

**SANYO**

No.3558

**2SK1420**

N-Channel MOS Silicon FET

Very High-Speed  
Switching Applications

**Features**

- Low ON-state resistance.
- Very high-speed switching.
- Converters.
- Micaless package facilitating mounting.

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

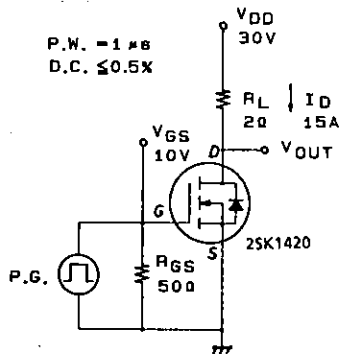
			unit
Drain to Source Voltage	V <sub>DSS</sub>	60	V
Gate to Source Voltage	V <sub>GSS</sub>	±20	V
Drain Current(DC)	I <sub>D</sub>	25	A
Drain Current(Pulse)	I <sub>DP</sub>	PW ≤ 10μs, duty cycle ≤ 1%	A
Allowable Power Dissipation	P <sub>D</sub>	Tc = 25°C	30 W
			2.0 W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

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

			min	typ	max	unit
D-S Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> = 1mA, V <sub>GS</sub> = 0	60			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 60V, 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		2.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 15A	10	15		S
Static Drain to Source on State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> = 15A, V <sub>GS</sub> = 10V	0.035	0.045		Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		1200		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		550		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		150		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	I <sub>D</sub> = 15A, V <sub>GS</sub> = 10V V <sub>DD</sub> = 30V, R <sub>GS</sub> = 50Ω		18		ns
Rise Time	t <sub>r</sub>		102	ns		
Turn-OFF Delay Time	t <sub>d(off)</sub>		130	ns		
Fall Time	t <sub>f</sub>		90	ns		
Diode Forward Voltage	V <sub>SD</sub>		I <sub>S</sub> = 25A, V <sub>GS</sub> = 0		1.8	

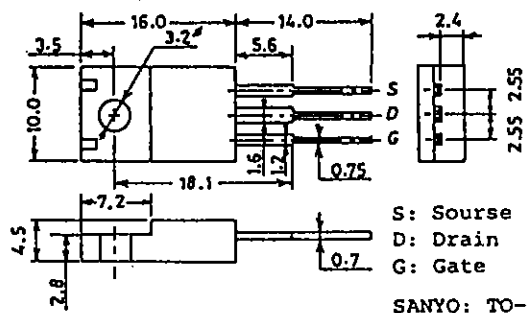
(Note) Be careful in handling the 2SK1420 because it has no protection diode between gate and source.

