

**FTS2005**

## Liquid Crystal Display Backlight Drive Applications

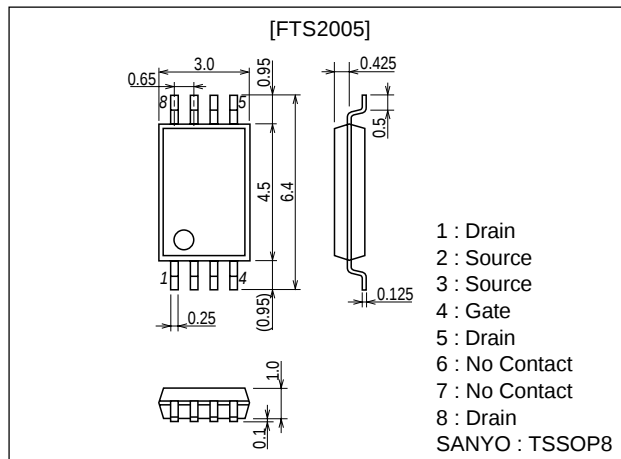
### Features

- Low ON resistance.
- Ultrahigh-speed switching.
- Mounting height 1.1mm.

### Package Dimensions

unit:mm

2166



### Specifications

Absolute Maximum Ratings at Ta = 25°C

| Parameter                   | Symbol    | Conditions                                              | Ratings     | Unit |
|-----------------------------|-----------|---------------------------------------------------------|-------------|------|
| Drain-to-Source Voltage     | $V_{DSS}$ |                                                         | 100         | V    |
| Gate-to-Source Voltage      | $V_{GSS}$ |                                                         | ±20         | V    |
| Drain Current (DC)          | $I_D$     |                                                         | 2           | A    |
| Drain Current (pulse)       | $I_{DP}$  | PW≤10μs, duty cycle≤1%                                  | 8           | A    |
| Allowable Power Dissipation | $P_D$     | Mounted on a ceramic board (1000mm <sup>2</sup> ×0.8mm) | 1.3         | W    |
| Channel Temperature         | Tch       |                                                         | 150         | °C   |
| Storage Temperature         | Tstg      |                                                         | -55 to +150 | °C   |

Electrical Characteristics at Ta = 25°C

| Parameter                                  | Symbol        | Conditions              | Ratings |      |      | Unit |
|--------------------------------------------|---------------|-------------------------|---------|------|------|------|
|                                            |               |                         | min     | typ  | max  |      |
| Drain-to-Source Breakdown Voltage          | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0$     | 100     |      |      | V    |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS}=100V, V_{GS}=0$ |         |      | 10   | μA   |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS}=±16V, V_{DS}=0$ |         |      | ±10  | μA   |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$   | 1.0     |      | 2.0  | V    |
| Forward Transfer Admittance                | yfs           | $V_{DS}=10V, I_D=2A$    | 4       | 5.6  |      | S    |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=2A, V_{GS}=10V$    |         | 0.2  | 0.26 | Ω    |
|                                            | $R_{DS(on)2}$ | $I_D=2A, V_{GS}=4V$     |         | 0.22 | 0.33 | Ω    |
|                                            | $R_{DS(on)3}$ | $I_D=1A, V_{GS}=3V$     |         | 0.3  | 0.6  | Ω    |

