

SANYO

No.4227

2SK1909

N-Channel MOS Silicon FET

Very High-Speed
Switching Applications**Features**

- Low ON resistance.
- Very high-speed switching.
- Low-voltage drive.
- Surface mount type device making the following possible.
 - Reduction in the number of manufacturing processes for 2SK1909-applied equipment.
 - High density surface mount applications.
 - Small size of 2SK1909-applied equipment.

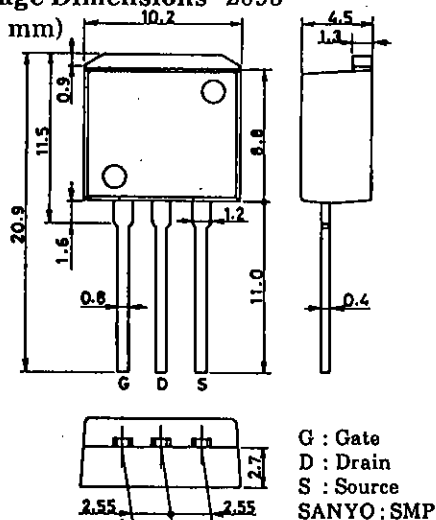
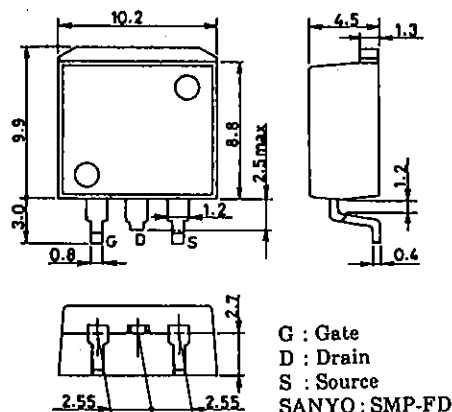
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Drain to Source Voltage	V _{DSS}	100	V	
Gate to Source Voltage	V _{GSS}	±15	V	
Drain Current(DC)	I _D	25	A	
Drain Current(Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	100	A
Allowable Power Dissipation	P _D		1.65	W
		T _c =25°C	70	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}, V_{GS} = 0$	100			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu A, V_{DS} = 0$	± 15			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100\text{V}, V_{GS} = 0$			100	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{V}, V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	1.0		2.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 12\text{A}$	15	24.5		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 12\text{A}, V_{GS} = 10\text{V}$		60	80	$m\Omega$
		$I_D = 12\text{A}, V_{GS} = 4\text{V}$		80	110	$m\Omega$

