

<b>SANYO</b>	No.4229	<h1 style="margin: 0;">2SK1413</h1> <p style="margin: 0;">N-Channel MOS Silicon FET</p> <h2 style="margin: 0;">High-Voltage High-Speed Switching Applications</h2>
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**Features**

- Low ON resistance, low input capacitance, very high-speed switching.
- High reliability (Adoption of HVP process).
- Micaless package facilitating mounting.

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

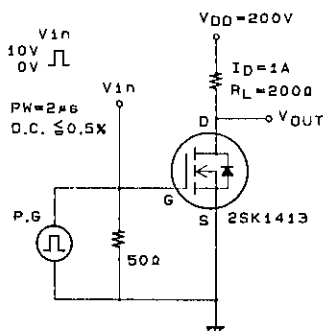
Parameter	Symbol	Value	unit
Drain to Source Voltage	V <sub>DSS</sub>	1500	V
Gate to Source Voltage	V <sub>GSS</sub>	±20	V
Drain Current(DC)	I <sub>D</sub>	2	A
Drain Current(Pulse)	I <sub>DP</sub>	4	A
Allowable Power Dissipation	P <sub>D</sub>	3.0	W
		T <sub>c</sub> = 25°C	
		60	W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

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

Parameter	Symbol	Test Conditions	min	typ	max	unit
D-S Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> = 1mA, V <sub>GS</sub> = 0	1500			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 1200V, V <sub>GS</sub> = 0			100	μA
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0			±100	nA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA	1.5		3.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 20V, I <sub>D</sub> = 1A	1.0	1.5		S
Static Drain to Source on State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> = 1A, V <sub>GS</sub> = 10V		8.0	11.0	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		550		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		90		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		30		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		14		ns
Rise Time	t <sub>r</sub>	∞		16		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	∞		160		ns
Fall Time	t <sub>f</sub>	∞		40		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 2A, V <sub>GS</sub> = 0		1.0	1.5	V

(Note) Be careful in handling the 2SK1413 because it has no protection diode between gate and source.

**Switching Time Test Circuit**



**Package Dimensions 2076**