Marking : S2005

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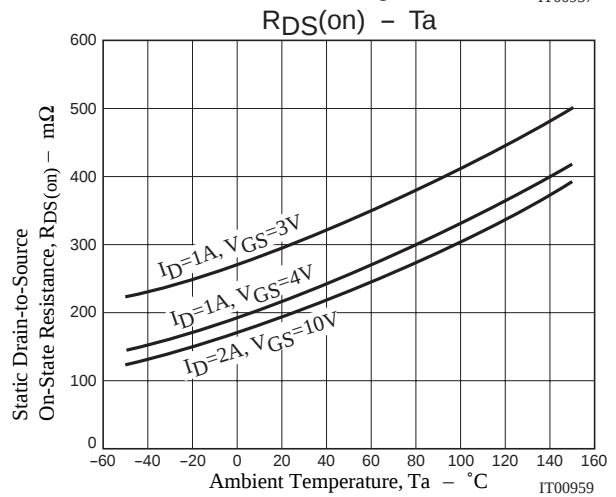
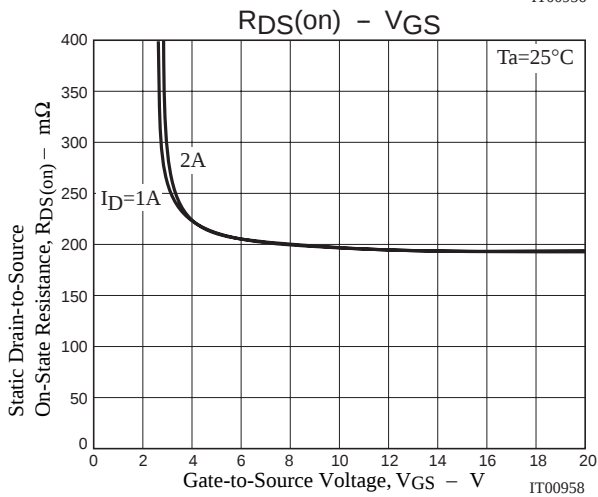
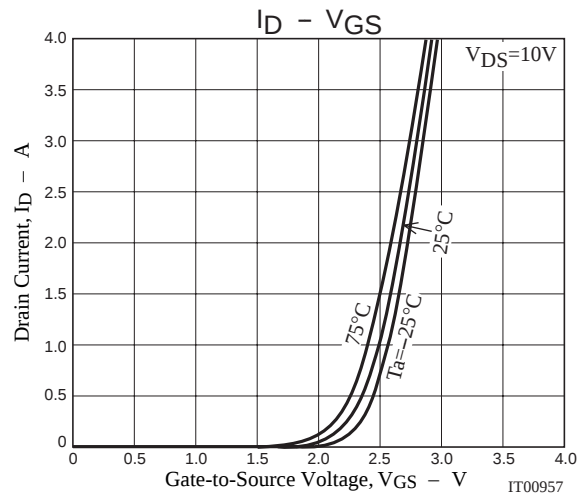
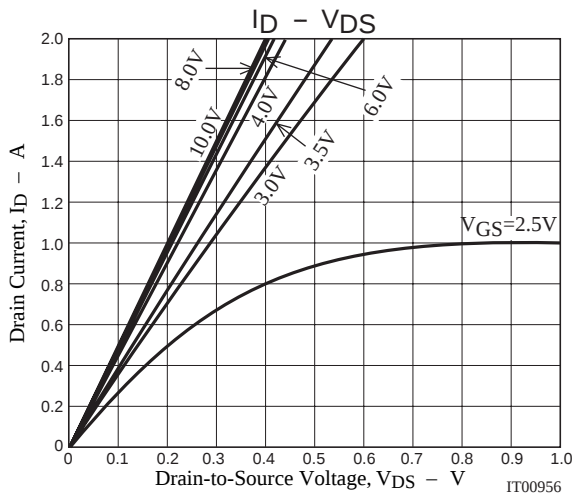
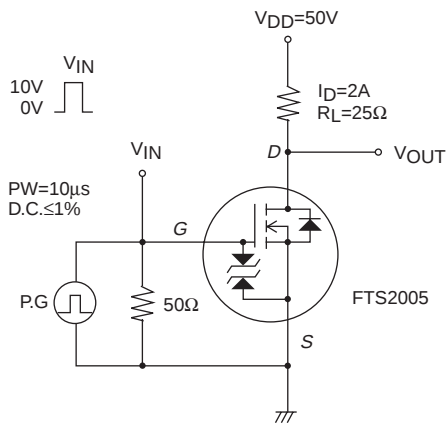
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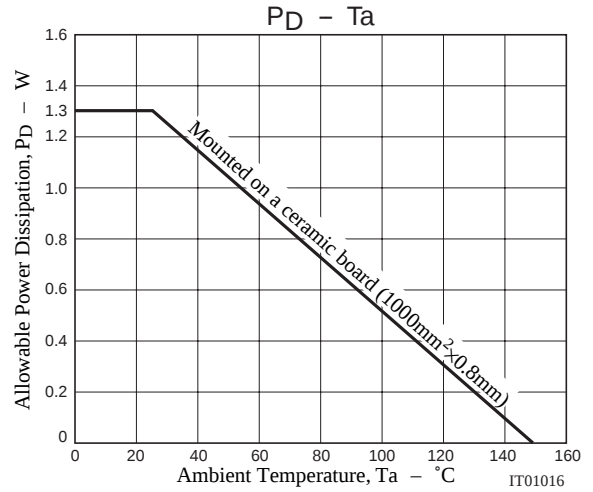
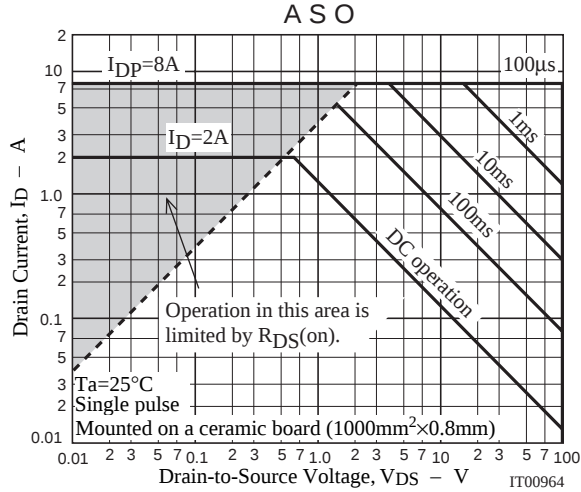
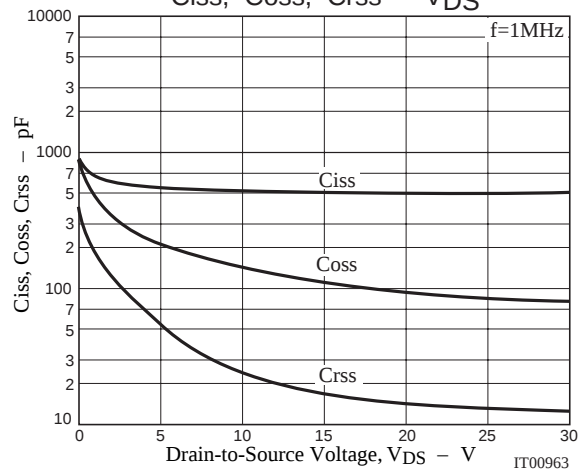
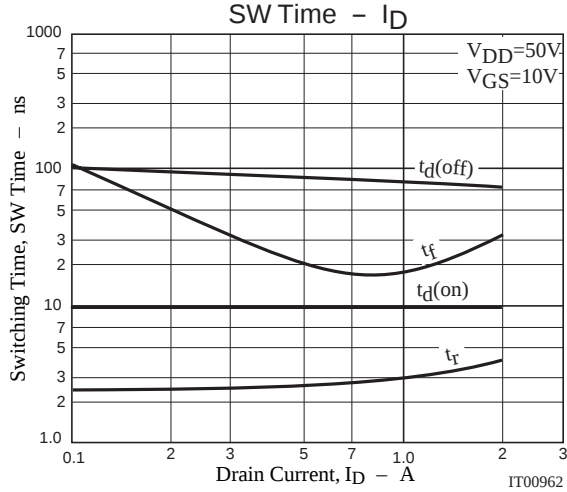
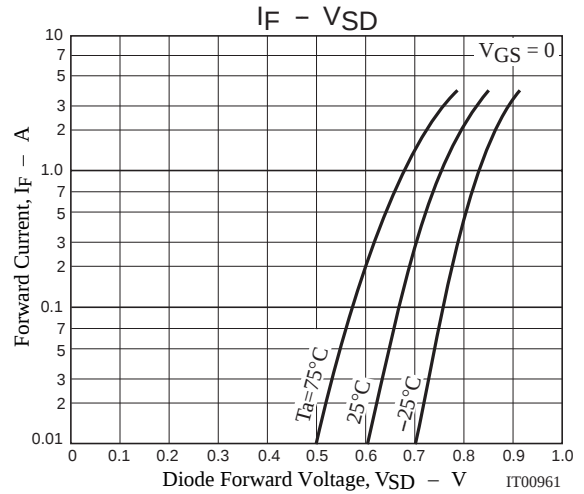
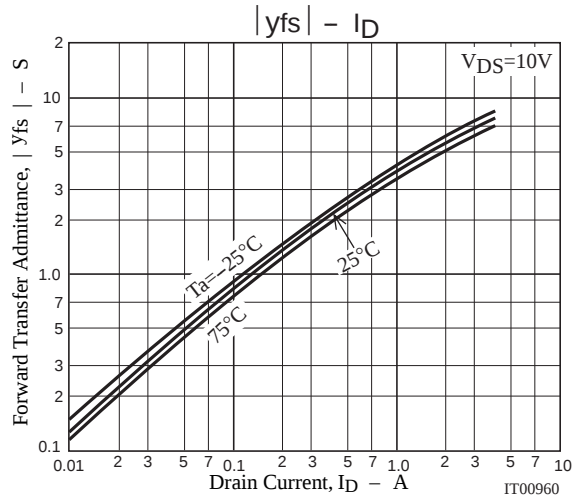
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| Parameter                    | Symbol       | Conditions                 | Ratings |     |     | Unit |
|------------------------------|--------------|----------------------------|---------|-----|-----|------|
|                              |              |                            | min     | typ | max |      |
| Input Capacitance            | $C_{iss}$    | $V_{DS}=20V, f=1MHz$       |         | 520 |     | pF   |
| Output Capacitance           | $C_{oss}$    | $V_{DS}=20V, f=1MHz$       |         | 100 |     | pF   |
| Reverse Transfer Capacitance | $C_{rss}$    | $V_{DS}=20V, f=1MHz$       |         | 15  |     | pF   |
| Turn-ON Delay Time           | $t_{d(on)}$  | See specified Test Circuit |         | 10  |     | ns   |
| Rise Time                    | $t_r$        | See specified Test Circuit |         | 4   |     | ns   |
| Turn-OFF Delay Time          | $t_{d(off)}$ | See specified Test Circuit |         | 80  |     | ns   |
| Fall Time                    | $t_f$        | See specified Test Circuit |         | 35  |     | ns   |
| Diode Forward Voltage        | $V_{SD}$     | $I_S=2A, V_{GS}=0$         |         | 0.8 | 1.2 | V    |

## Switching Time Test Circuit





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