

<b>SANYO</b>	No.4321	<b>2SK2012</b>
		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.

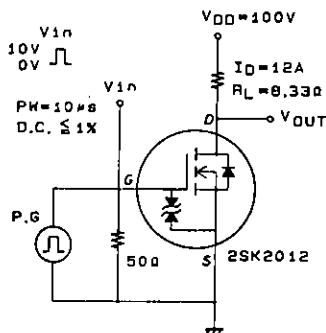
**Absolute Maximum Ratings at Ta = 25°C**

			unit
Drain-to-Source Voltage	V <sub>DS</sub>	250	V
Gate-to-Source Voltage	V <sub>GSS</sub>	±30	V
Drain Current(DC)	I <sub>D</sub>	18	A
Drain Current(Pulse)	I <sub>DP</sub>	PW ≤ 10μs, duty cycle ≤ 1%	72 A
Allowable Power Dissipation	P <sub>D</sub>	2.0	W
		T <sub>c</sub> = 25°C	40 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**

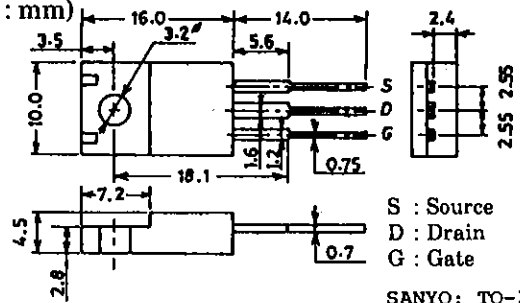
			min	typ	max	unit
D-S Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> = 1mA, V <sub>GS</sub> = 0	250			V
G-S Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> = ±100μA, V <sub>DS</sub> = 0	±30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 250V, V <sub>GS</sub> = 0			100	μA
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±25V, V <sub>DS</sub> = 0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA	1.5		2.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 12A	11	18		S
Static Drain-to-Source on State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> = 12A, V <sub>GS</sub> = 10V	0.12	0.16		Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		2700		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		450		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> = 20V, f = 1MHz		180		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		35		ns
Rise Time	t <sub>r</sub>	◇		65		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	◇		210		ns
Fall Time	t <sub>f</sub>	◇		235		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 18A, V <sub>GS</sub> = 0	1.0	1.5		V

**Switching Time Test Circuit**



**Package Dimensions 2063**

(unit: mm)

