

No.4224

**2SK1691****SANYO**

N-Channel MOS Silicon FET

Very High-Speed  
Switching Applications**Features**

- Low ON resistance.
- Very high-speed switching.

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

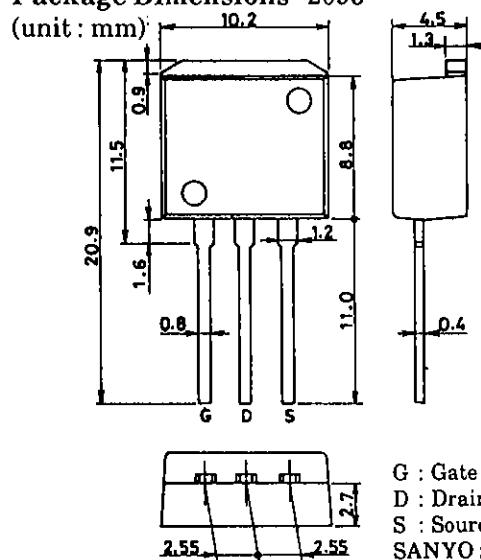
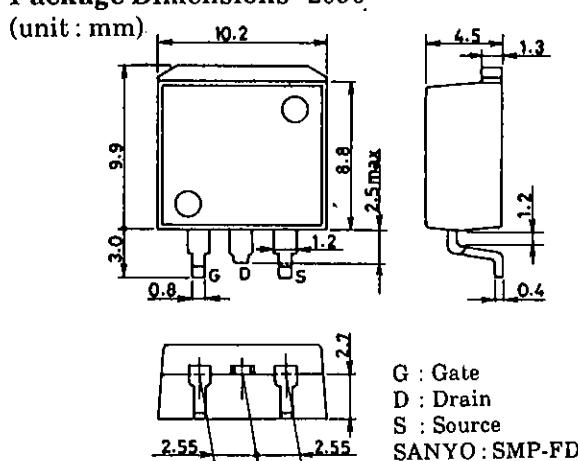
		Tc = 25°C	unit
Drain to Source Voltage	V <sub>DSS</sub>	450	V
Gate to Source Voltage	V <sub>GSS</sub>	±30	V
Drain Current(DC)	I <sub>D</sub>	5	A
Drain Current(Pulse)	I <sub>DP</sub>	20	A
Allowable Power Dissipation	P <sub>D</sub>	1.65	W
		60	W
Channel Temperature	T <sub>ch</sub>	150	°C
Storage Temperature	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	450			V
Zero Gate Voltage	I <sub>DSS</sub>	V <sub>DS</sub> = 450V, V <sub>GS</sub> = 0			1.0	mA
Drain Current						
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±30V, V <sub>DS</sub> = 0			±100	nA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 1mA	2.0		3.0	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 3A	2.0	4.0		S
Static Drain to Source on State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> = 3A, V <sub>GS</sub> = 10V	1.0	1.4		Ω

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(Note) Be careful in handling the 2SK1691 because it has no protection diode between gate and source.

