



# FK3506010L

## Silicon N-channel MOS FET

For switching  
 FK330601 in SMini3 type package

■ Features

- Low drive voltage : 2.5 V drive
- Halogen-free / RoHS compliant  
 (EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

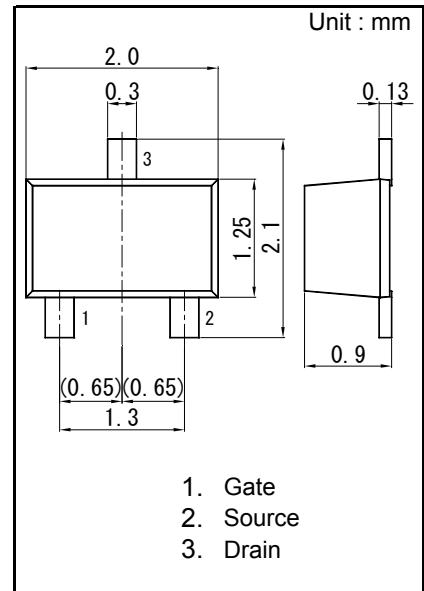
■ Marking Symbol : CV

■ Packaging

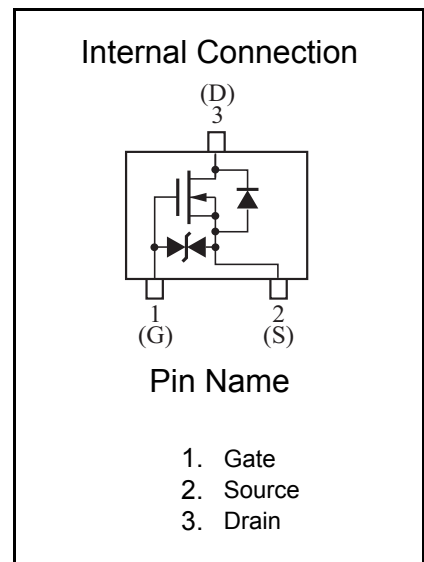
Embossed type (Thermo-compression sealing) : 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

| Parameter                     | Symbol | Rating      | Unit |
|-------------------------------|--------|-------------|------|
| Drain-source voltage          | VDS    | 60          | V    |
| Gate-source voltage           | VGS    | ±12         | V    |
| Drain current                 | ID     | 100         | mA   |
| Pulse drain current           | IDp    | 200         | mA   |
| Total power dissipation       | PD     | 150         | mW   |
| Channel temperature           | Tch    | 150         | °C   |
| Operating ambient temperature | Topr   | -40 to +85  | °C   |
| Storage temperature           | Tstg   | -55 to +150 | °C   |



|           |             |
|-----------|-------------|
| Panasonic | SMini3-F2-B |
| JEITA     | SC-85       |
| Code      | —           |