**Switching Time Test Circuit**



**Package Dimensions 2063**

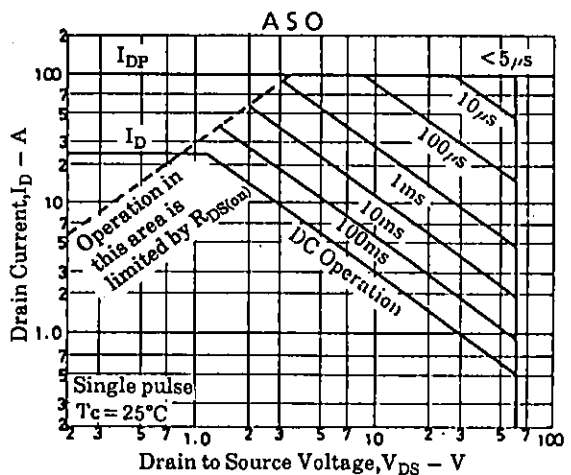
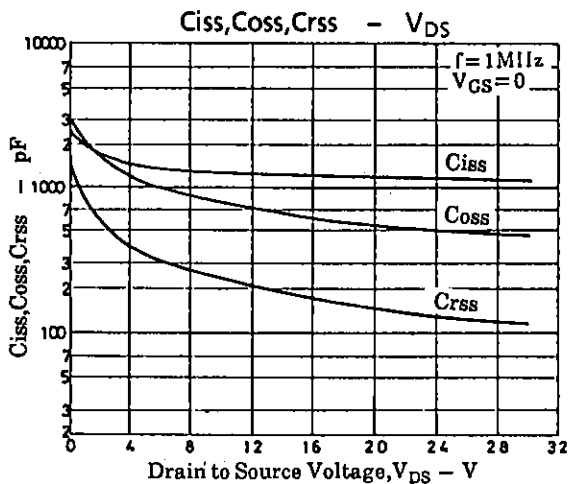
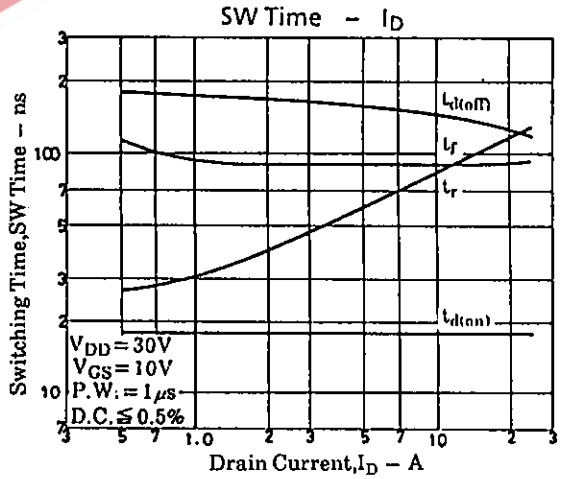
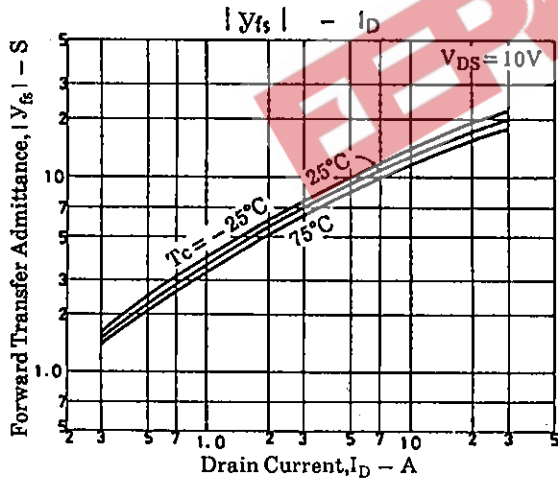
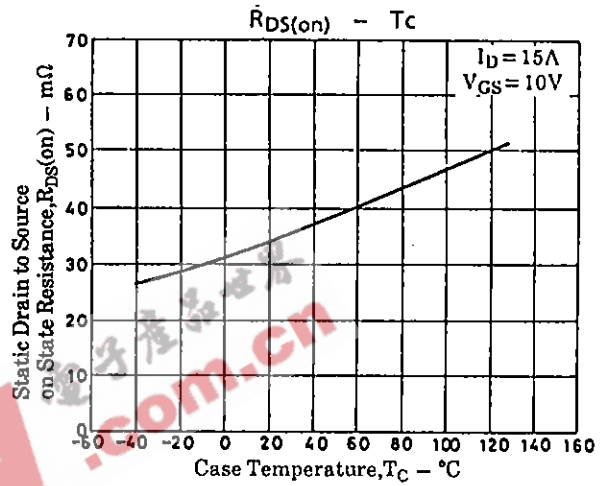
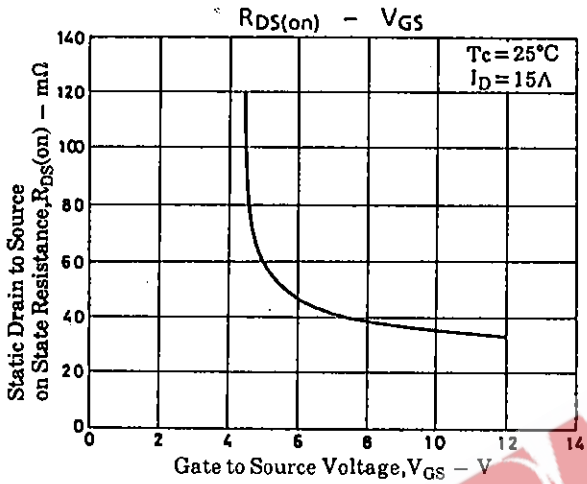
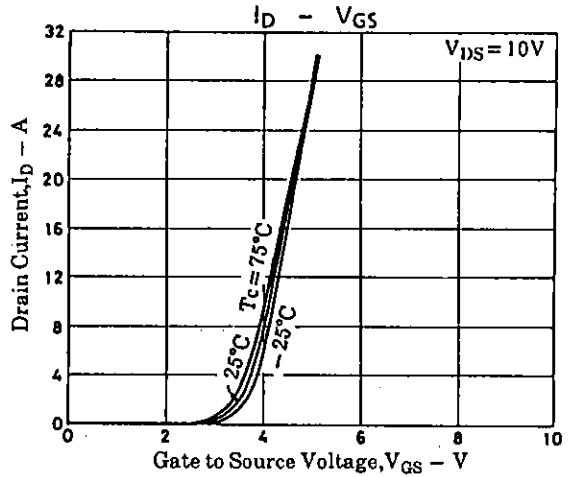
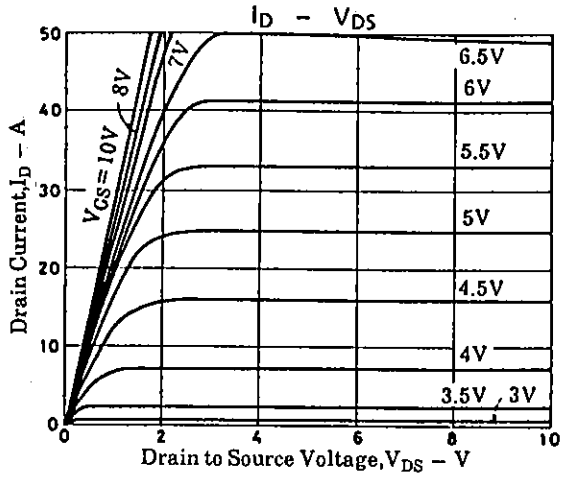
(unit : mm)