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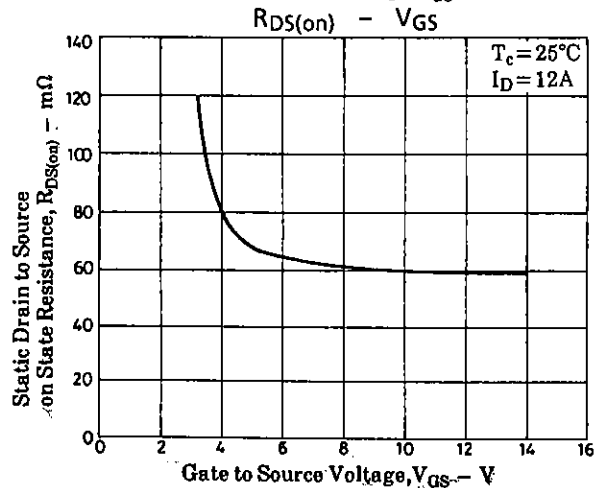
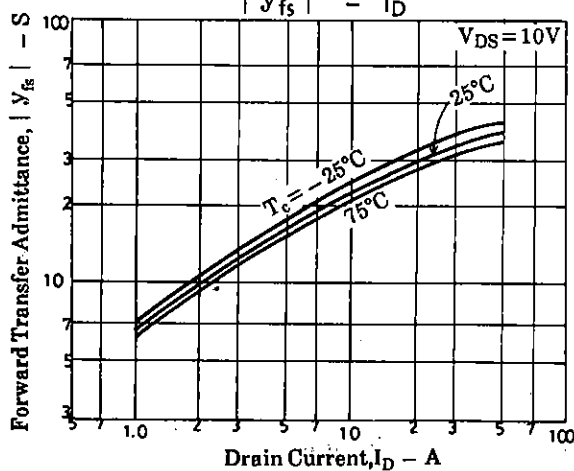
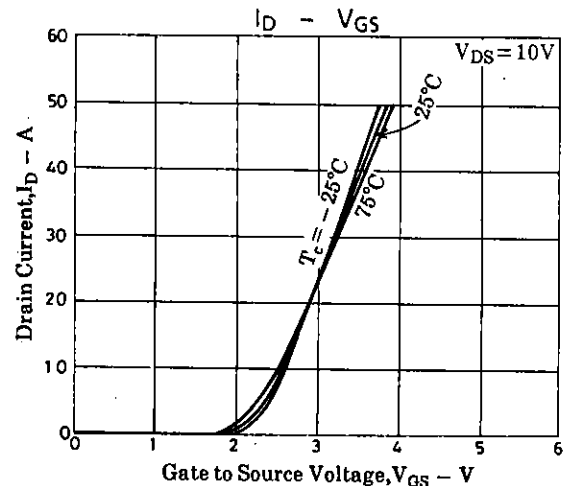
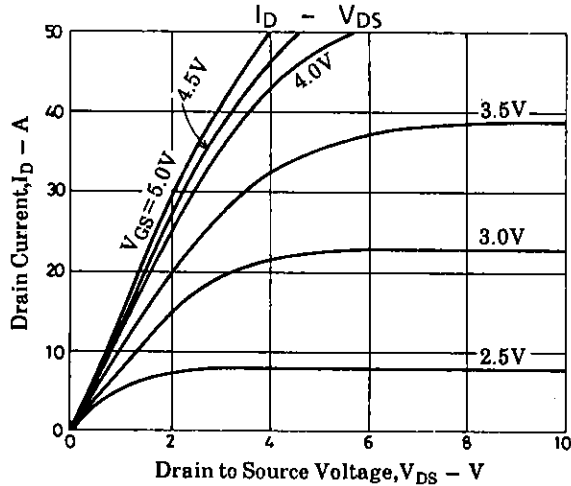
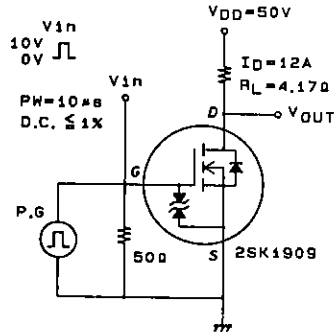
Package Dimensions 2093
(unit: mm)**Package Dimensions 2090**
(unit: mm)