Pin Name

1. Gate
2. Source
3. Drain

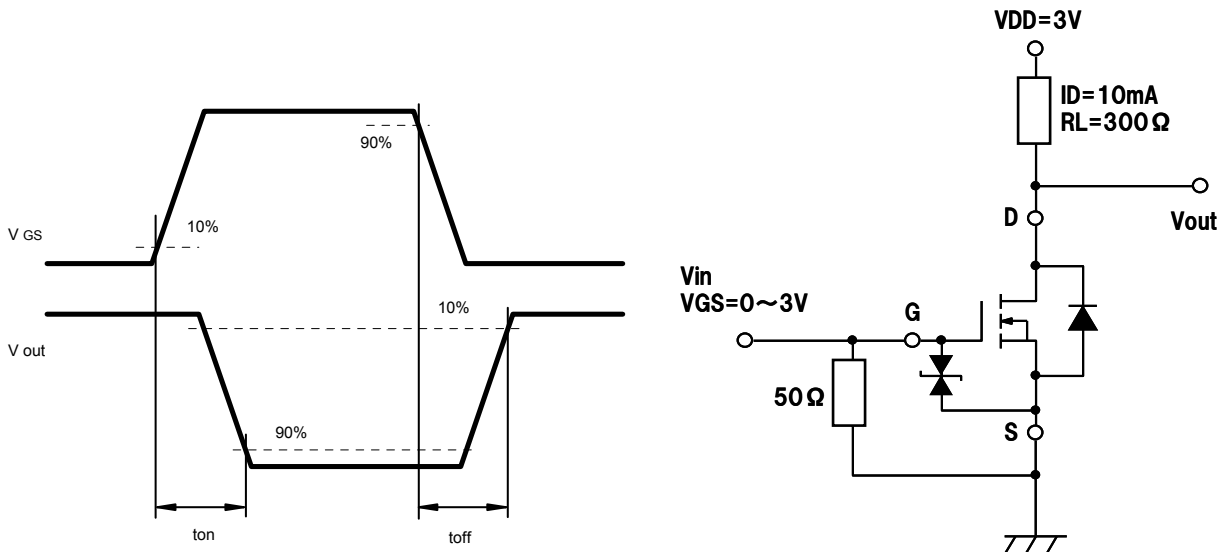


■ Electrical Characteristics Ta = 25 °C ± 3 °C

| Parameter                      | Symbol  | Conditions                               | Min | Typ | Max | Unit |
|--------------------------------|---------|--|-----|-----|-----|------|
| Drain-source breakdown voltage | VDSS    | ID = 1 mA, VGS = 0                       | 60  |     |     | V    |
| Drain-source cutoff current    | IDSS    | VDS = 60 V, VGS = 0                      |     |     | 1.0 | μA   |
| Gate-source cutoff current     | IGSS    | VGS = ±10 V, VDS = 0                     |     |     | ±10 | μA   |
| Gate threshold voltage         | VTH     | ID = 1.0 μA, VDS = 3.0 V                 | 0.9 | 1.2 | 1.5 | V    |
| Drain-source ON resistance     | RDS(on) | ID = 10 mA, VGS = 2.5 V                  |     | 8   | 15  | Ω    |
|                                |         | ID = 10 mA, VGS = 4.0 V                  |     | 6   | 12  | Ω    |
| Forward transfer admittance    | Yfs     | ID = 10 mA, VDS = 3.0 V                  | 20  | 60  |     | mS   |
| Input capacitance              | Ciss    | VDS = 3 V, VGS = 0, f = 1 MHz            |     | 12  |     | pF   |
| Output capacitance             | Coss    |  |     | 7   |     | pF   |
| Reverse transfer capacitance   | Crss    |  |     | 3   |     | pF   |
| Turn-on time *1                | ton     | VDD = 3 V, VGS = 0 to 3 V,<br>ID = 10 mA |     | 100 |     | ns   |
| Turn-off time *1               | toff    | VDD = 3 V, VGS = 3 to 0 V,<br>ID = 10 mA |     | 100 |     | ns   |

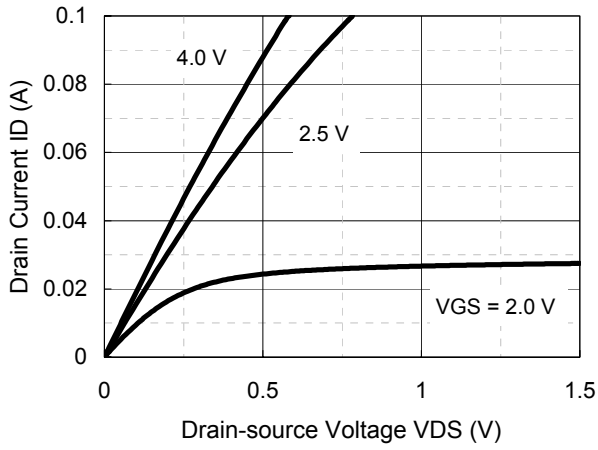
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

