



No.4225

**2SK1906**

N-Channel MOS Silicon FET

Very High-Speed  
Switching Applications

### Features

- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.
- Micaless package facilitating mounting.

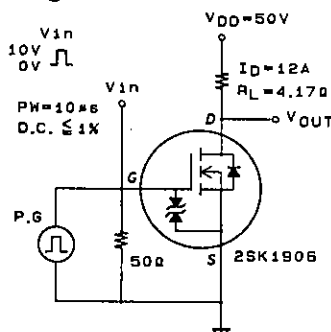
### Absolute Maximum Ratings at Ta = 25°C

			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>	20	A
Drain Current(Pulse)	I <sub>DP</sub>	PW ≤ 10 μs, duty cycle ≤ 1%	80
Allowable Power Dissipation	P <sub>D</sub>	2.0	W
		T <sub>c</sub> = 25°C	30
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

### Electrical Characteristics at Ta = 25°C

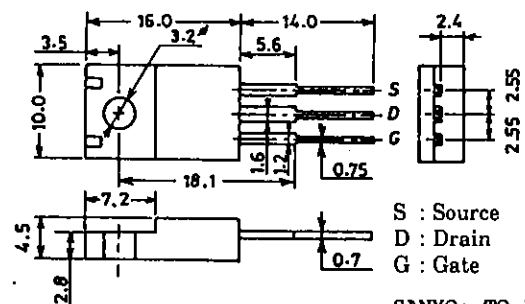
			min	typ	max	unit
D-S Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> = 1mA, V <sub>GS</sub> = 0	100			V
G-S Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> = ±100 μA, V <sub>DS</sub> = 0	±15			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 100V, V <sub>GS</sub> = 0			100	μA
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> = 12A	15	24.5		S
Static Drain to Source on State Resistance	R <sub>DSS(on)</sub>	I <sub>D</sub> = 12A, V <sub>GS</sub> = 10V		60	80	mΩ
	R <sub>DSS(on)</sub>	I <sub>D</sub> = 12A, V <sub>GS</sub> = 4V		80	110	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		1900		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		300		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		60		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		15		ns
Rise Time	t <sub>r</sub>	"		20		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	"		290		ns
Fall Time	t <sub>f</sub>	"		100		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 20A, V <sub>GS</sub> = 0	1.0	1.5		V

