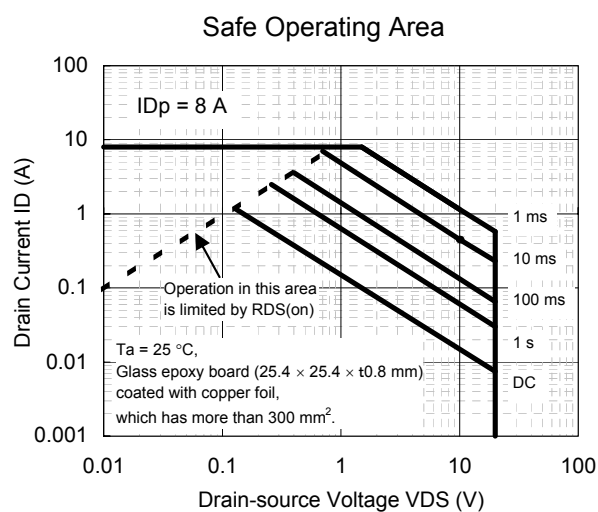
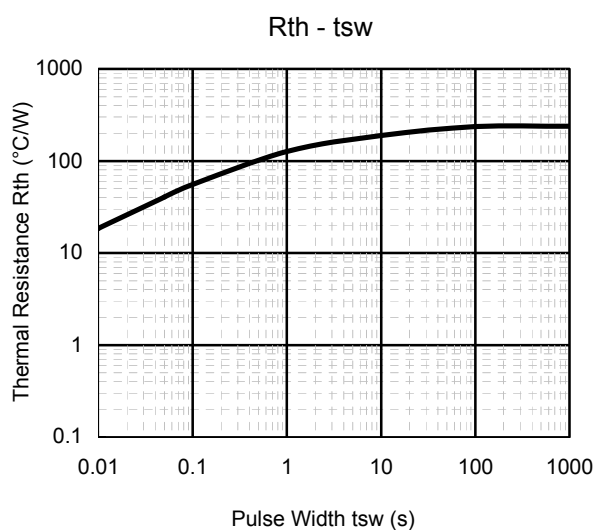
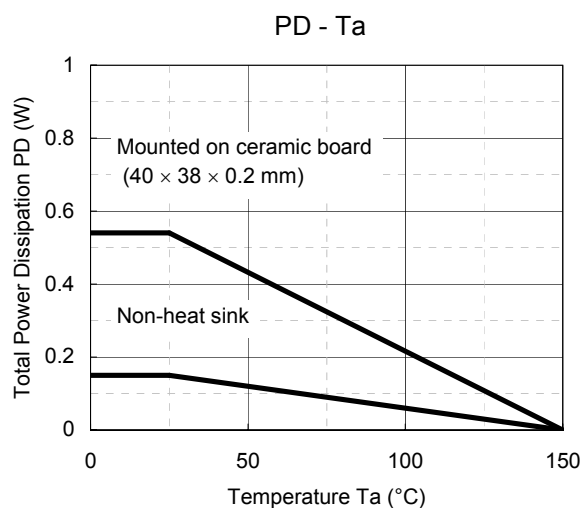
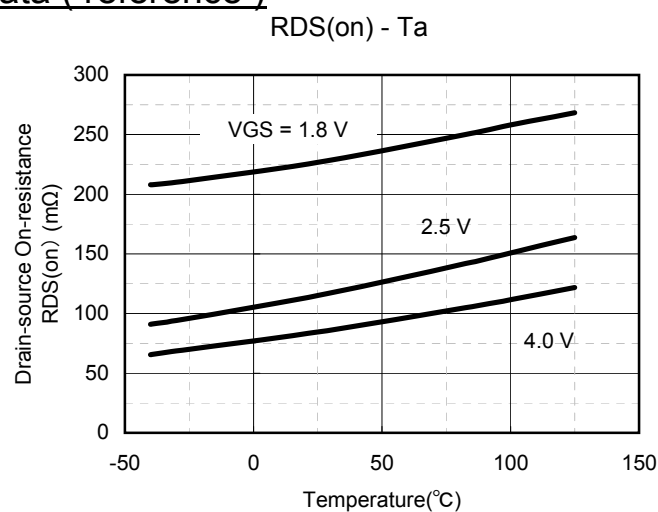
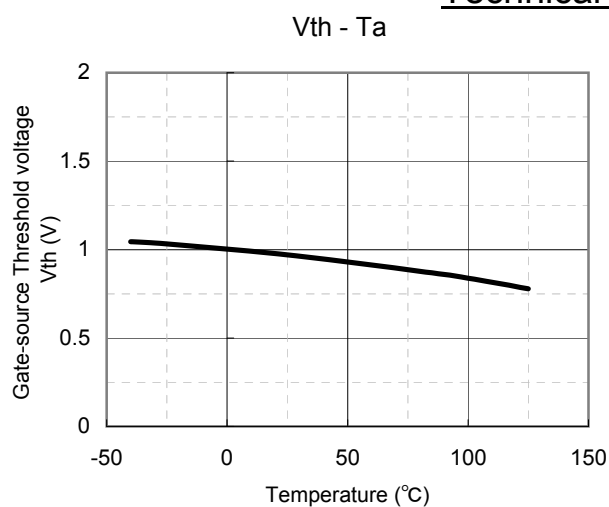
\*2 Measurement circuit for Turn-on Time / Turn-off Time



