

**SANYO**

No.3824

**2SK1729**

N-Channel MOS Silicon FET

Very High-Speed  
Switching Applications**Features**

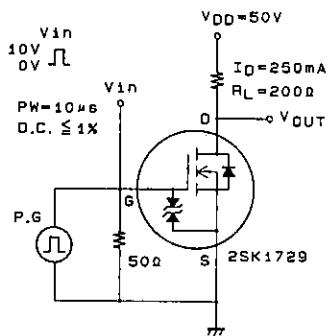
- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.
- Meets radial taping.

**Absolute Maximum Ratings at Ta = 25°C**

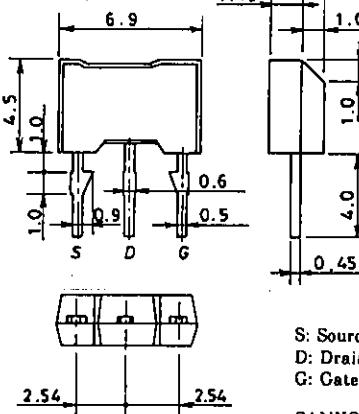
|                             |                  |                            | unit |
|-----------------------------|------------------|----------------------------|------|
| Drain to Source Voltage     | V <sub>DSS</sub> | 100                        | V    |
| Gate to Source Voltage      | V <sub>GSS</sub> | ±15                        | V    |
| Drain Current(DC)           | I <sub>D</sub>   | 0.5                        | A    |
| Drain Current(Pulse)        | I <sub>DP</sub>  | PW ≤ 10μs, duty cycle ≤ 1% | 2 A  |
| Allowable Power Dissipation | P <sub>D</sub>   |                            | 1 W  |
| Channel Temperature         | T <sub>ch</sub>  | 150                        | °C   |
| Storage Temperature         | T <sub>stg</sub> | -55 to +150                |      |

**Electrical Characteristics at Ta = 25°C**

|  |                      |   | min | typ | max | unit |
|--|----------------------|---|-----|-----|-----|------|
| D-S Breakdown Voltage                      | V <sub>(BR)DSS</sub> | I <sub>D</sub> = 1mA, V <sub>GS</sub> = 0     | 100 |     |     | V    |
| Zero Gate Voltage                          | I <sub>DSS</sub>     | V <sub>DS</sub> = 100V, V <sub>GS</sub> = 0   |     | 100 |     | μA   |
| Drain Current                              |                      |   |     |     |     |      |
| Gate to Source Leakage Current             | I <sub>GSS</sub>     | V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0   |     |     | ±10 | μA   |
| Cutoff Voltage                             | V <sub>GS(off)</sub> | V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA   | 1.0 |     | 2.0 | V    |
| Forward Transfer Admittance                | Y <sub>fs</sub>      | V <sub>DS</sub> = 10V, I <sub>D</sub> = 250mA | 400 | 700 |     | mS   |
| Static Drain to Source on State Resistance | R <sub>DS(on)</sub>  | I <sub>D</sub> = 250mA, V <sub>GS</sub> = 10V |     | 2.7 | 3.5 | Ω    |
|  | R <sub>DS(on)</sub>  | I <sub>D</sub> = 250mA, V <sub>GS</sub> = 4V  |     | 3.2 | 4.2 | Ω    |
| Input Capacitance                          | C <sub>iss</sub>     | V <sub>DS</sub> = 20V, f = 1MHz               |     | 45  |     | pF   |
| Output Capacitance                         | C <sub>oss</sub>     | V <sub>DS</sub> = 20V, f = 1MHz               |     | 15  |     | pF   |
| Reverse Transfer Capacitance               | C <sub>rss</sub>     | V <sub>DS</sub> = 20V, f = 1MHz               |     | 3   |     | pF   |
| Turn-ON Delay Time                         | t <sub>d(on)</sub>   | See specified Test Circuit.                   |     | 5   |     | ns   |
| Rise Time                                  | t <sub>r</sub>       | "   |     | 10  |     | ns   |
| Turn-OFF Delay Time                        | t <sub>d(off)</sub>  | "   |     | 35  |     | ns   |
| Fall Time                                  | t <sub>f</sub>       | "   |     | 25  |     | ns   |
| Diode Forward Voltage                      | V <sub>SD</sub>      | I <sub>S</sub> = 500mA, V <sub>GS</sub> = 0   |     | 1.0 |     | V    |