### Switching Time Test Circuit



### Package Dimensions 2063

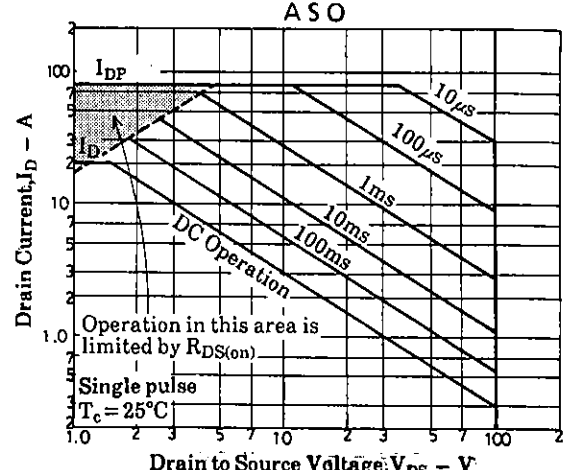
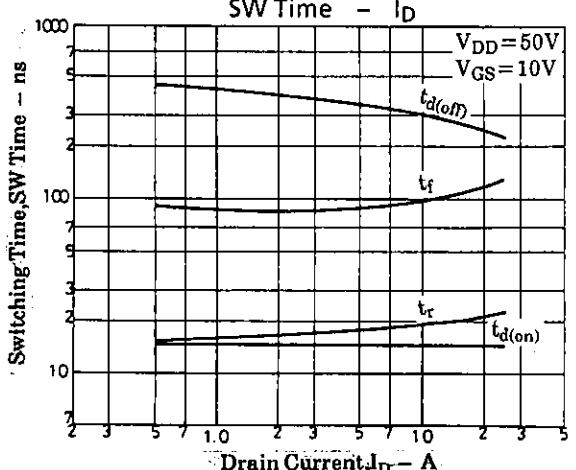
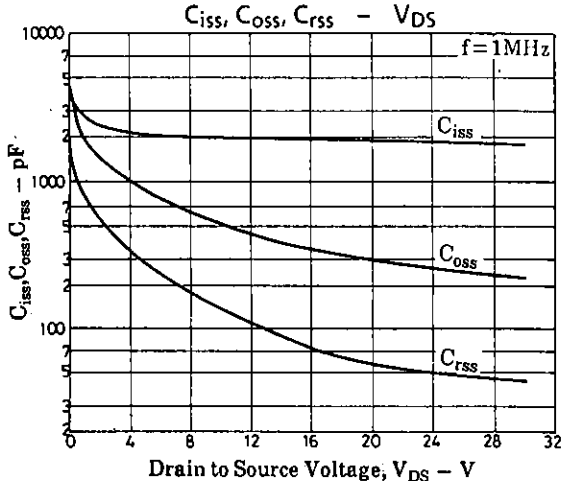
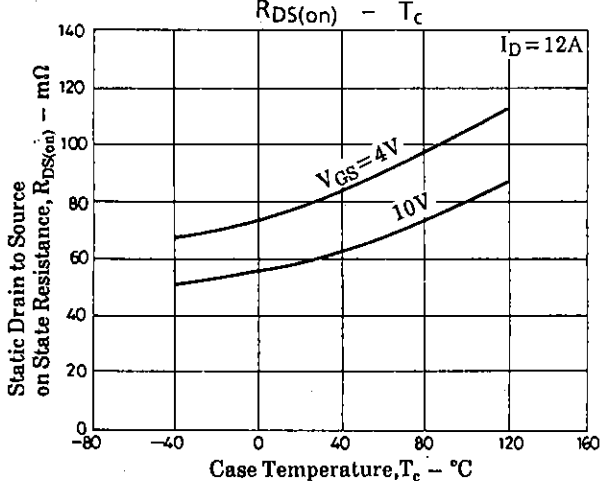
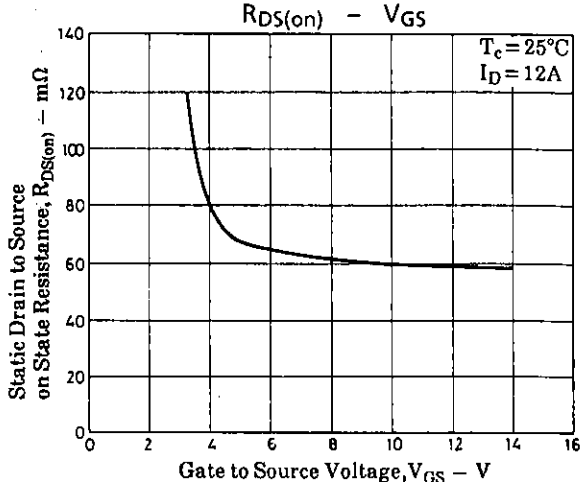
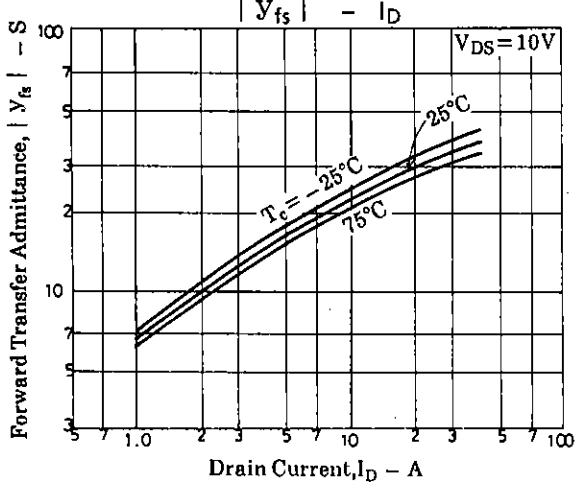
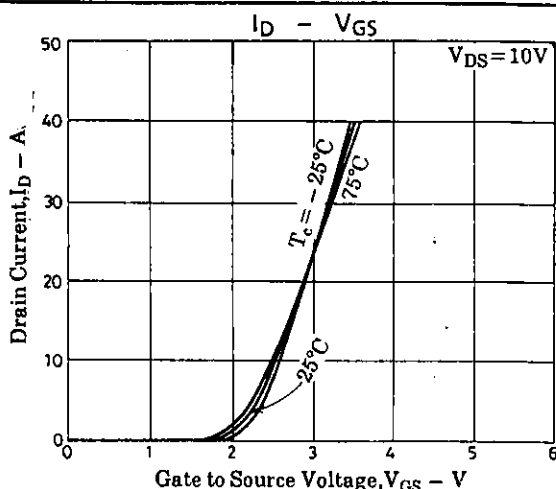
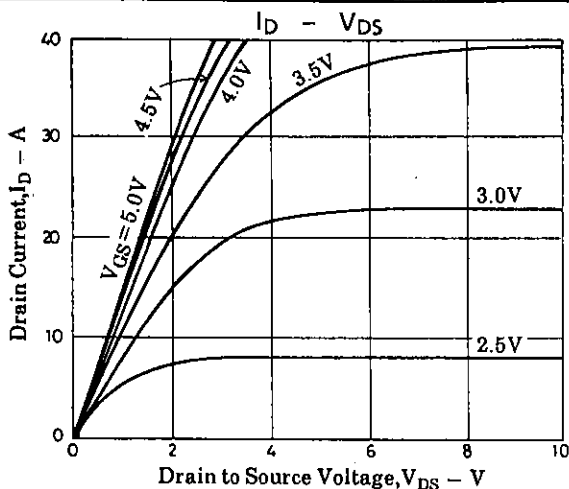
(unit: mm)

