Ordering number: EN4227

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 Ta = 25°C

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

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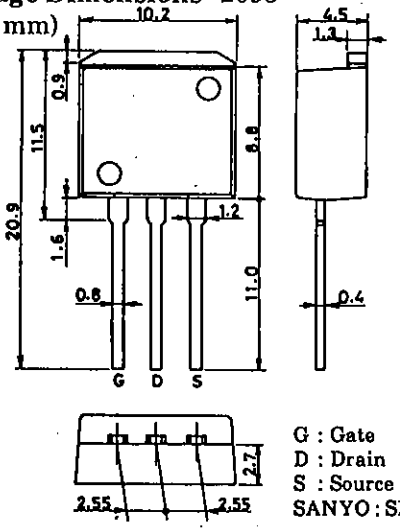
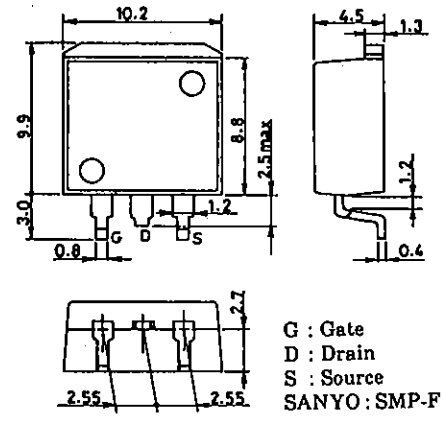
Package Dimensions 2093
(unit : mm)



G : Gate
D : Drain
S : Source
SANYO : SMP

Package Dimensions 2090
(unit : mm)



G : Gate
D : Drain
S : Source
SANYO : SMP-FD

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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