

**2SK3488**

## Ultrahigh-Speed Switching Applications

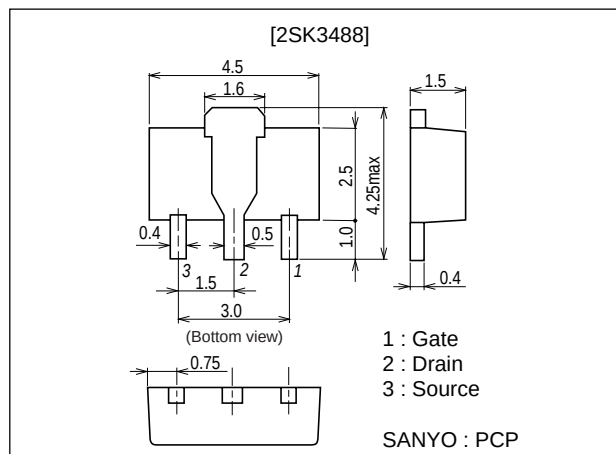
### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

### Package Dimensions

unit : mm

2062A



### Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter                   | Symbol           | Conditions                                | Ratings     | Unit |
|-----------------------------|------------------|-------------------------------------------|-------------|------|
| Drain-to-Source Voltage     | V <sub>DSS</sub> |                                           | 30          | V    |
| Gate-to-Source Voltage      | V <sub>GSS</sub> |                                           | ±20         | V    |
| Drain Current (DC)          | I <sub>D</sub>   |                                           | 2.5         | A    |
| Drain Current (Pulse)       | I <sub>DP</sub>  | PW≤10μs, duty cycle≤1%                    | 10          | A    |
| Allowable Power Dissipation | P <sub>D</sub>   | Mounted on a ceramic board (250mm²×0.8mm) | 1.0         | W    |
|                             |                  | Tc=25°C                                   | 3.5         | W    |
| Channel Temperature         | T <sub>ch</sub>  |                                           | 150         | °C   |
| Storage Temperature         | T <sub>stg</sub> |                                           | -55 to +150 | °C   |

Electrical Characteristics at Ta=25°C

| Parameter                                  | Symbol               | Conditions                                 | Ratings |     |     | Unit |
|--------------------------------------------|----------------------|--------------------------------------------|---------|-----|-----|------|
|                                            |                      |                                            | min     | typ | max |      |
| Drain-to-Source Breakdown Voltage          | V <sub>(BR)DSS</sub> | I <sub>D</sub> =1mA, V <sub>GS</sub> =0    | 30      |     |     | V    |
| Zero-Gate Voltage Drain Current            | I <sub>DSS</sub>     | V <sub>DS</sub> =30V, V <sub>GS</sub> =0   |         |     | 1   | μA   |
| Gate-to-Source Leakage Current             | I <sub>GSS</sub>     | V <sub>GS</sub> =±16V, V <sub>DS</sub> =0  |         |     | ±10 | μA   |
| Cutoff Voltage                             | V <sub>GS(off)</sub> | V <sub>DS</sub> =10V, I <sub>D</sub> =1mA  | 1.2     |     | 2.6 | V    |
| Forward Transfer Admittance                | y <sub>fs</sub>      | V <sub>DS</sub> =10V, I <sub>D</sub> =1.3A | 1.6     | 2.3 |     | S    |
| Static Drain-to-Source On-State Resistance | R <sub>DS(on)1</sub> | I <sub>D</sub> =1.3A, V <sub>GS</sub> =10V |         | 125 | 160 | mΩ   |
|                                            | R <sub>DS(on)2</sub> | I <sub>D</sub> =0.7A, V <sub>GS</sub> =4V  |         | 200 | 280 | mΩ   |

