

# FC694601

## Silicon N-channel MOS FET

For switching circuits

### ■ Overview

FC694601 is N-channel dual type small signal MOS FET employed small size surface mounting package.

### ■ Features

- Low drain-source ON resistance:  $R_{DS(on)}$  typ. =  $6\ \Omega$  ( $V_{GS} = 4.0\ V$ )
- High-speed switching
- Small size surface mounting package: SSMINI6-F3-B
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Packaging

Embossed type (Thermo-compression sealing): 8000 pcs / reel (standard)

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

| Parameter |                                | Symbol    | Rating      | Unit       |
|-----------|--------------------------------|-----------|-------------|------------|
| FET1      | Drain-source surrender voltage | $V_{DSS}$ | 60          | V          |
|           | Gate-source surrender voltage  | $V_{GSS}$ | $\pm 12$    | V          |
| FET2      | Drain current                  | $I_D$     | 100         | mA         |
|           | Peak drain current             | $I_{DP}$  | 200         | mA         |
| Overall   | Total power dissipation        | $P_T$     | 125         | mW         |
|           | Channel temperature            | $T_{ch}$  | 150         | $^\circ C$ |
|           | Storage temperature            | $T_{stg}$ | -55 to +150 | $^\circ C$ |

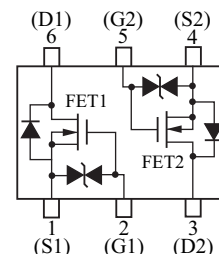
### ■ Package

- Code  
SSMini6-F3-B
- Pin Name
 

|                  |                  |
|------------------|------------------|
| 1: Source (FET1) | 4: Source (FET2) |
| 2: Gate (FET1)   | 5: Gate (FET2)   |
| 3: Drain (FET2)  | 6: Drain (FET1)  |

