

SANYO	No.4223	2SK1690
		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

			unit
Drain to Source Voltage	V_{DS}	450	V
Gate to Source Voltage	V_{GS}	± 30	V
Drain Current(DC)	I_D	3	A
Drain Current(Pulse)	I_{DP}	12	A
Allowable Power Dissipation	P_D	1.65	W
		50	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

$T_c = 25^\circ\text{C}$

Electrical Characteristics at Ta = 25°C

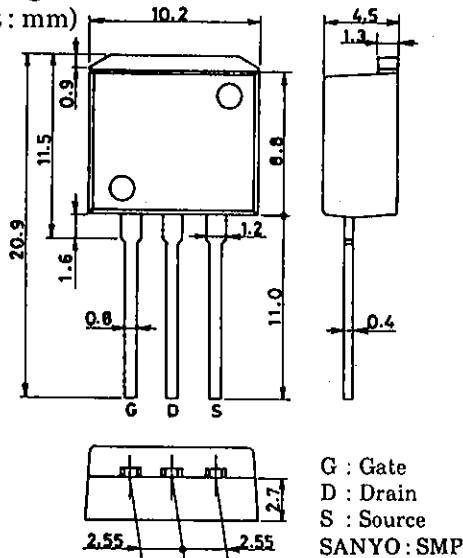
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}, V_{GS} = 0$	450			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 450\text{V}, V_{GS} = 0$			1.0	mA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30\text{V}, V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	2.0		3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 1.5\text{A}$	1.1	2.2		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = 1.5\text{A}, V_{GS} = 10\text{V}$	2.0	2.6		Ω

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(Note) Be careful in handling the 2SK1690 because it has no protection diode between gate and source.

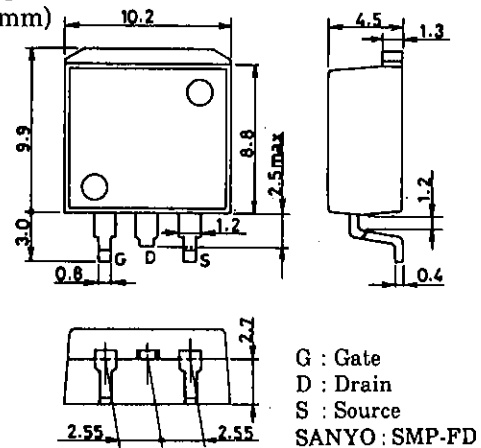
Package Dimensions 2093

(unit: mm)



