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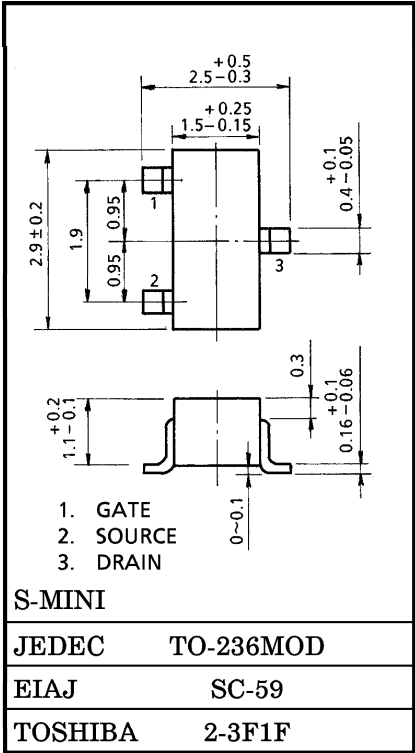
HIGH SPEED SWITCHING APPLICATIONS

Unit in mm

- Small Package
- Low on Resistance : $R_{on} = 0.4 \Omega$ (Max.) ($V_{GS} = -4 V$)
 : $R_{on} = 0.6 \Omega$ (Max.) ($V_{GS} = -2.5 V$)
- Low Gate Threshold Voltage

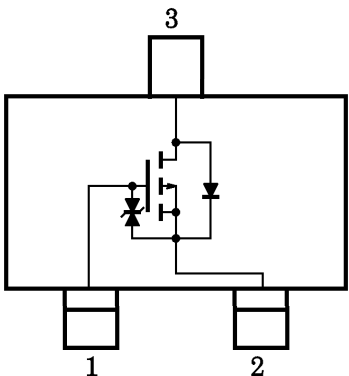
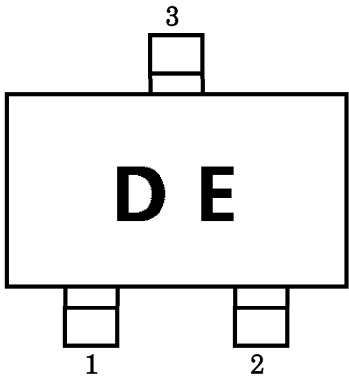
MAXIMUM RATINGS ($T_a = 25^\circ C$)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|--|-------|-----------|----------|------------|
| Drain-Source Voltage | | V_{DS} | -30 | V |
| Gate-Source Voltage | | V_{GSS} | ± 10 | V |
| Drain Current | DC | I_D | -700 | mA |
| | Pulse | I_{DP} | -1400 | |
| Drain Power Dissipation ($T_a = 25^\circ C$) | | P_D | 200 | mW |
| Channel Temperature | | T_{ch} | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ C$ |



MARKING

EQUIVALENT CIRCUIT



HANDLING PRECAUTION

When handling individual devices (which are not yet mounting on a circuit board), be sure that the environment is protected against electrostatic electricity. Operators should wear anti-static clothing, and containers and other objects that come into direct contact with devices should be made of anti-static materials.

