Ordering number: EN4321

SANYO

No.4321

2SK2012

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.

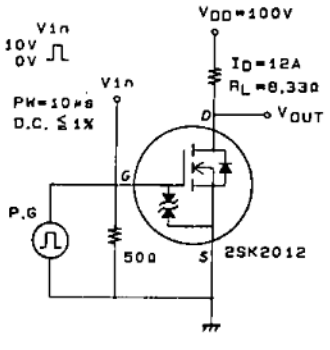
Absolute Maximum Ratings at Ta = 25°C

				unit
Drain-to-Source Voltage	V_{DSS}		250	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current(DC)	I_D		18	A
Drain Current(Pulse)	I_{DP}	PW≦10μs, duty cycle≦1%	72	A
Allowable Power Dissipation	P_D		2.0	W
		T_c = 25°C	40	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

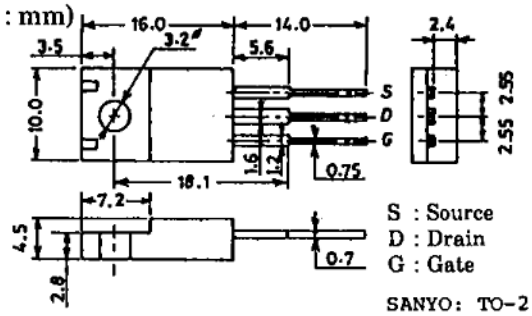
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D = 1mA, V_{GS} = 0	250			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	I_G = ±100μA, V_{DS} = 0	±30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 250V, V_{GS} = 0			100	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±25V, V_{DS} = 0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS} = 10V, I_D = 1mA	1.5		2.5	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS} = 10V, I_D = 12A	11	18		S
Static Drain-to-Source on State Resistance	$R_{DS(on)}$	I_D = 12A, V_{GS} = 10V		0.12	0.16	Ω
Input Capacitance	C_{iss}	V_{DS} = 20V, f = 1MHz		2700		pF
Output Capacitance	C_{oss}	V_{DS} = 20V, f = 1MHz		450		pF
Reverse Transfer Capacitance	C_{rss}	V_{DS} = 20V, f = 1MHz		180		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		35		ns
Rise Time	t_r	〃		65		ns
Turn-OFF Delay Time	$t_{d(off)}$	〃		210		ns
Fall Time	t_f	〃		235		ns
Diode Forward Voltage	V_{SD}	I_S = 18A, V_{GS} = 0		1.0	1.5	V

Switching Time Test Circuit



Package Dimensions 2063

(unit : mm)



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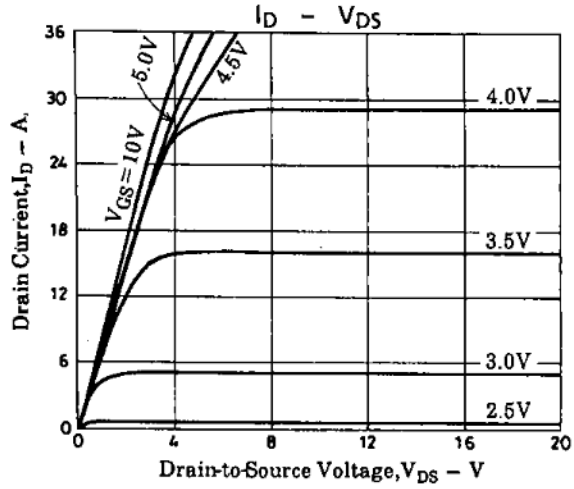
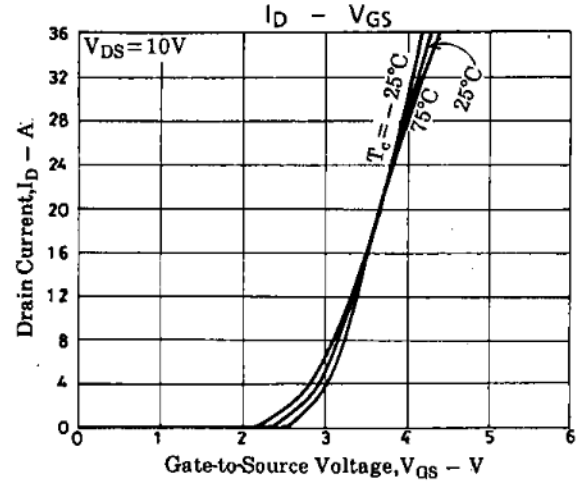
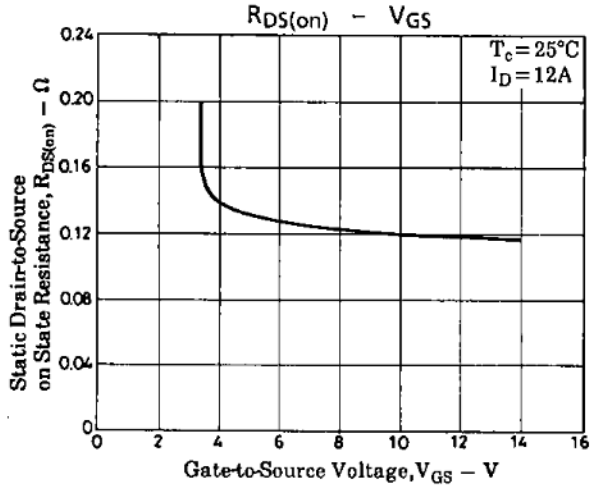
I_D – V_{DS}