### ■ Marking Symbol: V6

### ■ Internal Connection

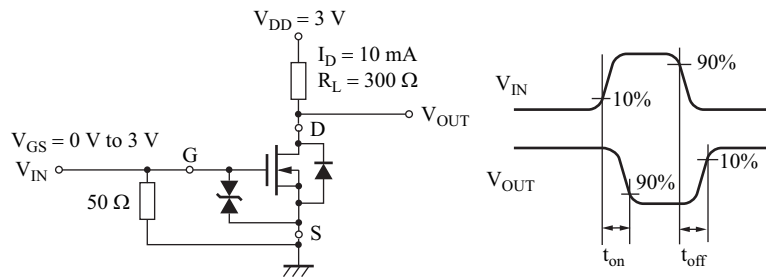


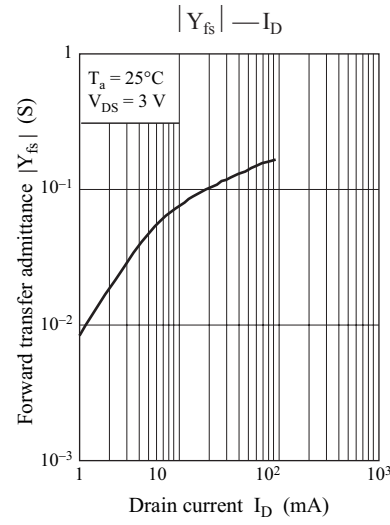
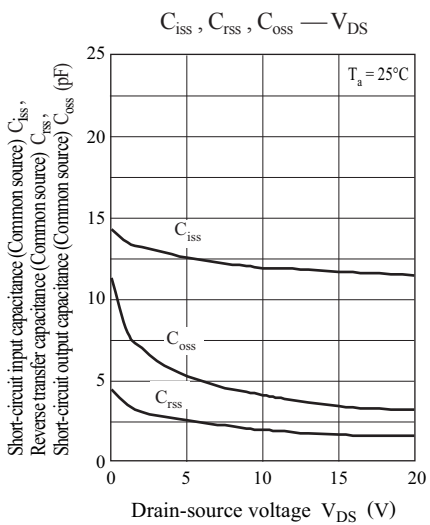
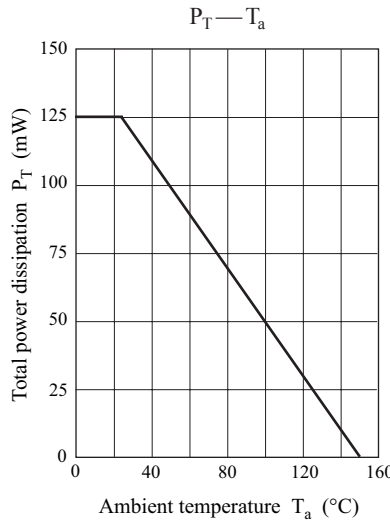
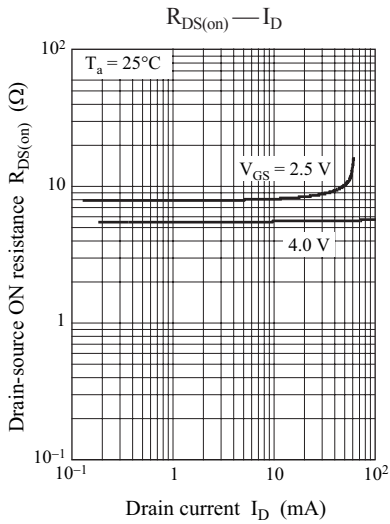
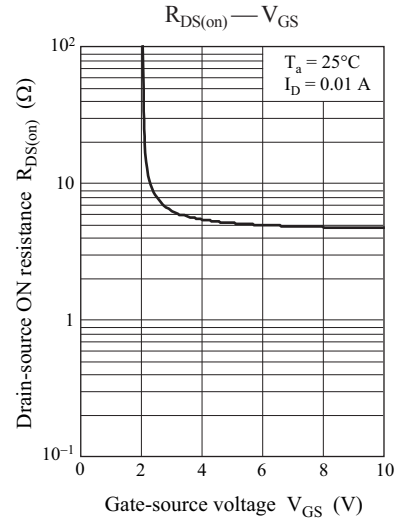
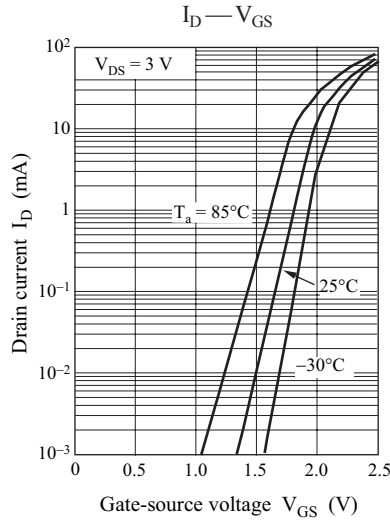
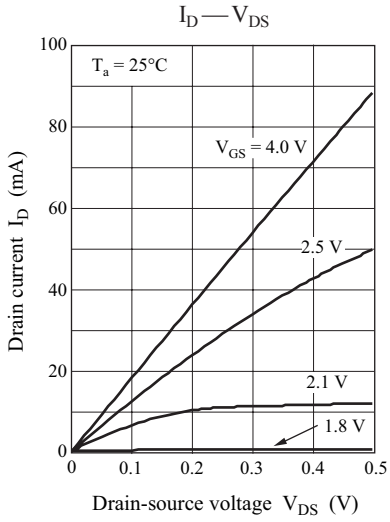
■ Electrical Characteristics  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter  | Symbol       | Conditions   | Min | Typ | Max      | Unit          |
|--|--------------|--|-----|-----|----------|---------------|
| Drain-source surrender voltage                   | $V_{DSS}$    | $I_D = 1 \text{ mA}, V_{GS} = 0$   | 60  |     |          | V             |
| Drain-source cutoff current                      | $I_{DSS}$    | $V_{DS} = 60 \text{ V}, V_{GS} = 0$  |     |     | 1.0      | $\mu\text{A}$ |
| Gate-source cutoff current                       | $I_{GSS}$    | $V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$  |     |     | $\pm 10$ | $\mu\text{A}$ |
| Gate threshold voltage                           | $V_{TH}$     | $I_D = 1.0 \mu\text{A}, V_{DS} = 3.0 \text{ V}$  | 0.9 | 1.2 | 1.5      | V             |
| Drain-source ON resistance                       | $R_{DS(on)}$ | $I_D = 10 \text{ mA}, V_{GS} = 2.5 \text{ V}$  |     | 8   | 15       | $\Omega$      |
|  |              | $I_D = 10 \text{ mA}, V_{GS} = 4.0 \text{ V}$  |     | 6   | 12       | $\Omega$      |
| Forward transfer admittance                      | $ Y_{fs} $   | $I_D = 10 \text{ mA}, V_{DS} = 3.0 \text{ V}$  | 20  | 60  |          | mS            |
| Short-circuit input capacitance (Common source)  | $C_{iss}$    | $V_{DS} = 3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$                                  |     | 12  |          | pF            |
| Short-circuit output capacitance (Common source) | $C_{oss}$    |  |     | 7   |          | pF            |
| Reverse transfer capacitance (Common source)     | $C_{rss}$    |  |     | 3   |          | pF            |
| Turn-on time *                                   | $t_{on}$     | $V_{DD} = 3 \text{ V}, V_{GS} = 0 \text{ V to } 3 \text{ V},$<br>$I_D = 10 \text{ mA}$ |     | 100 |          | ns            |
| Turn-off time *                                  | $t_{off}$    | $V_{DD} = 3 \text{ V}, V_{GS} = 3 \text{ V to } 0 \text{ V},$<br>$I_D = 10 \text{ mA}$ |     | 100 |          | ns            |