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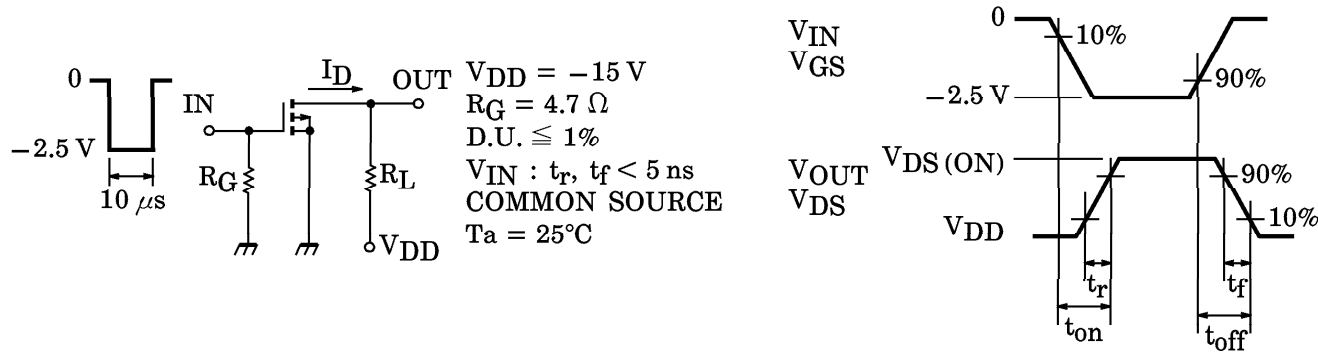
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------|---------------|------------------------|---|------|------|---------|---------------|
| Gate Leakage Current | | I_{GSS} | $V_{GS} = \pm 10\text{ V}, V_{DS} = 0$ | — | — | ± 1 | μA |
| Drain-Source Breakdown Voltage | | $V_{(BR)DSS}$ | $I_D = -1\text{ mA}, V_{GS} = 0$ | -30 | — | — | V |
| Drain Cut-off Current | | I_{DSS} | $V_{DS} = -30\text{ V}, V_{GS} = 0$ | — | — | -1 | μA |
| Gate Threshold Voltage | | V_{th} | $V_{DS} = -3\text{ V}, I_D = -0.1\text{ mA}$ | -0.6 | — | -1.1 | V |
| Forward Transfer Admittance | | $ Y_{fs} $ (Note) | $V_{DS} = -3\text{ V}, I_D = -0.35\text{ A}$ | 1.0 | — | — | S |
| Drain-Source ON Resistance | | $R_{DS(ON)}$ (Note) | $I_D = -0.35\text{ A}, V_{GS} = -4\text{ V}$ | — | 0.3 | 0.4 | Ω |
| | | | $I_D = -0.35\text{ A}, V_{GS} = -2.5\text{ V}$ | — | 0.4 | 0.6 | |
| Input Capacitance | | C_{iss} | $V_{DS} = -10\text{ V}, V_{GS} = 0,$ $f = 1\text{ MHz}$ | — | 240 | — | pF |
| Reverse Transfer Capacitance | | C_{rss} | $V_{DS} = -10\text{ V}, V_{GS} = 0,$ $f = 1\text{ MHz}$ | — | 24 | — | pF |
| Output Capacitance | | C_{oss} | $V_{DS} = -10\text{ V}, V_{GS} = 0,$ $f = 1\text{ MHz}$ | — | 94 | — | pF |
| Switching Time | Turn-on Time | t_{on} | $V_{DD} = -15\text{ V}, I_D = -0.3\text{ A},$ $V_{GS} = 0 \sim -2.5\text{ V}, R_G = 4.7\text{ }\Omega$ | — | 36 | — | ns |
| | Turn-off Time | t_{off} | | — | 37 | — | |

