

**SANYO**

No.4226

**2SK1907**

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 2SK1907-applied equipment.
  - High density surface mount applications.
  - Small size of 2SK1907-applied equipment.

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

			unit
Drain to Source Voltage	$V_{DS}$	100	V
Gate to Source Voltage	$V_{GS}$	$\pm 15$	V
Drain Current(DC)	$I_D$	12	A
Drain Current(Pulse)	$I_{DP}$	$PW \leq 10\mu s, \text{duty cycle} \leq 1\%$	A
Allowable Power Dissipation	$P_D$	1.65	W
		$T_c = 25^\circ\text{C}$	
		50	W
Channel Temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

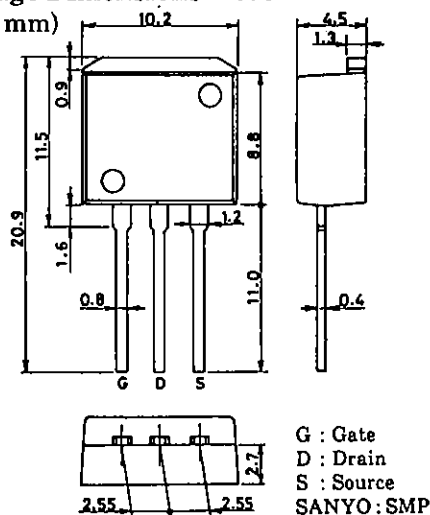
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

			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	$V_{(BR)GSS}$	$I_G = \pm 100\mu A, V_{DS} = 0$	$\pm 15$			V
Zero Gate Voltage	$I_{DSS}$	$V_{DS} = 100\text{V}, V_{GS} = 0$			100	$\mu A$
Drain Current						
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 12\text{V}, V_{DS} = 0$			$\pm 10$	$\mu A$
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} $	$V_{DS} = 10\text{V}, I_D = 6\text{A}$	6	9.5		S
Static Drain to Source	$R_{DS(on)}$	$I_D = 6\text{A}, V_{GS} = 10\text{V}$		0.12	0.16	$\Omega$
on State Resistance	$R_{DS(on)}$	$I_D = 6\text{A}, V_{GS} = 4\text{V}$		0.16	0.22	$\Omega$

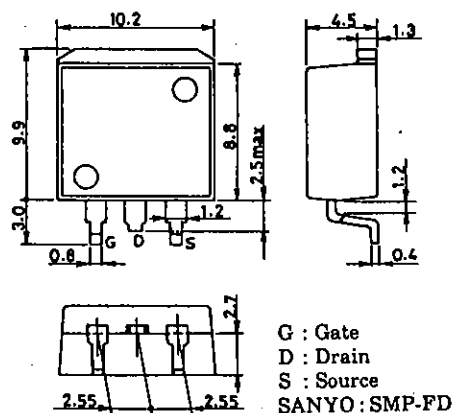
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**Package Dimensions 2093**

(unit: mm)

**Package Dimensions 2090**

(unit: mm)