**Switching Time Test Circuit**

**Package Dimensions** 2087  
(unit : mm)

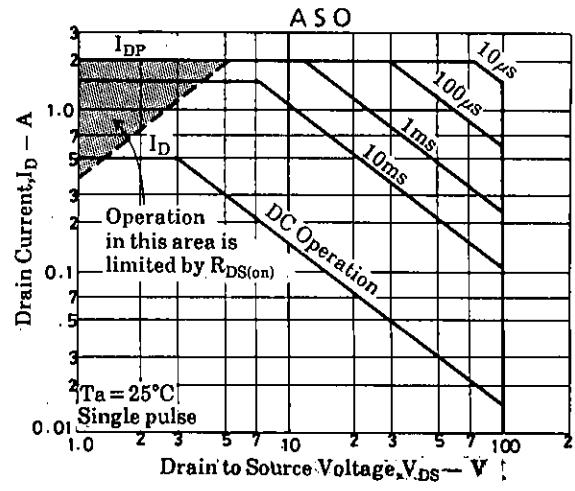
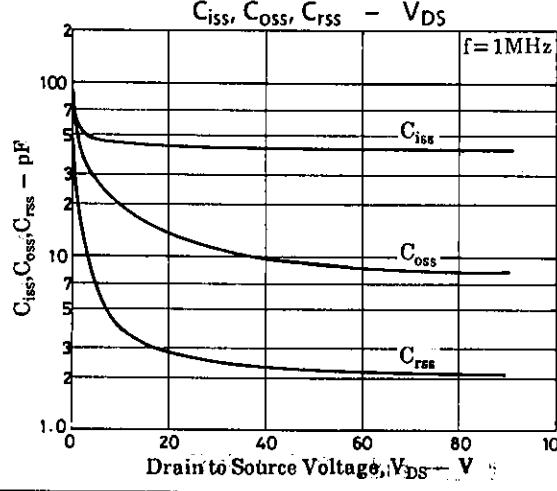
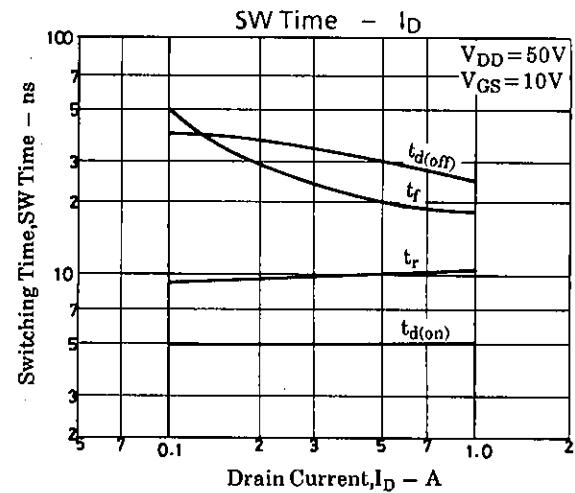
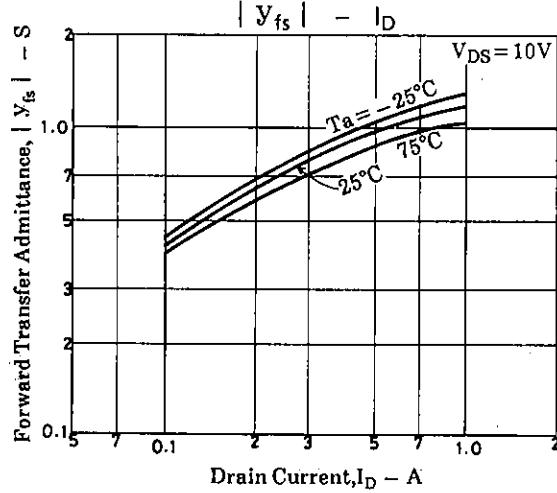
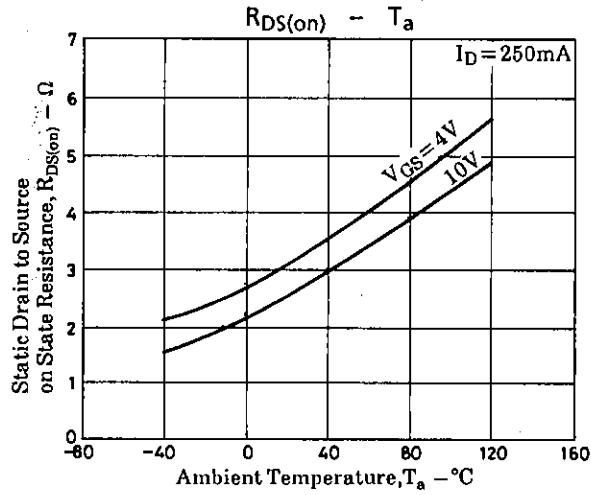