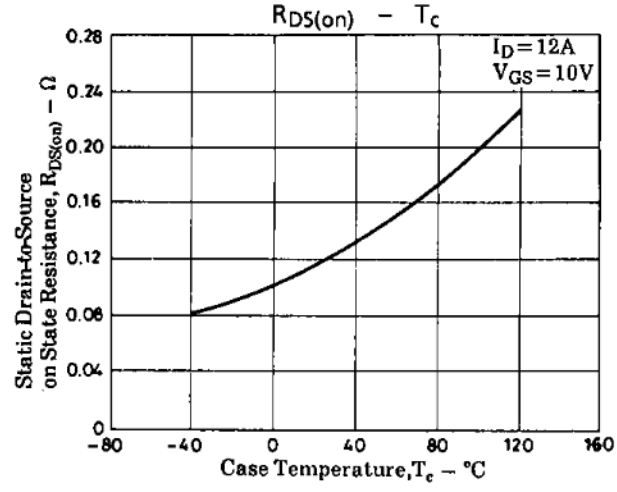
I_D – V_{GS}



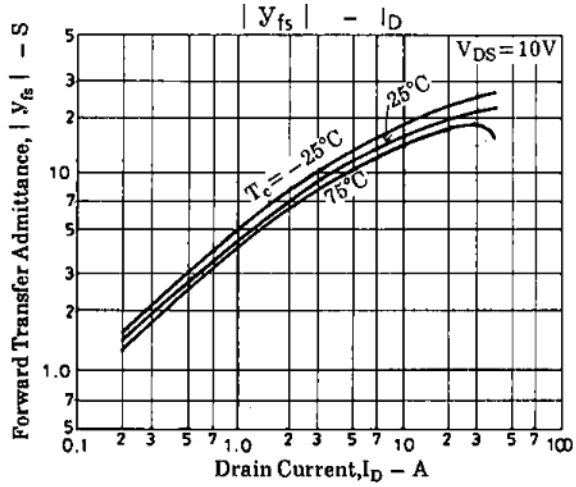
$R_{DS(on)}$ – V_{GS}



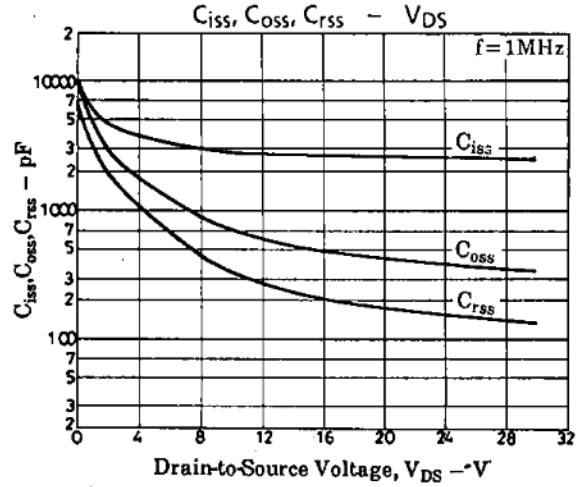
$R_{DS(on)}$ – T_c



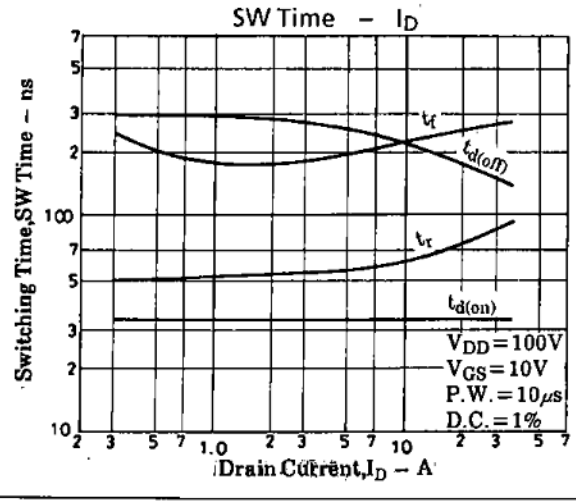
$|y_{fs}|$ – I_D



C_{iss}, C_{oss}, C_{rss} – V_{DS}



SW Time – I_D



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