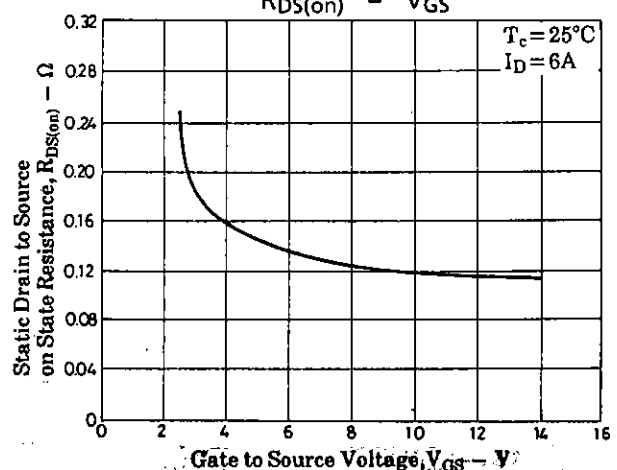
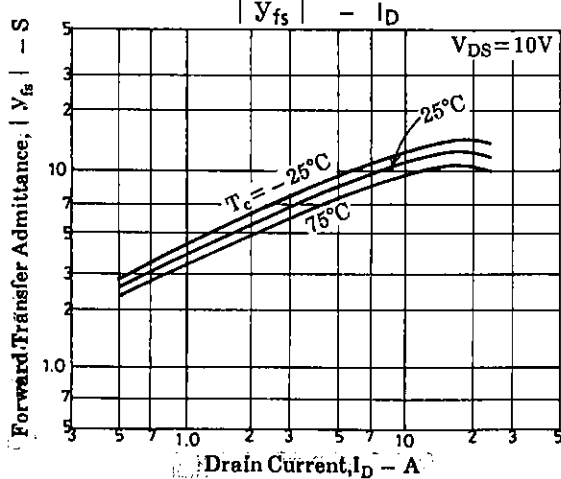
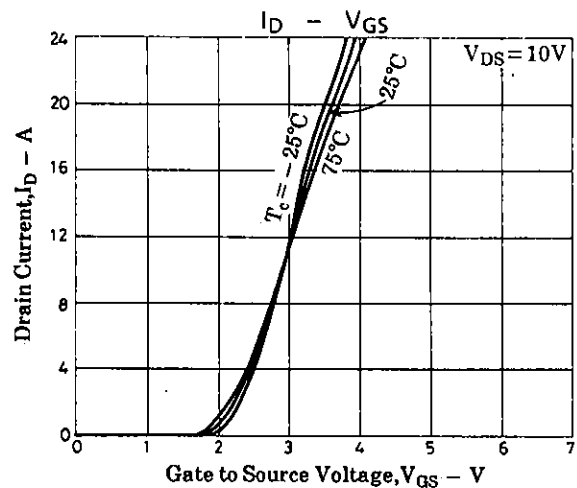
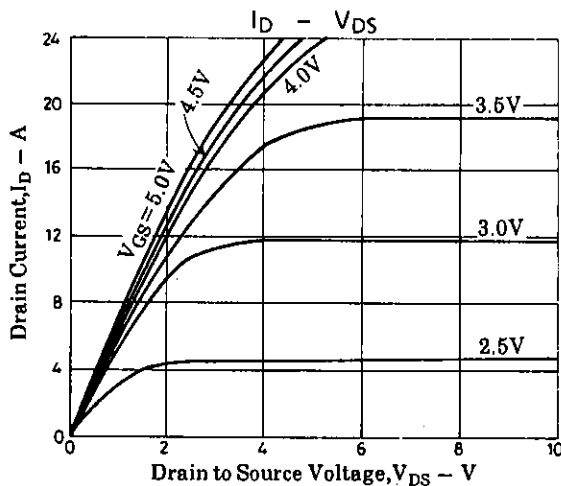
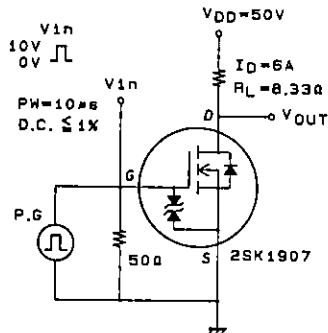