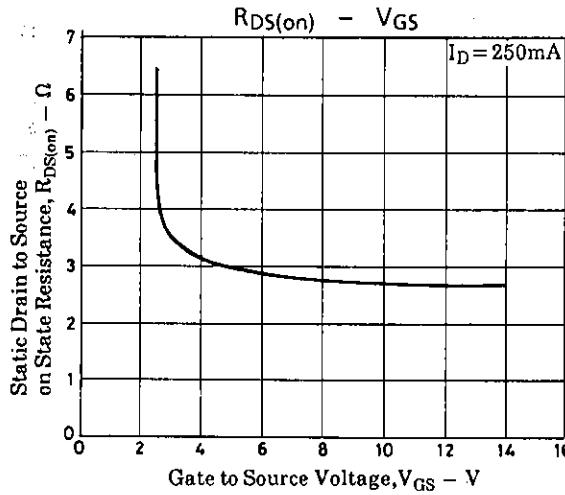
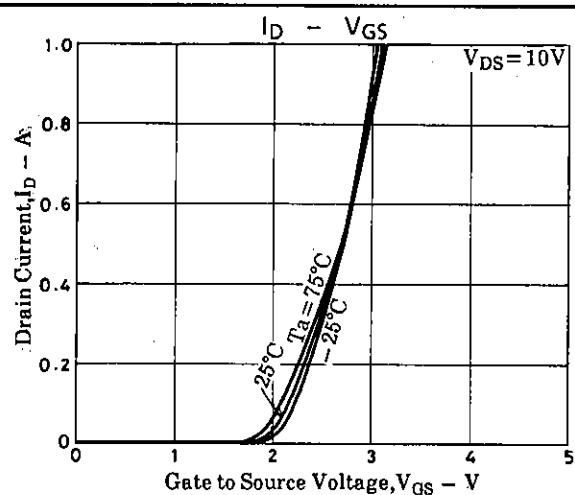
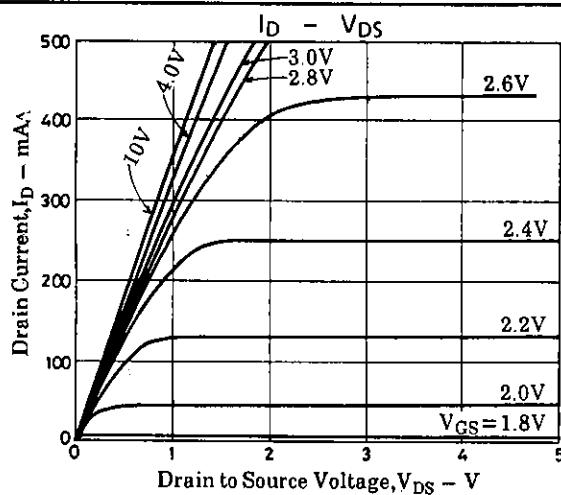


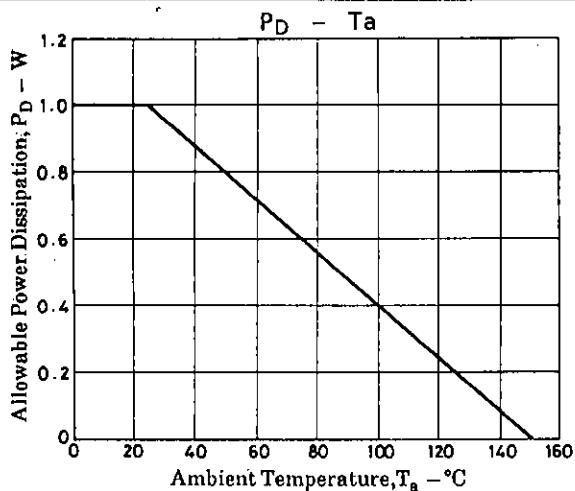
S: Source  
D: Drain  
G: Gate

SANYO: NMP

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