2. \*1 Turn-on and Turn-off test circuit

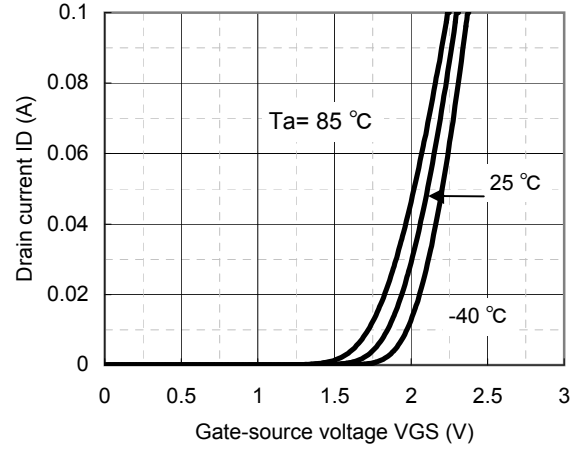




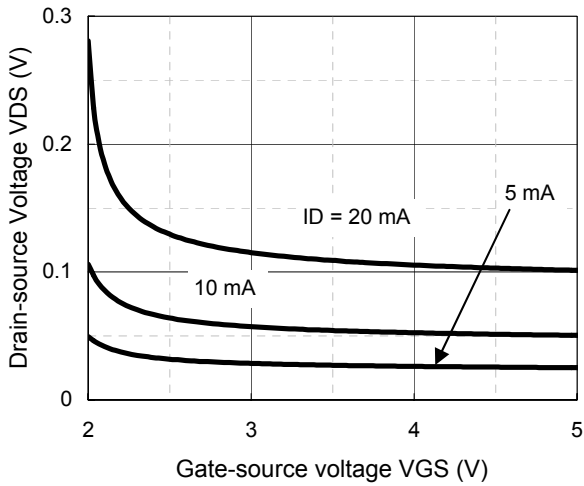
ID - VDS



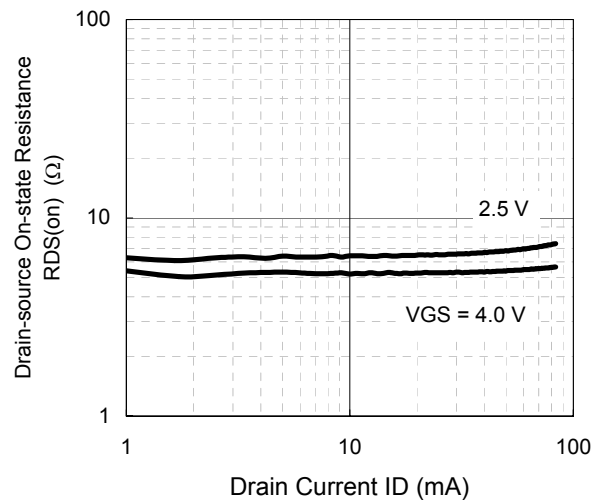
ID - VGS



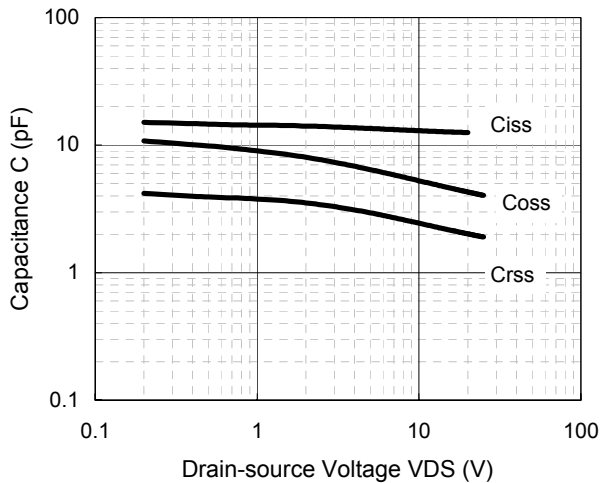
VDS - VGS



RDS(on) - ID

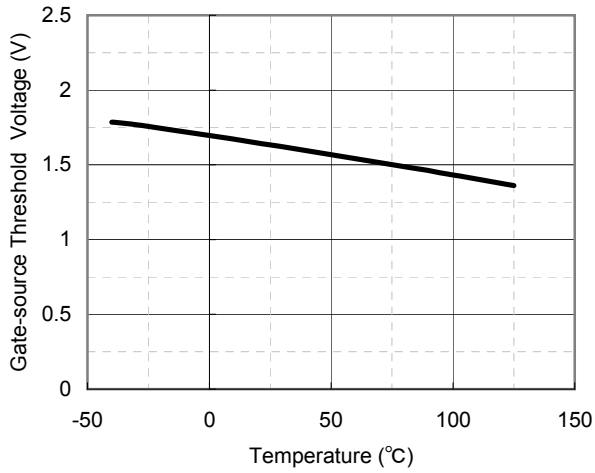