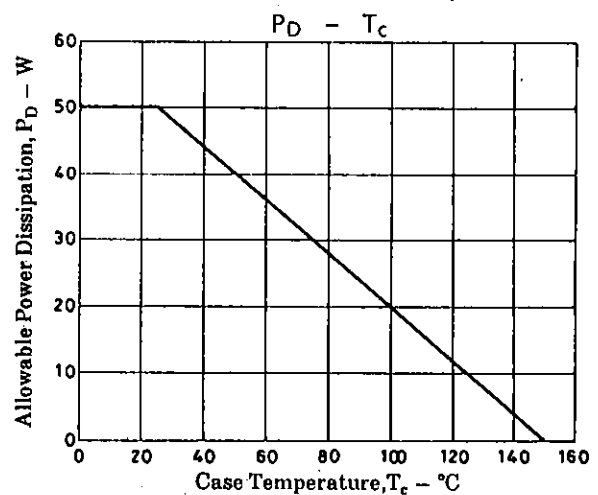
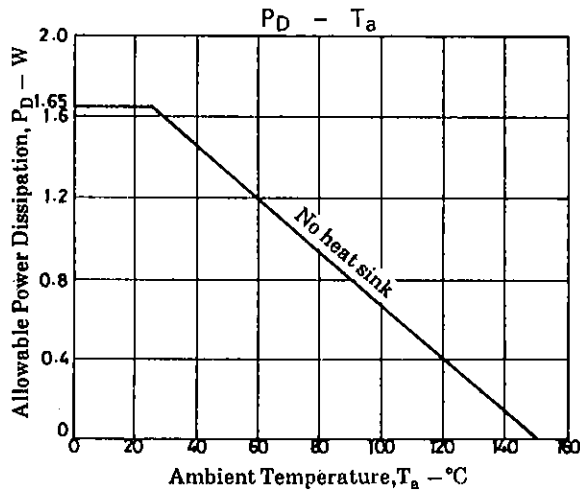
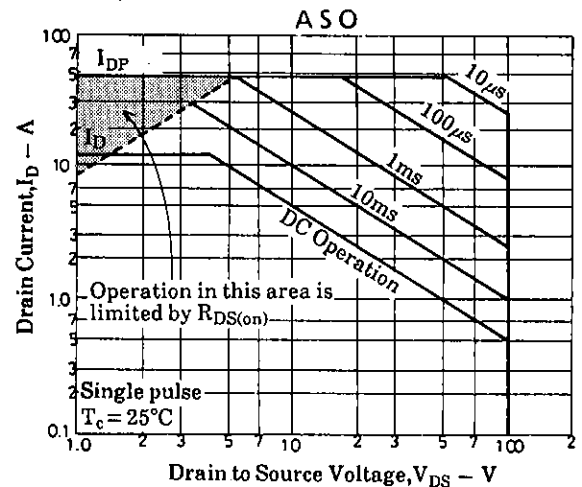
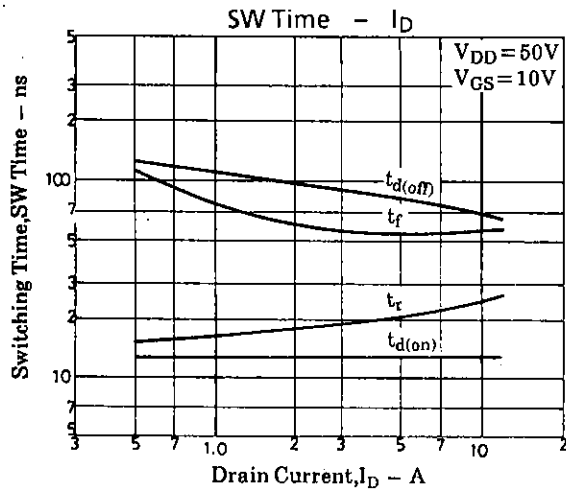
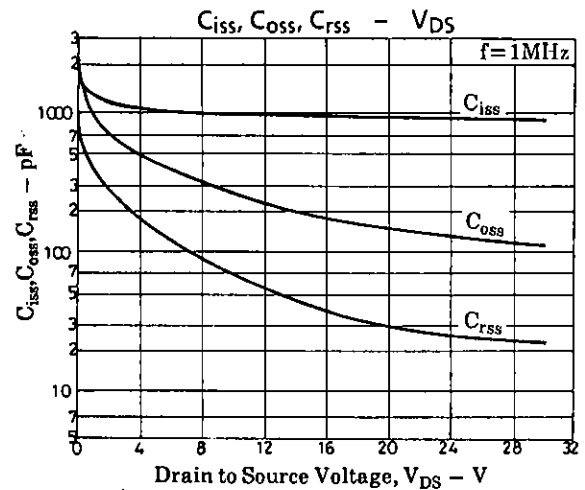
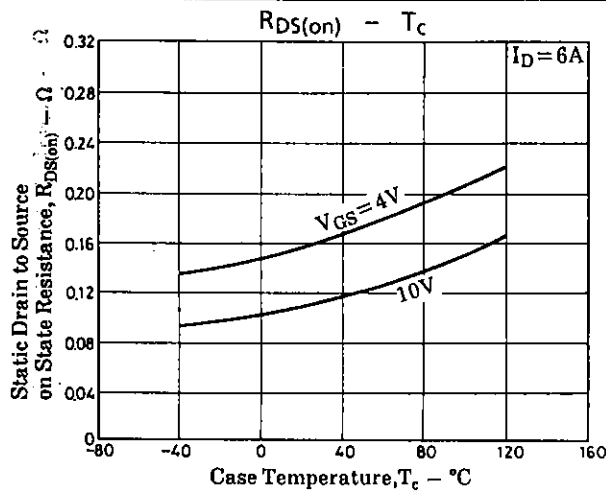
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			min	typ	max	unit
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		950		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		150		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		30		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		13		ns
Rise Time	$t_r$	"		22		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		80		ns
Fall Time	$t_f$	"		55		ns
Diode Forward Voltage	$V_{SD}$	$I_S=12A, V_{GS}=0$	1.0	1.5		V

## Switching Time Test Circuit





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