Ordering number: EN 3763

SANYO No.3763

2SJ190

P-Channel MOS Silicon FET

Very High-Speed Switching Applications

Features

- Low ON resistance
- Very high-speed switching
- Low-voltage drive

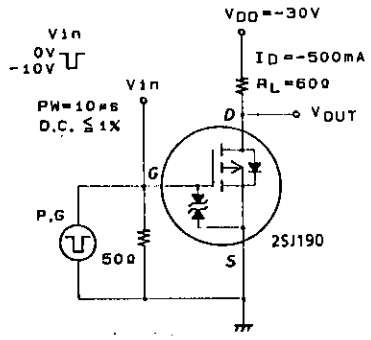
Absolute Maximum Ratings at Ta = 25°C

				unit
Drain to Source Voltage	V_{DSS}		−60	V
Gate to Source Voltage	V_{GSS}		±15	V
Drain Current (DC)	I_D		−1	A
Drain Current (Pulse)	I_{DP}	PW≦10μs, duty cycle≦1%	−4	A
Allowable Power Dissipation	P_D	T_c = 25°C	3.5	W
		Mounted on ceramic board (250mm²×0.8mm)	1.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

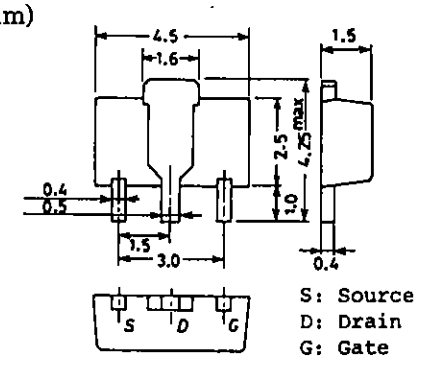
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D = −1mA, V_{GS} = 0	−60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = −60V, V_{GS} = 0			−100	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0			±10	μA
Cutoff Voltage	$V_{GS(off)}$	V_{DS} = −10V, I_D = −1mA	−1.0		−2.0	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS} = −10V, I_D = −500mA	0.6	1.0		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	I_D = −500mA, V_{GS} = −10V		0.9	1.2	Ω
	$R_{DS(on)}$	I_D = −500mA, V_{GS} = −4V		1.2	1.6	Ω
Input Capacitance	C_{iss}	V_{DS} = −20V, f = 1MHz		160		pF
Output Capacitance	C_{oss}	V_{DS} = −20V, f = 1MHz		60		pF
Reverse Transfer Capacitance	C_{rss}	V_{DS} = −20V, f = 1MHz		10		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		10		ns
Rise Time	t_r	〃		13		ns
Turn-OFF Delay Time	$t_{d(off)}$	〃		70		ns
Fall Time	t_f	〃		30		ns
Diode Forward Voltage	V_{SD}	I_S = −1A, V_{GS} = 0		−0.9		V

Switching Time Test Circuit



Package Dimensions 2062

(unit : mm)