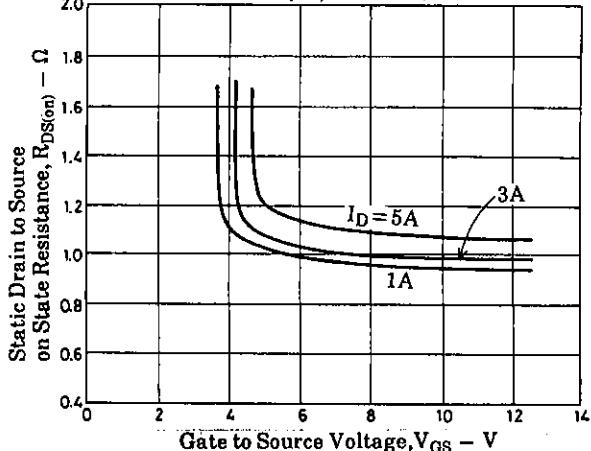
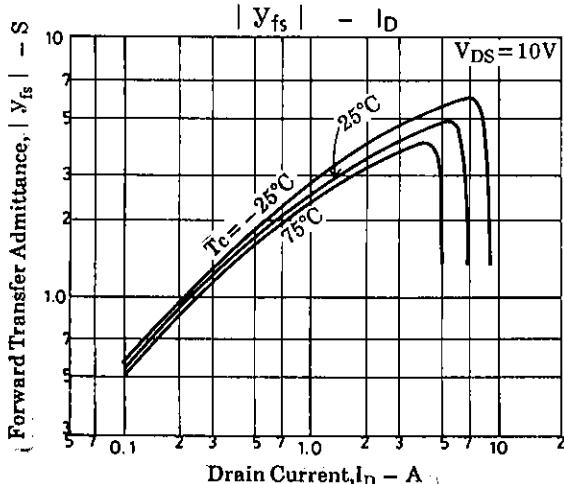
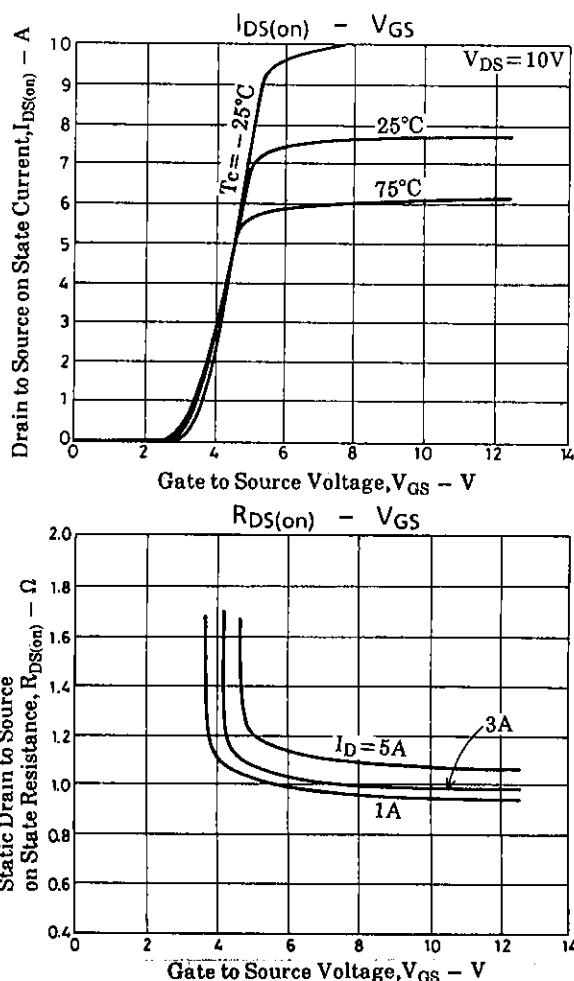
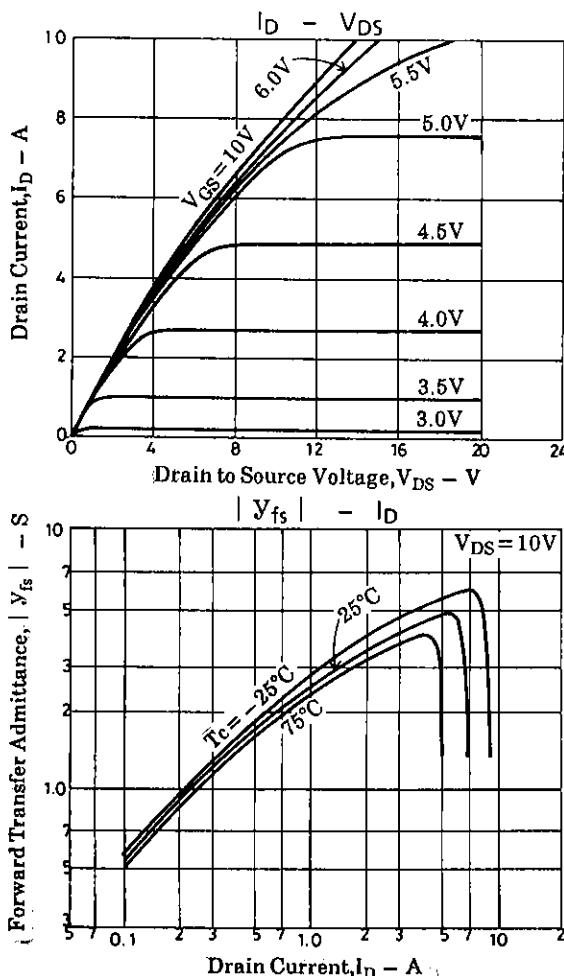
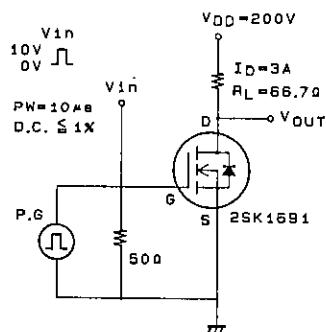
**Package Dimensions 2093****Package Dimensions 2090**