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

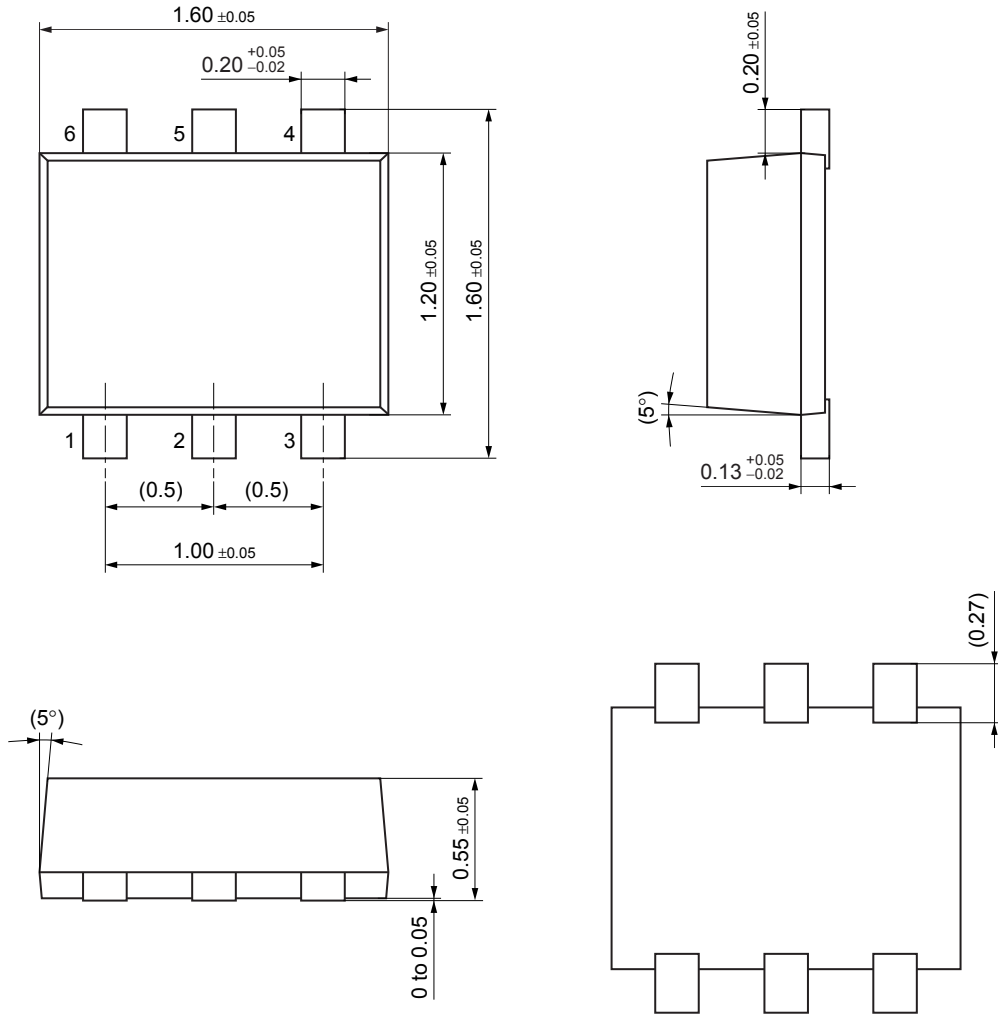
2. \*: Test circuit





# SSMini6-F3-B

Unit: mm



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