Capacitance - VDS

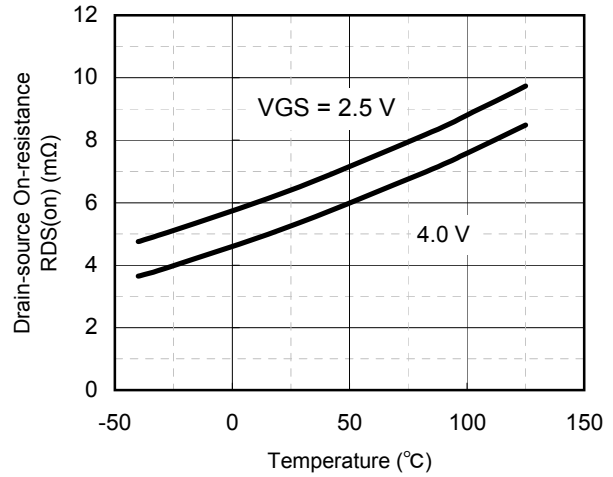




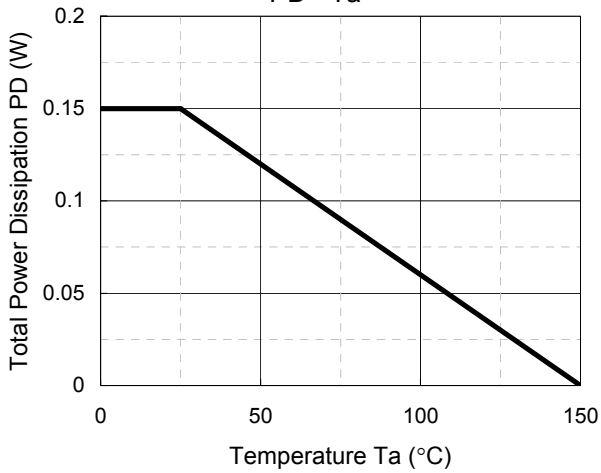
V<sub>th</sub> - T<sub>a</sub>



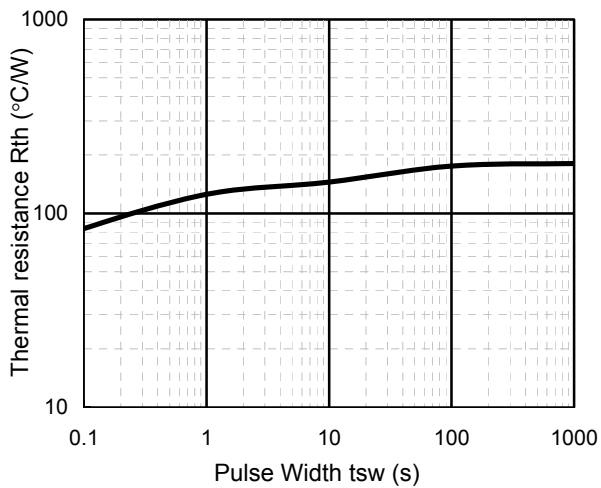
R<sub>DS(on)</sub> - T<sub>a</sub>



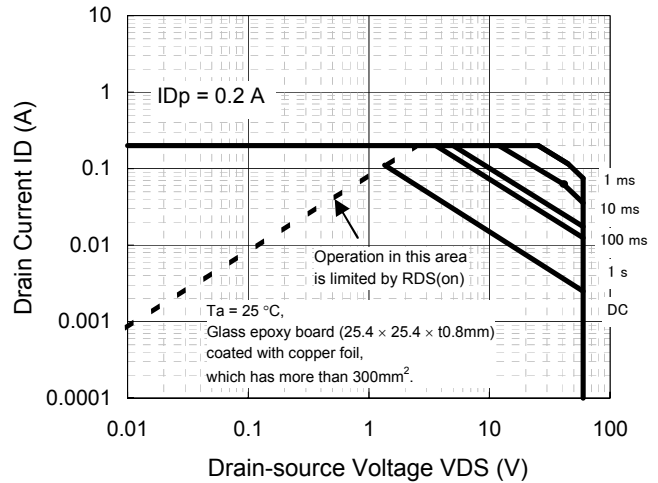