Package Dimensions 2090

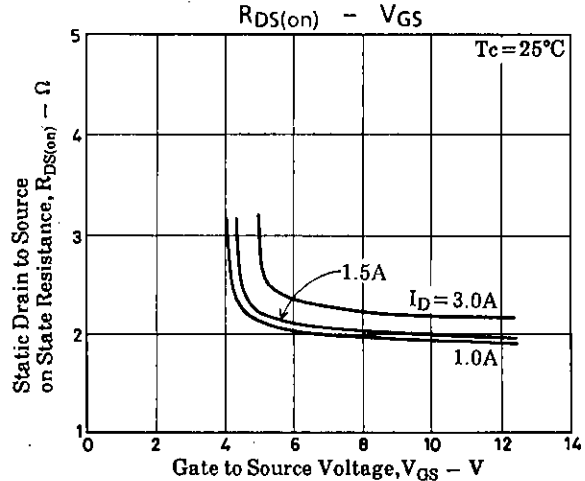
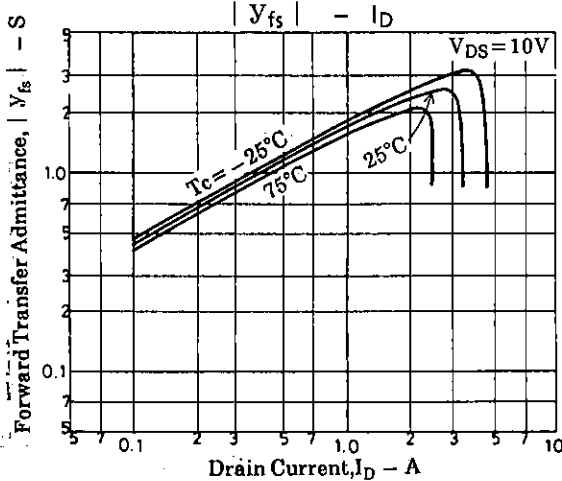
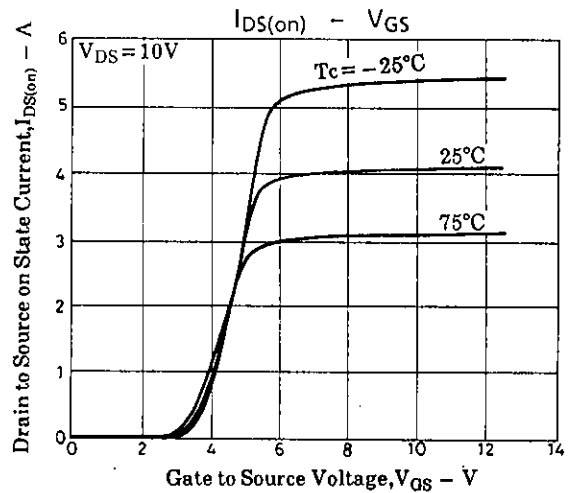
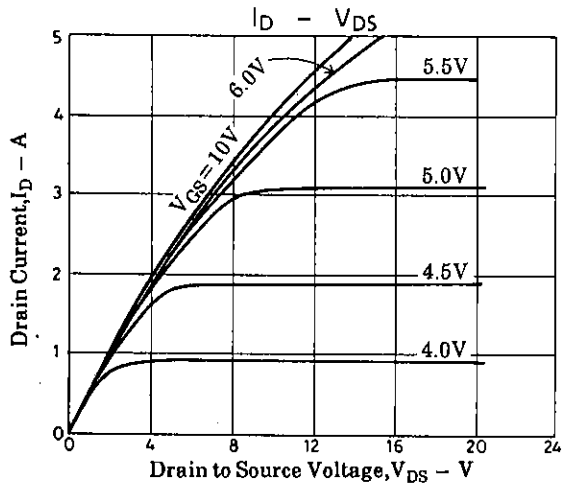
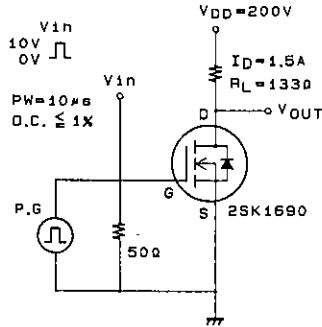
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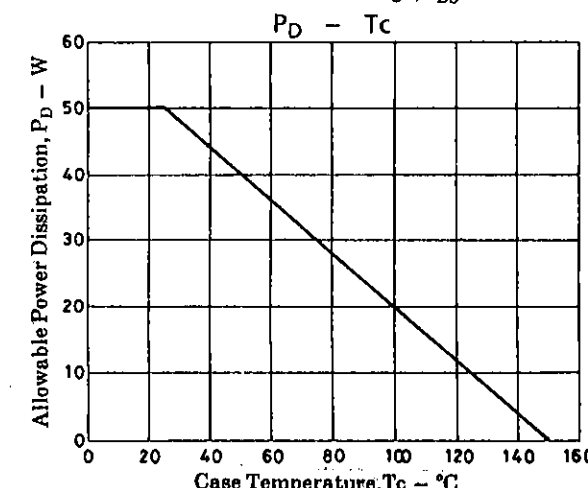
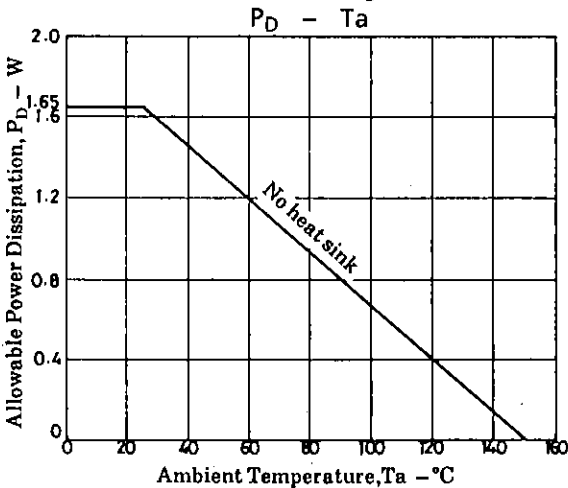
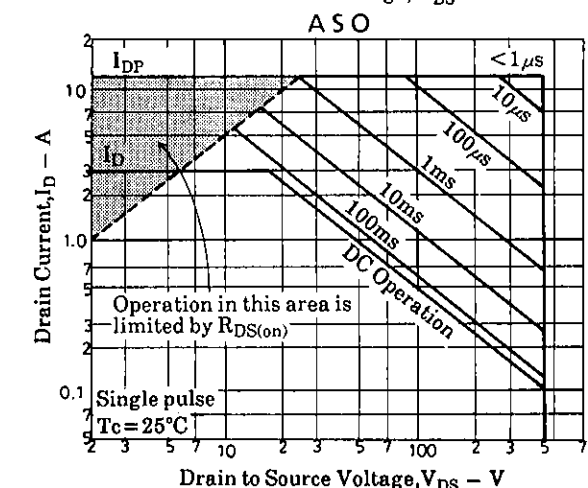
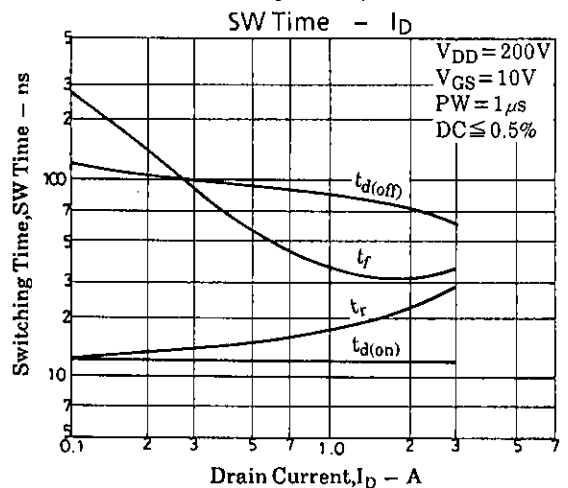
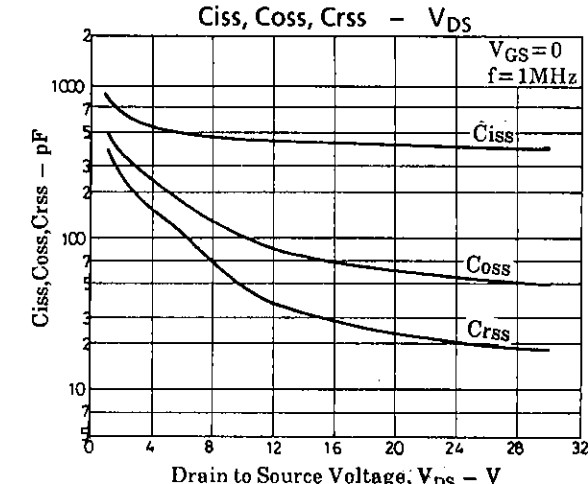
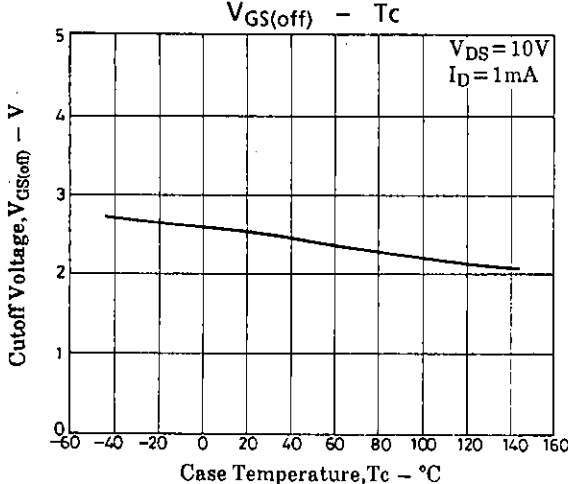
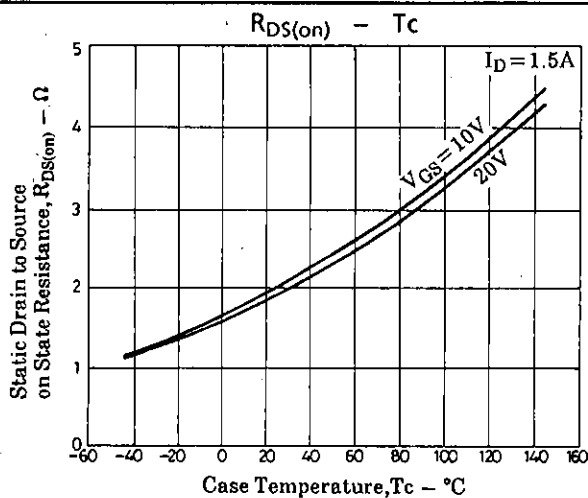
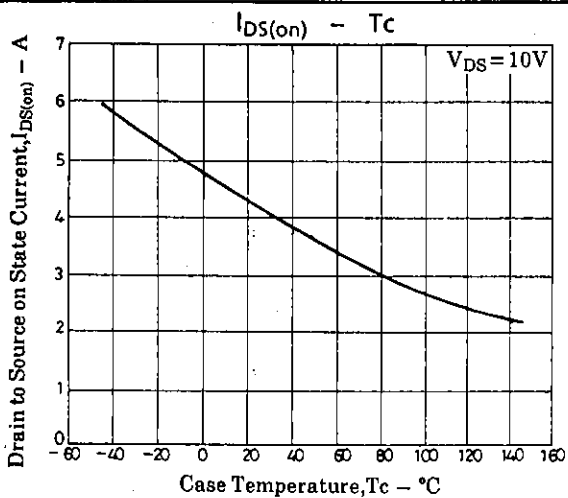


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			min	typ	max	unit
Input Capacitance	C_{iss}	$V_{DS} = 20V, f = 1MHz$		400		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V, f = 1MHz$		60		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V, f = 1MHz$		25		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		12		ns
Rise Time	t_r	◇		20		ns
Turn-OFF Delay Time	$t_{d(off)}$	◇		80		ns
Fall Time	t_f	◇		35		ns
Diode Forward Voltage	V_{SD}	$I_S = 3A, V_{GS} = 0$			1.8	V

Switching Time Test Circuit





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