Marking : LE

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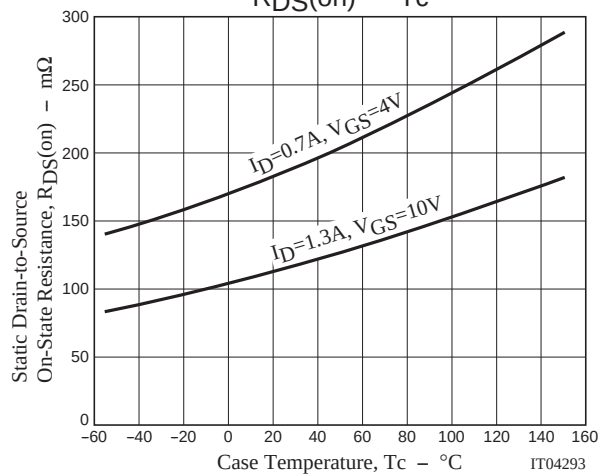
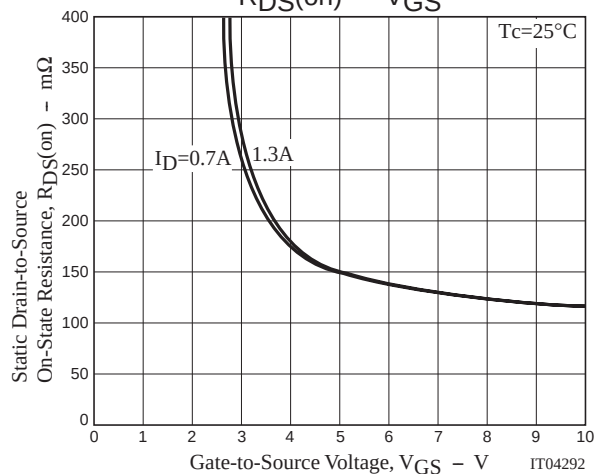
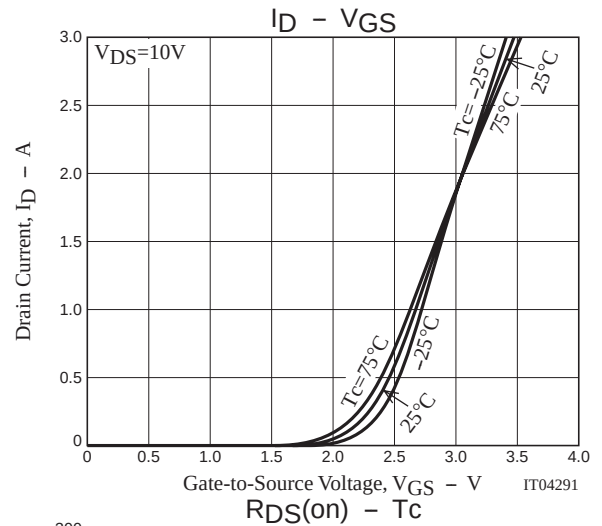
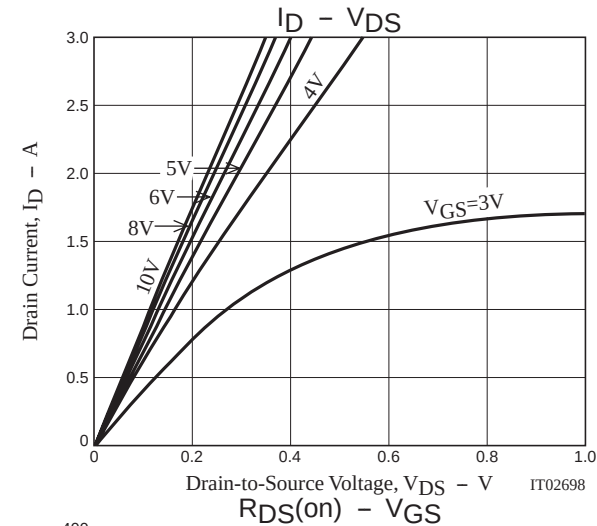
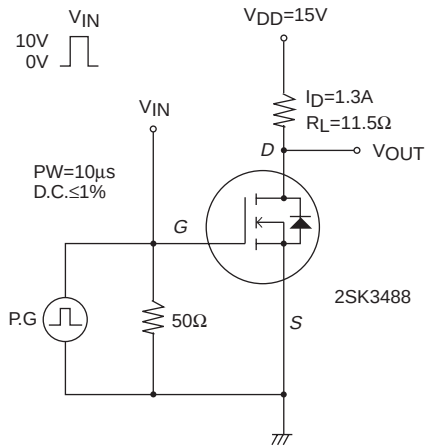
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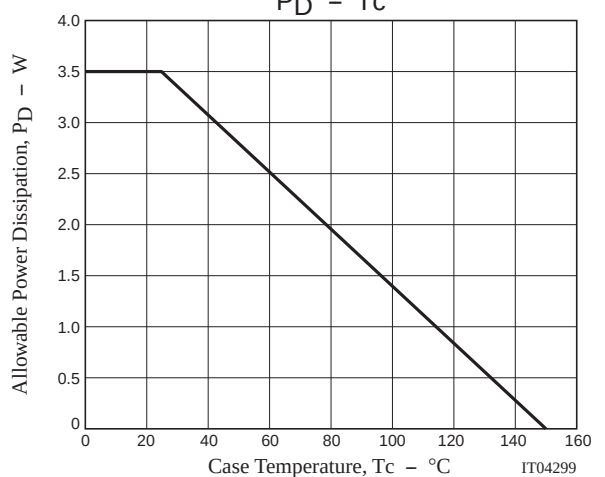
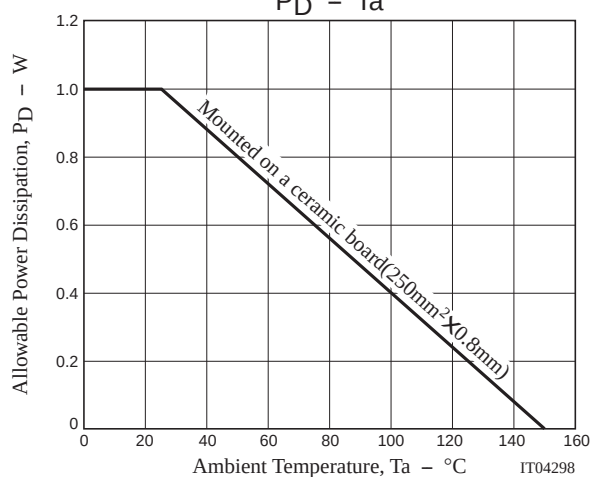
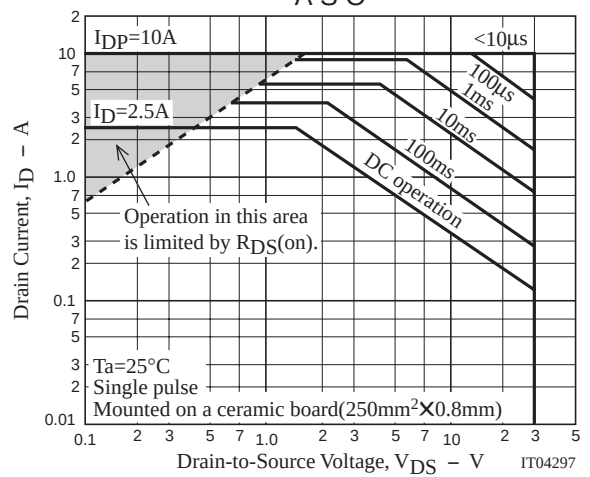
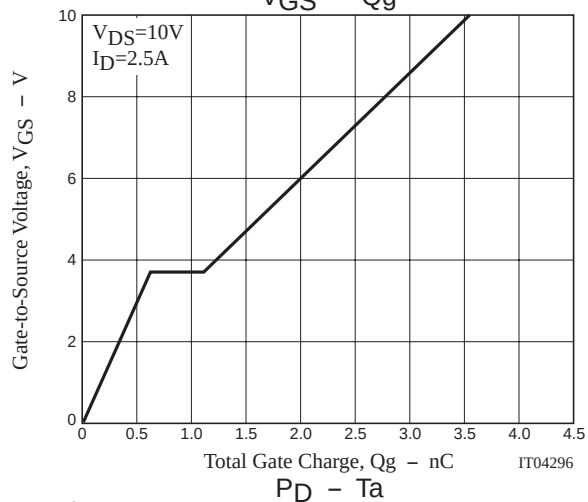
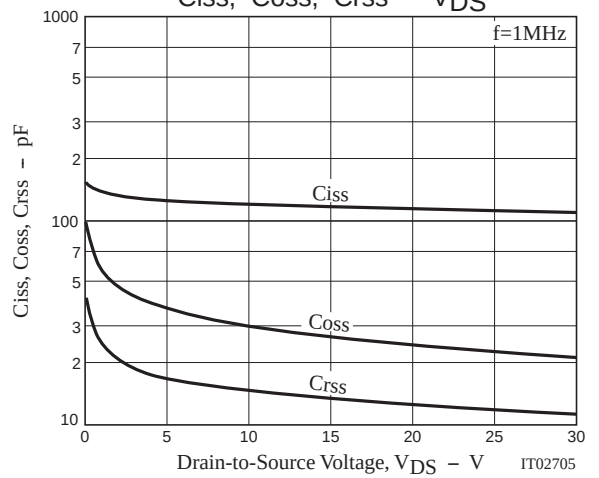
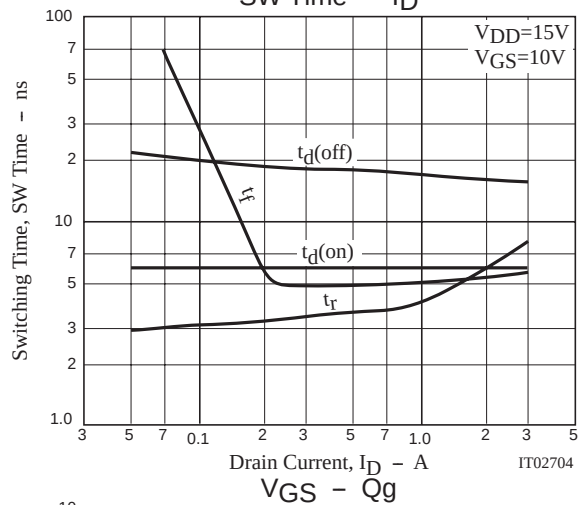
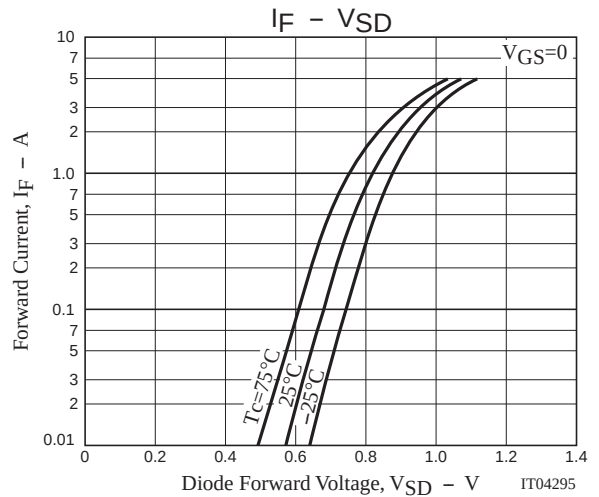
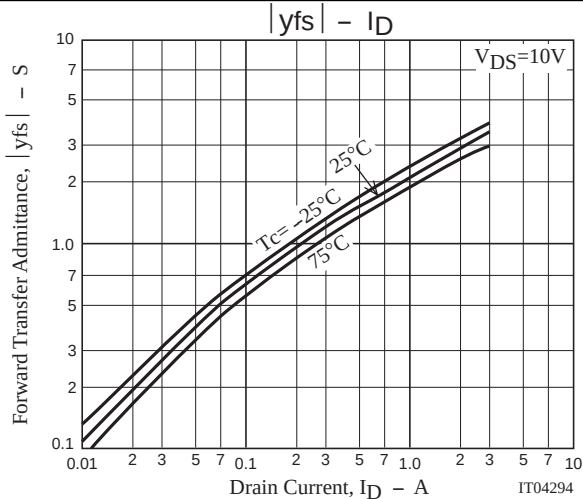
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| Parameter                     | Symbol     | Conditions                         | Ratings |     |     | Unit |