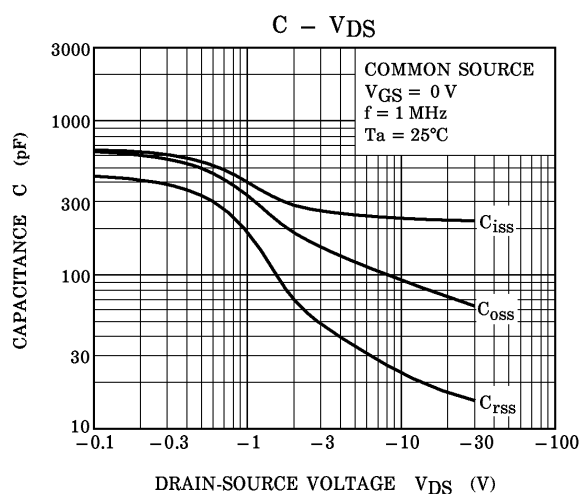
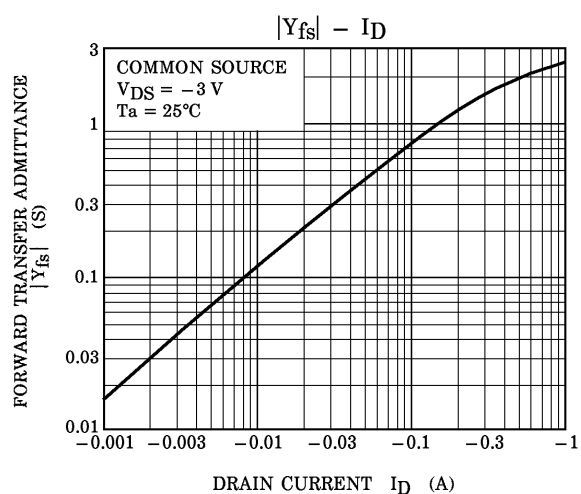
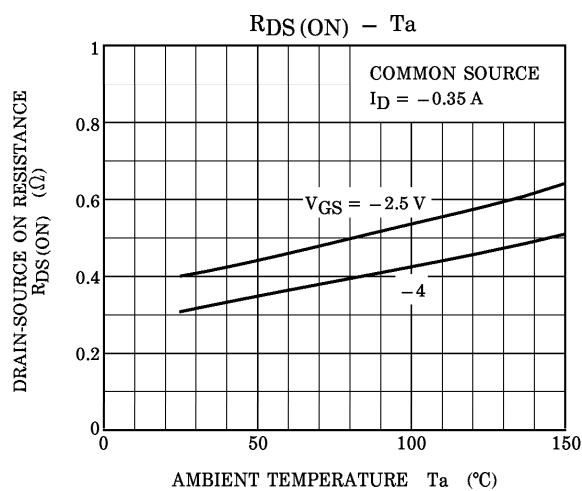
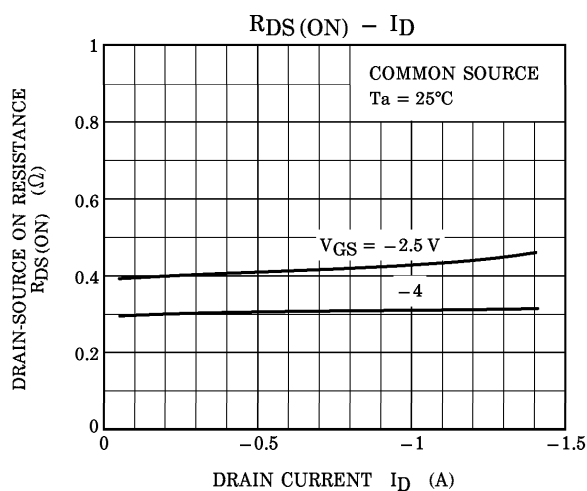
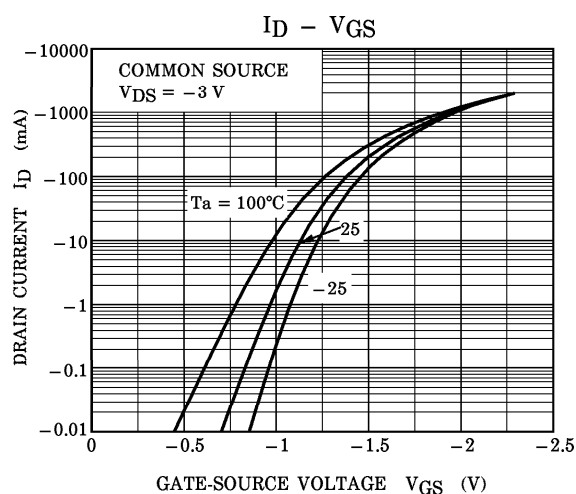
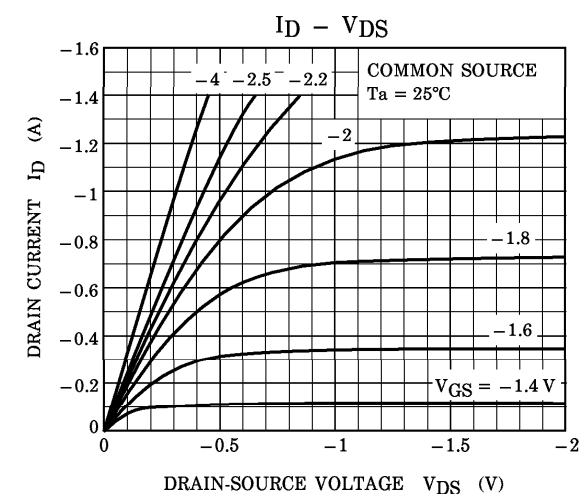
(Note) : Pulse test