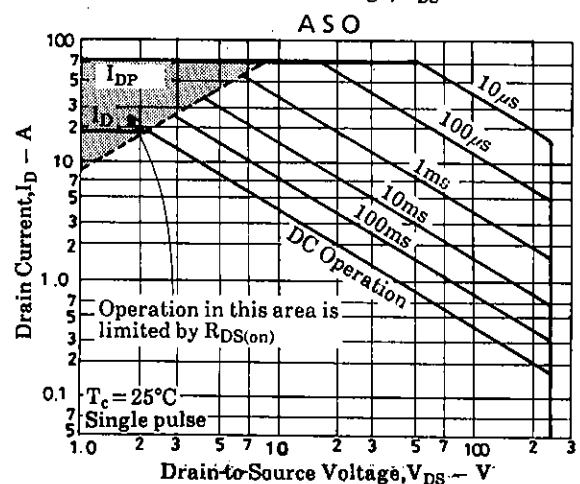
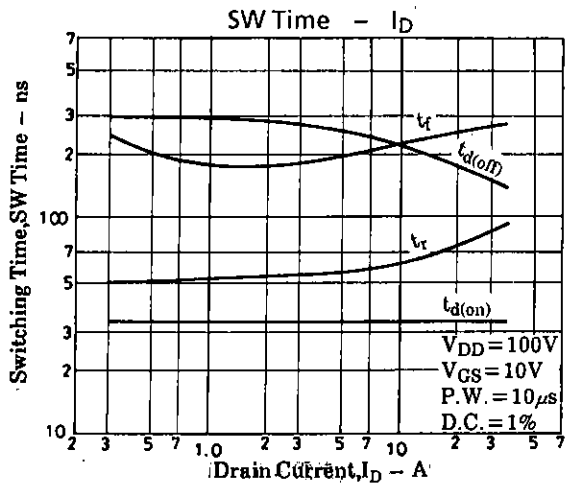
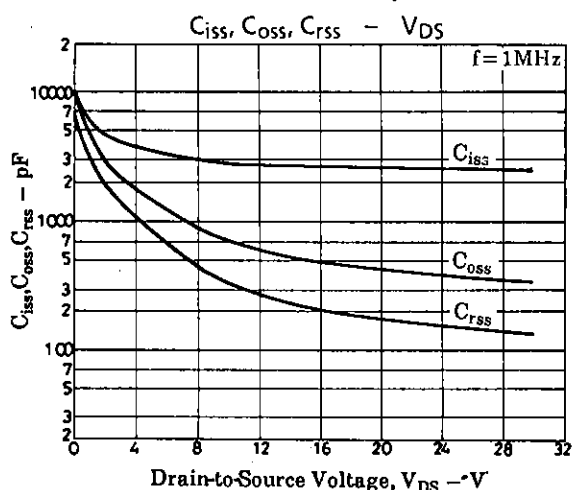
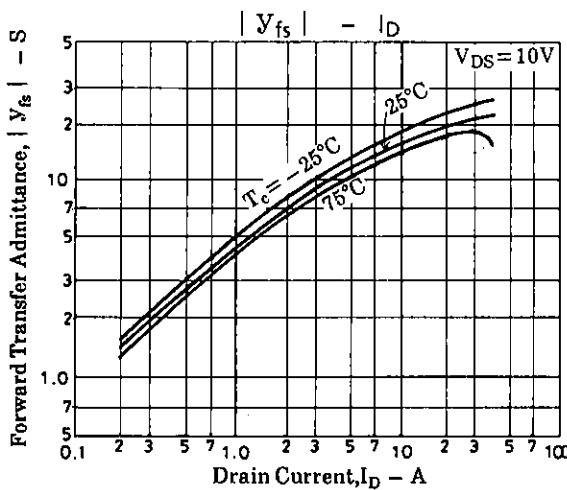
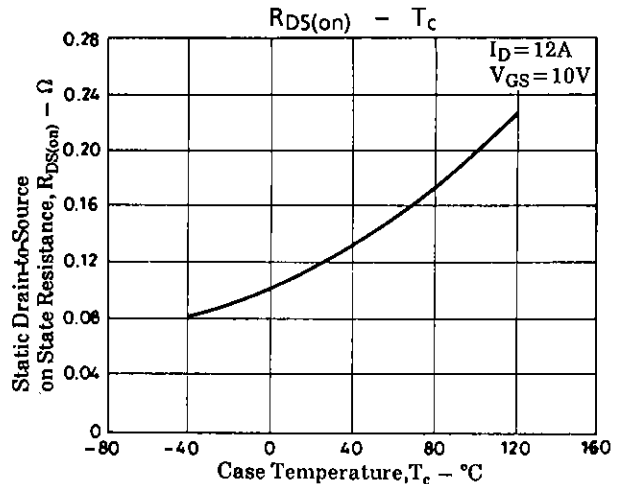
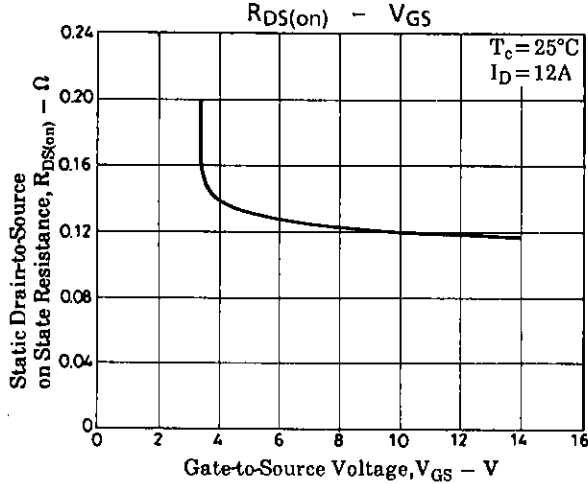
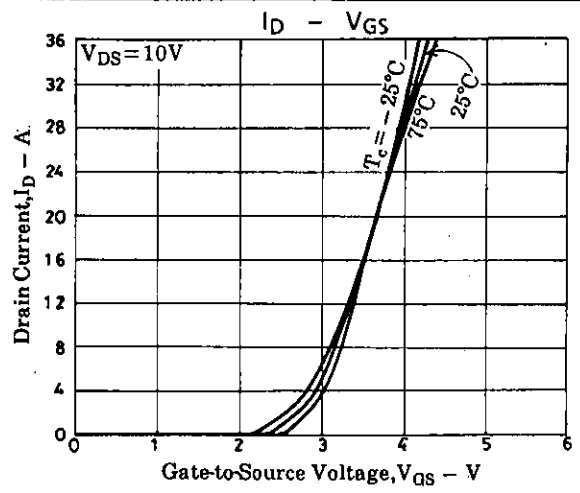
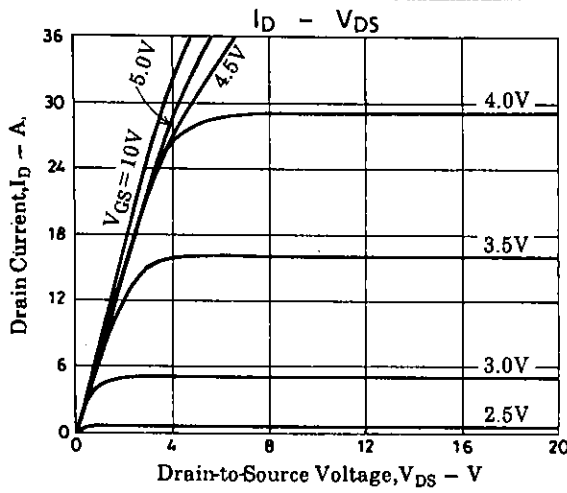