Technical Data ( reference )



# Technical Data ( reference )

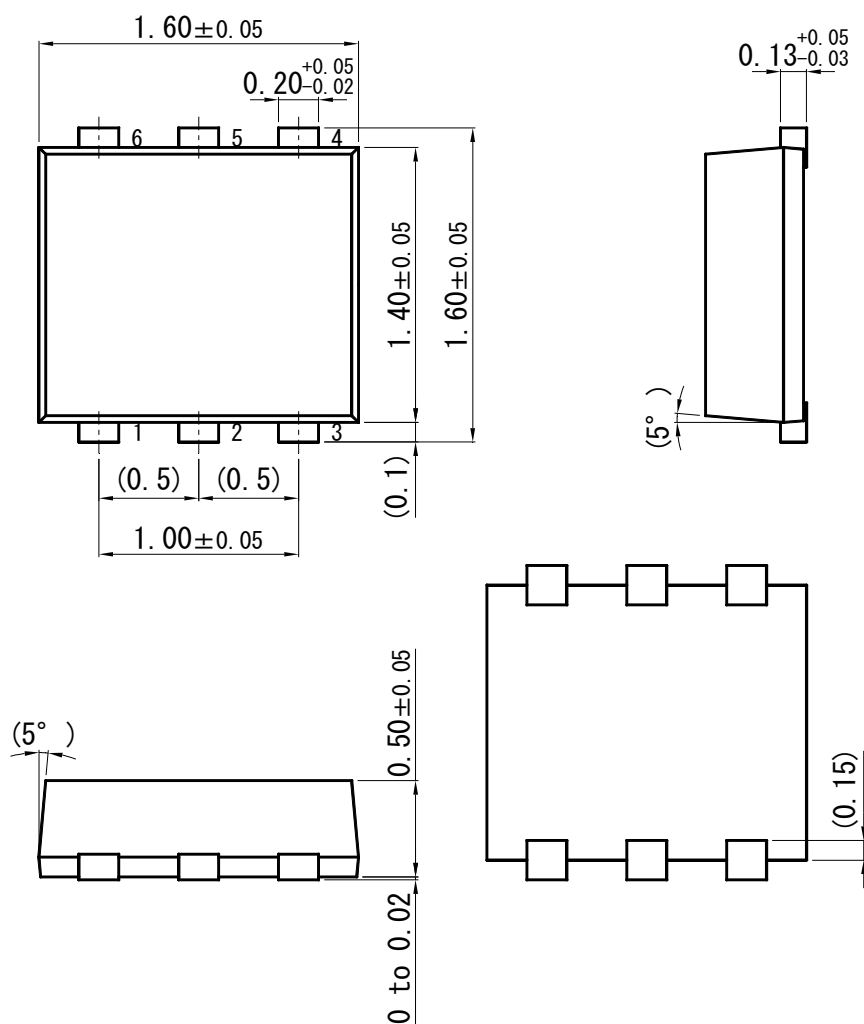


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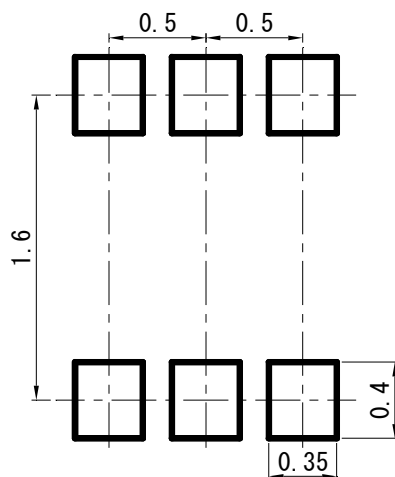
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WSSMini6-F1

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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