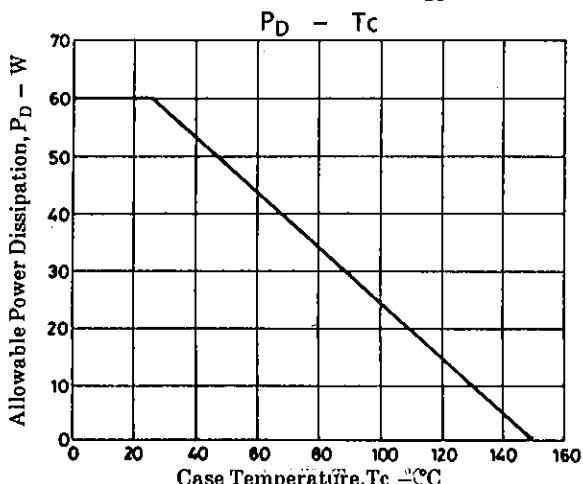
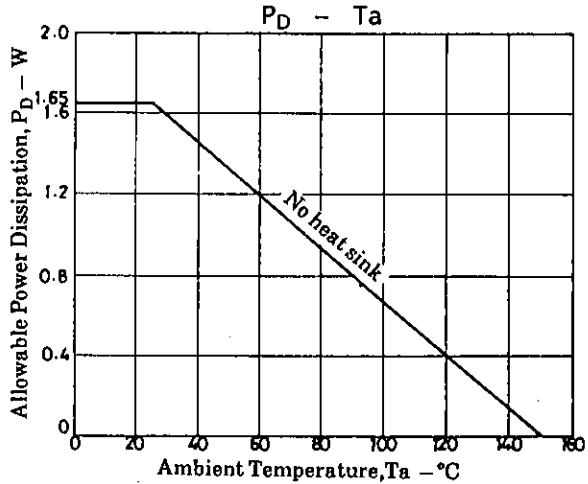
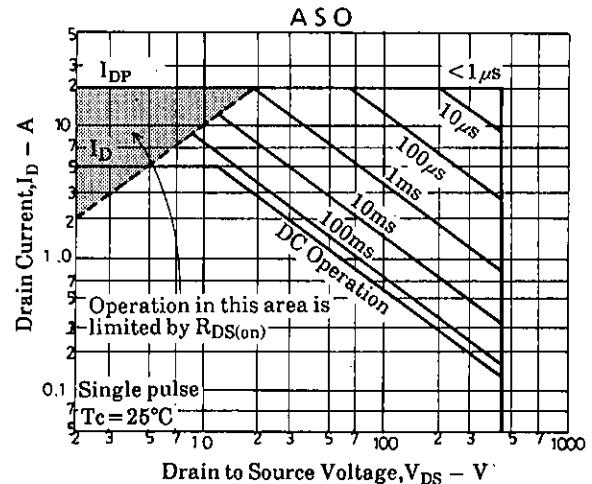
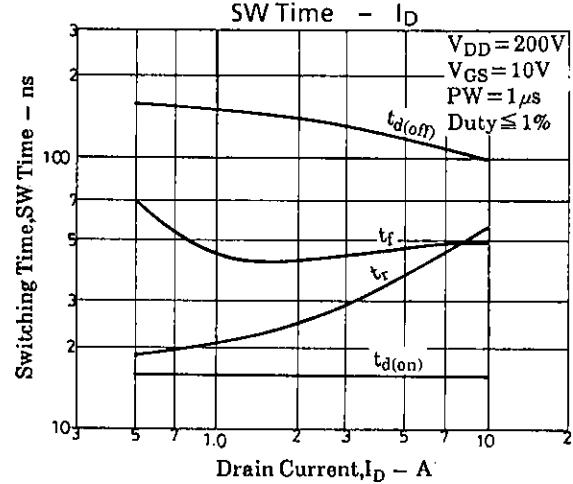
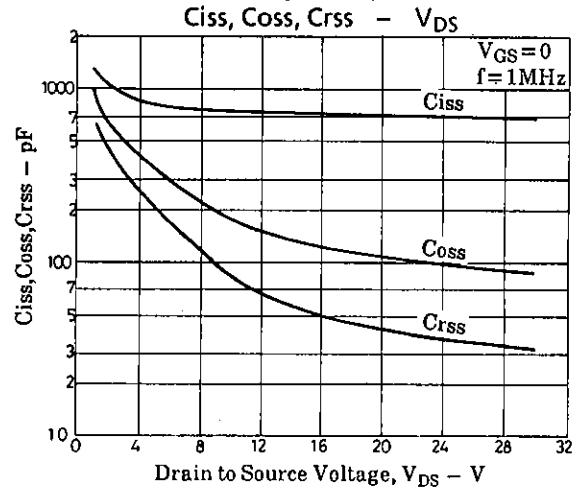
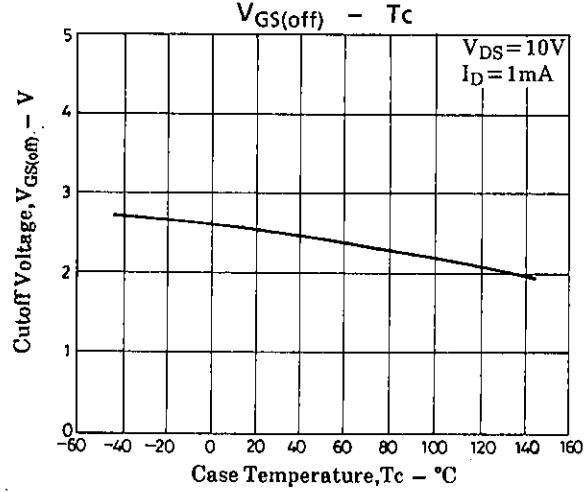
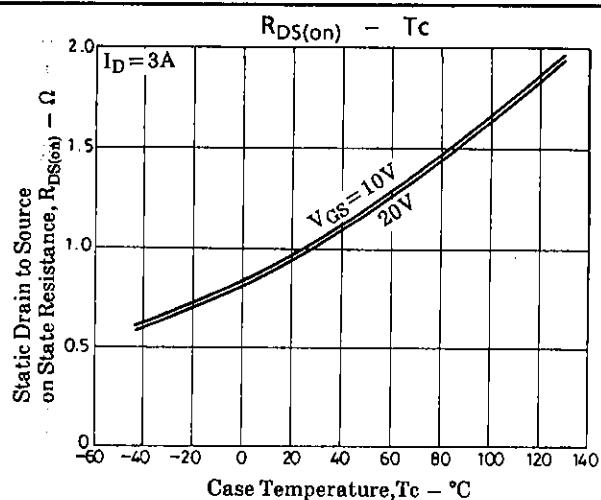
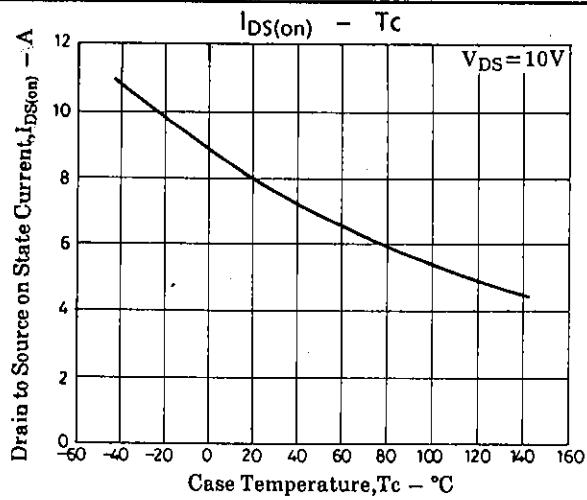
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			min	typ	max	unit
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 20V, f = 1MHz	700	700	700	pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 20V, f = 1MHz	100	100	100	pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> = 20V, f = 1MHz	40	40	40	pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.	15	15	15	ns
Rise Time	t <sub>r</sub>	"	30	30	30	ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	"	130	130	130	ns
Fall Time	t <sub>f</sub>	"	45	45	45	ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> = 5A, V <sub>GS</sub> = 0				V
					1.8	

## Switching Time Test Circuit





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