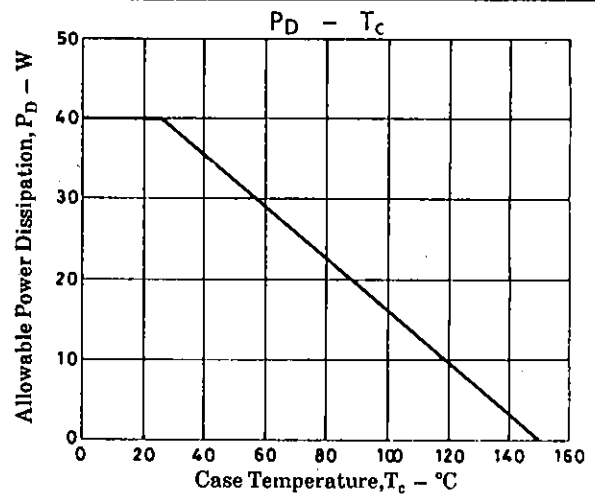
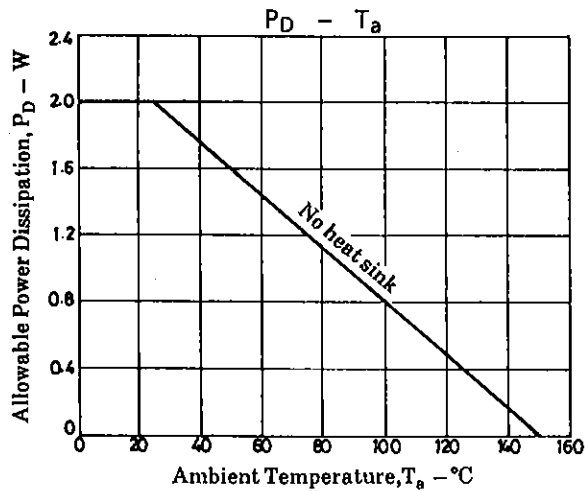
S : Source  
D : Drain  
G : Gate

SANYO: TO-220ML

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