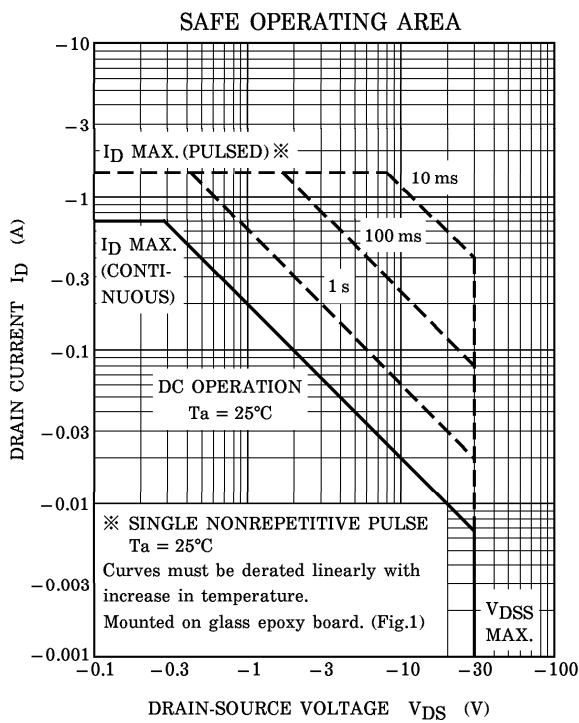
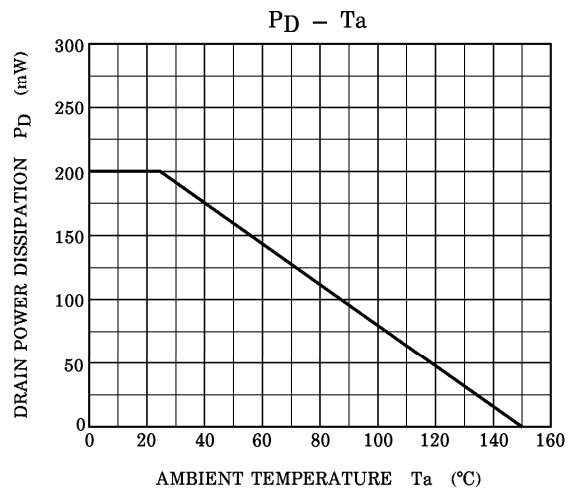
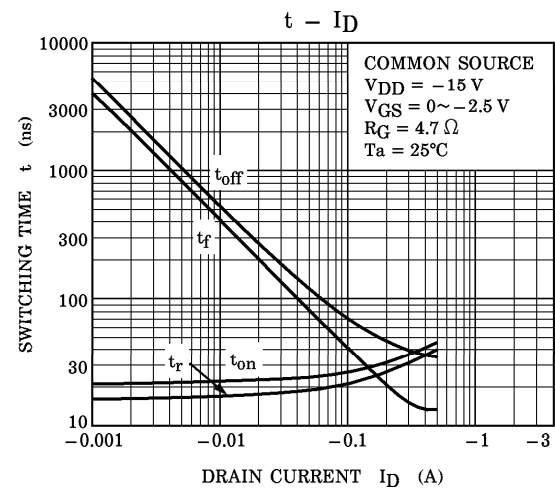
SWITCHING TIME TEST CIRCUIT



PRECAUTION

V_{th} can be expressed as voltage between gate and source when low operating current value is $I_D = -100\text{ }\mu\text{A}$ for this product. For normal switching operation, $V_{GS(ON)}$ requires higher voltage than V_{th} and $V_{GS(off)}$ requires lower voltage than V_{th} .
(Relationship can be established as follows : $V_{GS(off)} < V_{th} < V_{GS(ON)}$)
Please take this into consideration for using the device.
 V_{GS} recommended voltage of -2.5 V or higher to turn on this product.





(Fig.1) : 25.4 mm × 25.4 mm × 1.6 t (a Cu pad of 0.8 mm² area)