|-------------------------------|------------|------------------------------------|---------|-----|-----|------|
|                               |            |                                    | min     | typ | max |      |
| Input Capacitance             | $C_{iss}$  | $V_{DS}=10V, f=1MHz$               |         | 120 |     | pF   |
| Output Capacitance            | $C_{oss}$  | $V_{DS}=10V, f=1MHz$               |         | 30  |     | pF   |
| Reverse Transfer Capacitance  | $C_{rss}$  | $V_{DS}=10V, f=1MHz$               |         | 15  |     | pF   |
| Turn-ON Delay Time            | $t_d(on)$  | See specified Test Circuit.        |         | 6   |     | ns   |
| Rise Time                     | $t_r$      | See specified Test Circuit.        |         | 5   |     | ns   |
| Turn-OFF Delay Time           | $t_d(off)$ | See specified Test Circuit.        |         | 17  |     | ns   |
| Fall Time                     | $t_f$      | See specified Test Circuit.        |         | 5   |     | ns   |
| Total Gate Charge             | $Q_g$      | $V_{DS}=10V, V_{GS}=10V, I_D=2.5A$ |         | 3.6 |     | nC   |
| Gate-to-Source Charge         | $Q_{gs}$   | $V_{DS}=10V, V_{GS}=10V, I_D=2.5A$ |         | 0.6 |     | nC   |
| Gate-to-Drain "Miller" Charge | $Q_{gd}$   | $V_{DS}=10V, V_{GS}=10V, I_D=2.5A$ |         | 0.5 |     | nC   |
| Diode Forward Voltage         | $V_{SD}$   | $I_S=2.5A, V_{GS}=0$               |         | 0.9 | 1.2 | V    |

### Switching Time Test Circuit





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