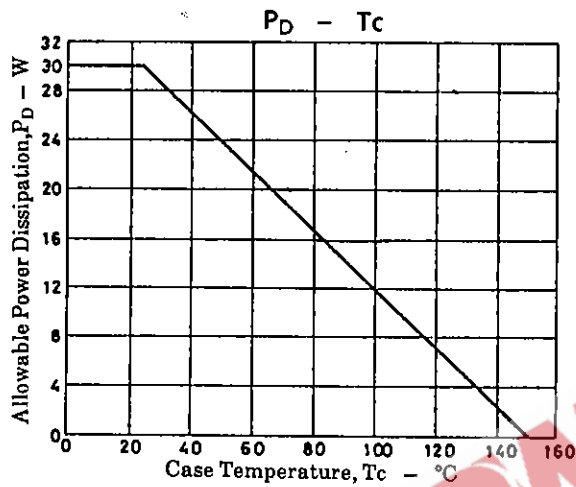
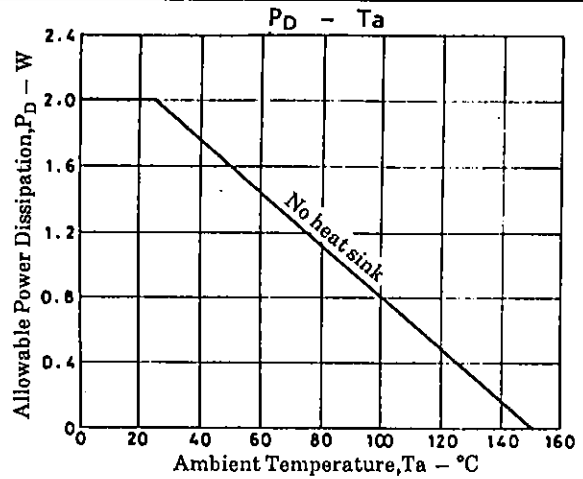
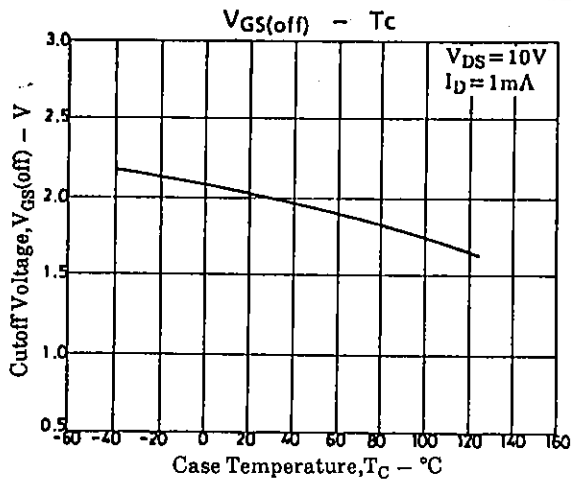


S: Source  
D: Drain  
G: Gate

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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