PD - T<sub>a</sub>



R<sub>th</sub> - t<sub>sw</sub>



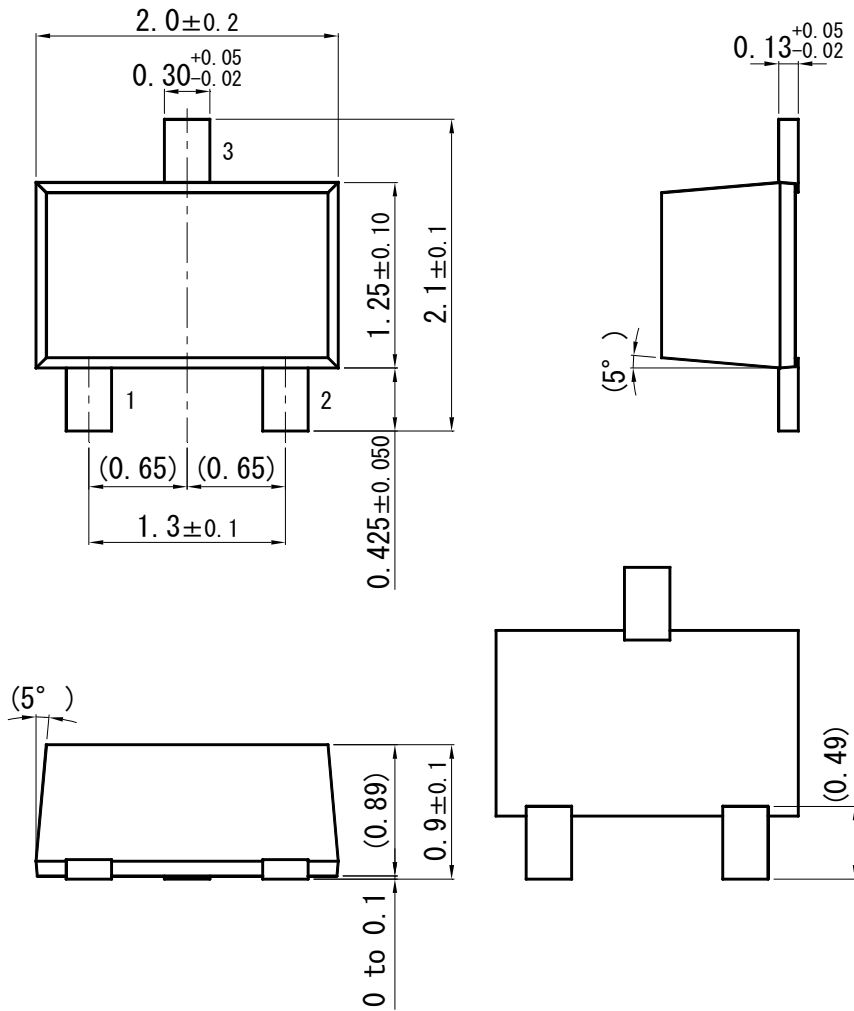
Safe Operating Area



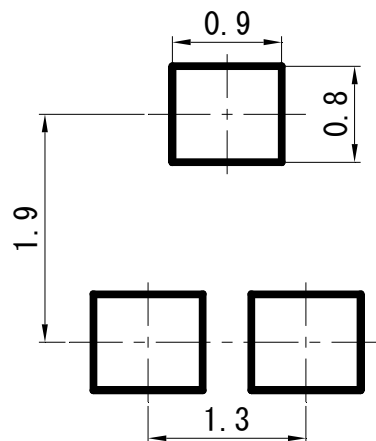


### SMini3-F2-B

Unit : mm



#### ■ Land Pattern (Reference) (Unit : mm)



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