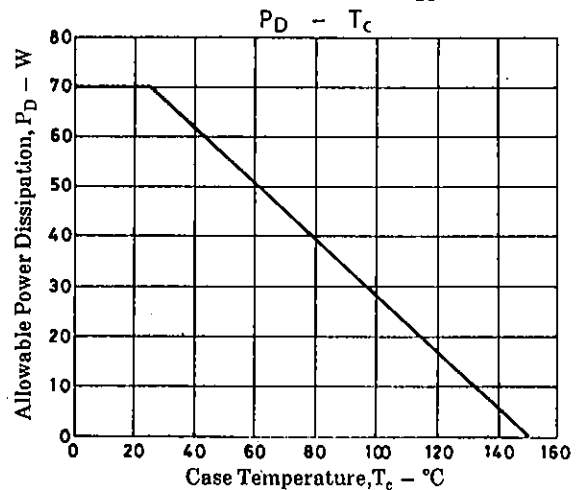
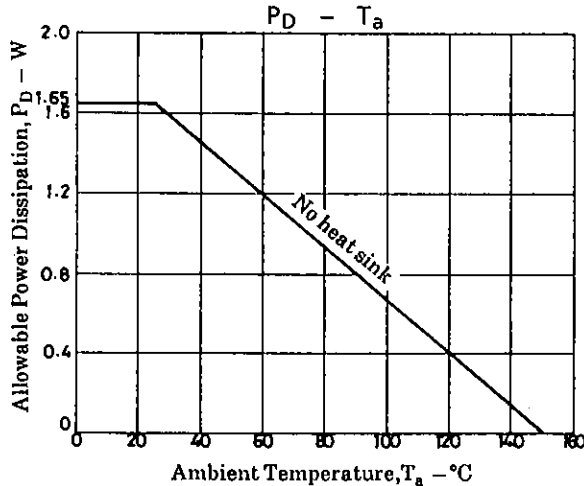
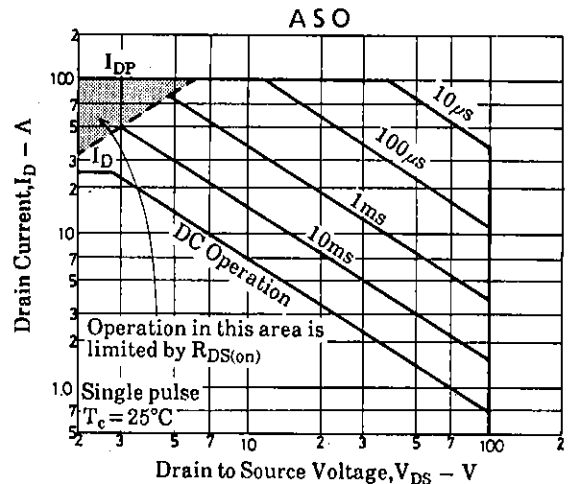
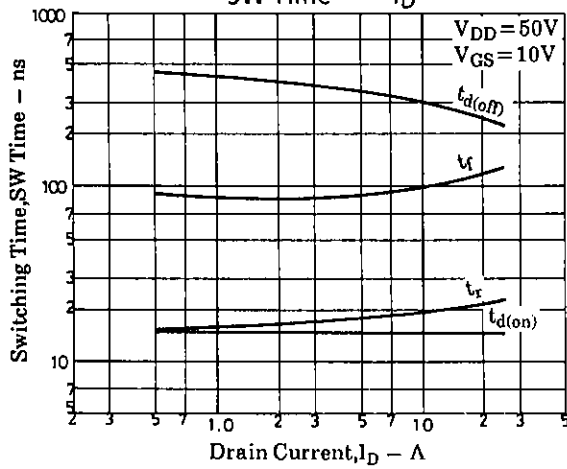
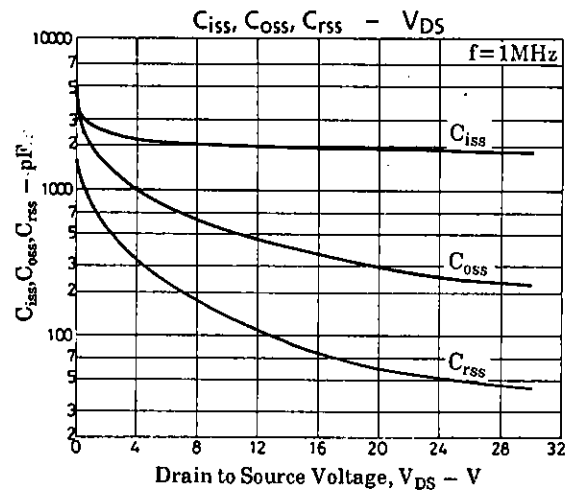
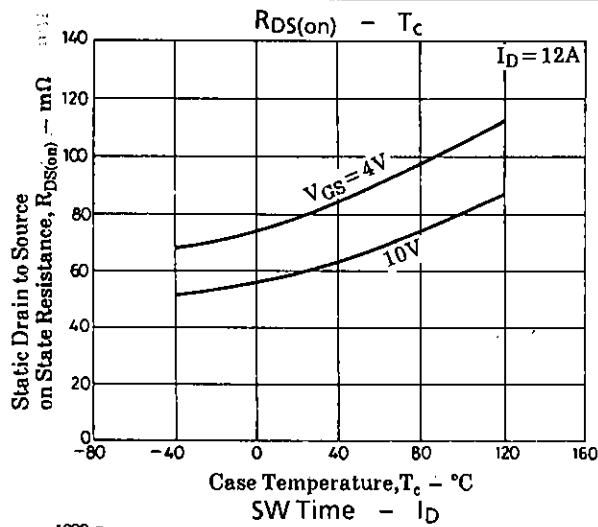
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			min	typ	max	unit
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1900		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		300		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		60		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		15		ns
Rise Time	t_r	"		20		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		290		ns
Fall Time	t_f	"		100		ns
Diode Forward Voltage	V_{SD}	$I_S=25A, V_{GS}=0$	1.0	1.5		V

Switching Time Test Circuit





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