

No.3827

2SK1732

N-Channel MOS Silicon FET Very High-Speed

Switching Applications

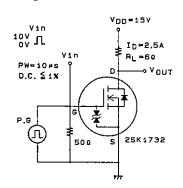
Features

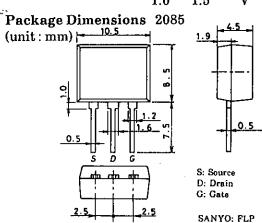
- · Low ON resistance.
- · Very high-speed switching.
- · Low-voltage drive.
- · Its height onboard is 9.5mm.
- · Meets radial taping.

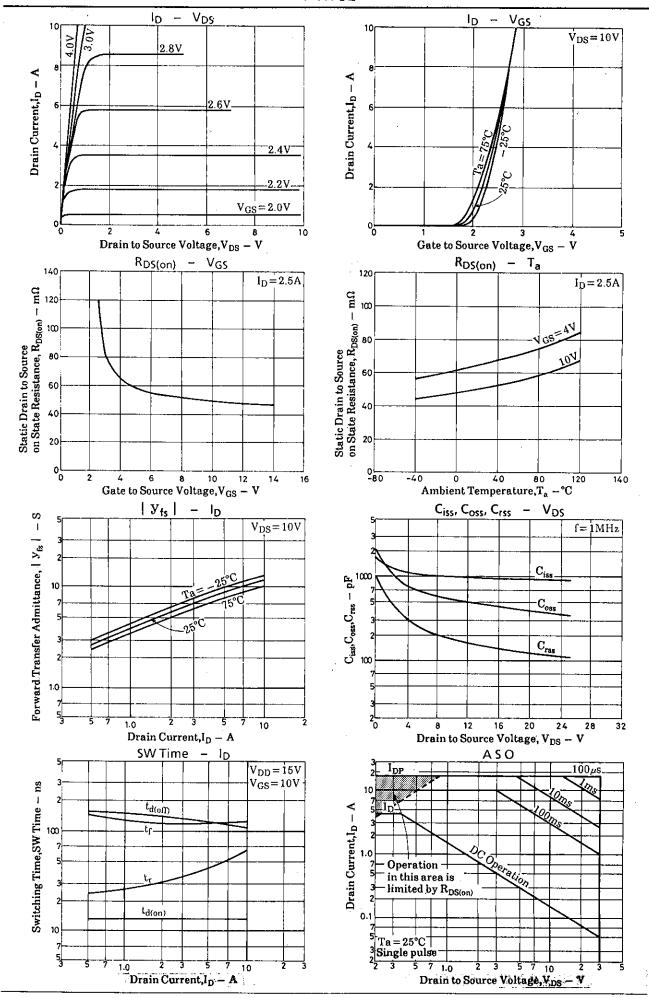
| Absolute Maximum Ratings at Ta = 25°C | | | | unit |
|---------------------------------------|----------------------|--|----------------|----------------------|
| Drain to Source Voltage | V_{DSS} | | 30 | V |
| Gate to Source Voltage | V_{GSS} | | ±15 | V |
| Drain Current(DC) | $I_{\mathbf{D}}$ | | 4.5 | Α |
| Drain Current(Pulse) | \overline{I}_{DP} | $PW \le 10 \mu s$, duty cycle $\le 1\%$ | 18 | Α |
| Allowable Power Dissipation | P_{D} | | 1.5 | W |
| Channel Temperature | Tch | | 150 | $^{\circ}\mathrm{C}$ |
| Storage Temperature | Tsto | • | -55 to + 150 | $^{\circ}\mathrm{C}$ |

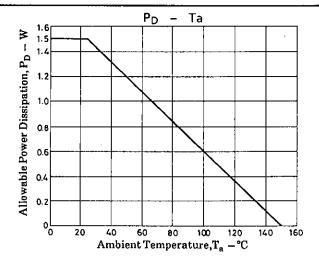
| Electrical Characteristics at Ta = D-S Breakdown Voltage | V _{(BR)DSS} | $I_D = 1 \text{mA}, V_{GS} = 0$ | min 30 | typ | max | unit V |
|--|------------------------------|--|-----------|------|-----|--------------------|
| G-S Breakdown Voltage Zero Gate Voltage | V(BR)GSS I _{DSS} | $I_G = \pm 100 \mu A, V_{DS} = 0$ $V_{DS} = 30 V, V_{GS} = 0$ | ±15 | | 100 | V μA |
| Drain Current | -1000 | 103 331,103 | | | | <i></i> |
| Gate to Source Leakage Current | l_{GSS} | $V_{GS} = \pm 12V, V_{DS} = 0$ | | | ±10 | μA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = 10V, I_D = 1mA$ | 1.0 | | 2.0 | V |
| Forward Transfer Admittance | $\mid \mathbf{y_{fs}} \mid$ | $V_{DS} = 10V, I_{D} = 2.5A$ | 4 | 6.5 | | S |
| Static Drain to Source | R _{DS(on)} | $I_D = 2.5 A, V_{GS} = 10 V$ | | 50 | 65 | $\mathbf{m}\Omega$ |
| on State Resistance | $R_{DS(on)}$ | $I_D = 2.5A, V_{GS} = 4V$ | | 65 | 85 | ${f m}\Omega$ |
| Input Capacitance | Ciss | $V_{DS} = 10V, f = 1MHz$ | | 1000 | | рF |
| Output Capacitance | C_{oss} | $V_{DS} = 10V, f = 1MHz$ | | 550 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS} = 10V, f = 1MHz$ | | 180 | | $\bar{p}F$ |
| Turn-ON Delay Time | $t_{d(on)}$ | See specified Test Circuit. | | 13 | | ns |
| Rise Time | t_r | - " | | 35 | | ns |
| Turn-OFF Delay Time | $t_{d(off)}$ | " | | 140 | | ns |
| Fall Time | $\mathbf{t_f}$ | " | | 120 | | ns |
| Diode Forward Voltage | v_{sd} | $I_S = 4.5A, V_{GS} = 0$ | | 1.0 | 1.5 | V |

Switching Time Test Circuit









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