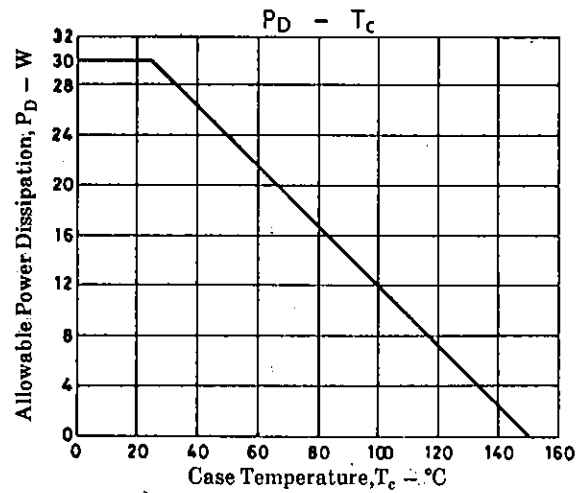
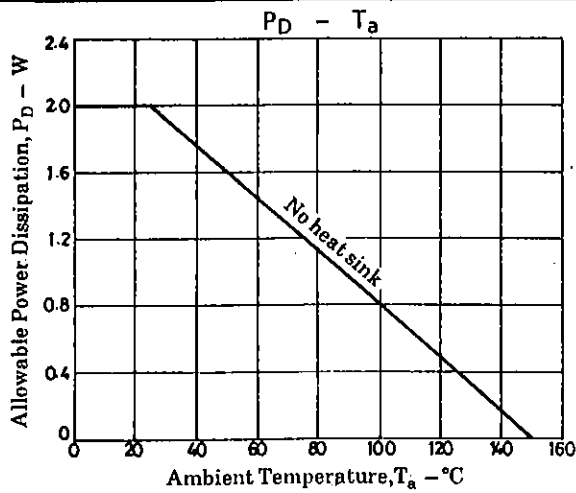


S : Source  
D : Drain  
G : Gate

SANYO: TO-220ML

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**  
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN





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