S: Source
D: Drain
G: Gate

SANYO: PCP

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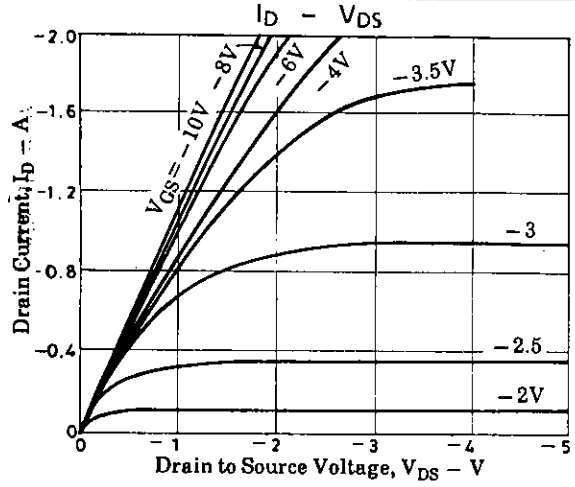
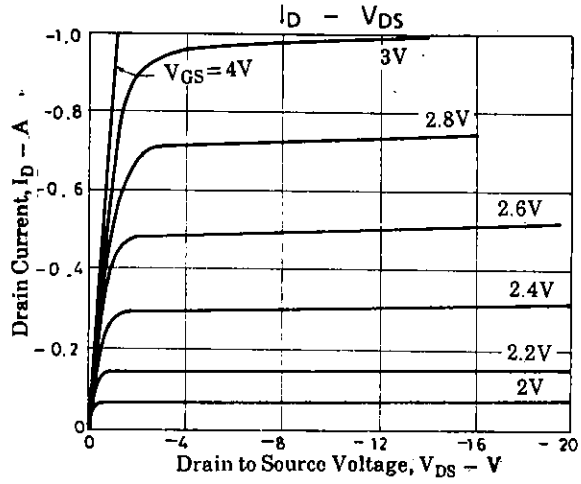
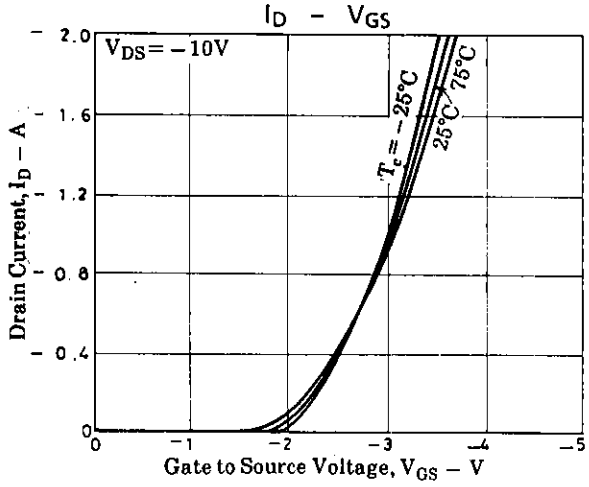
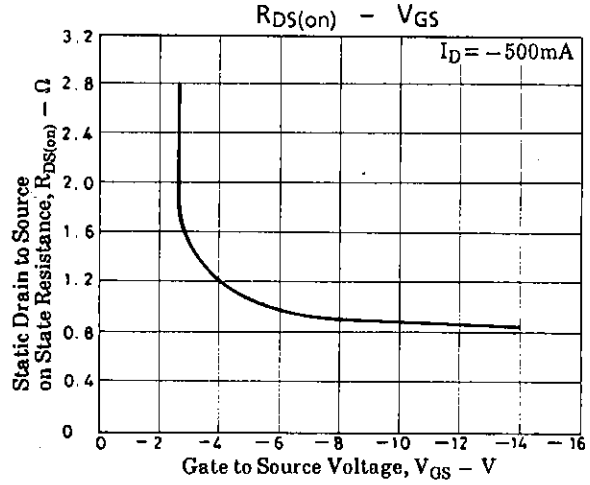
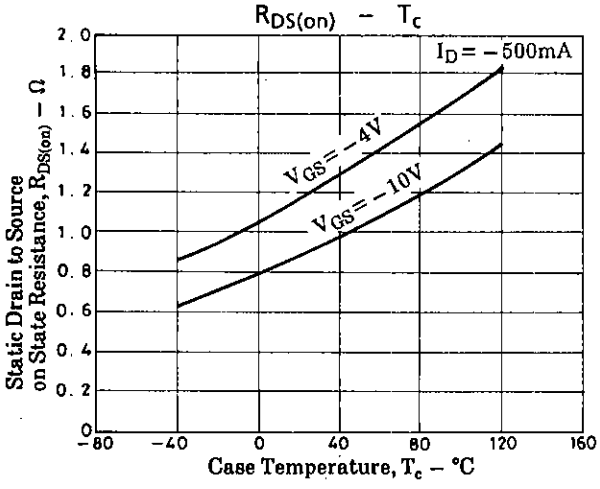
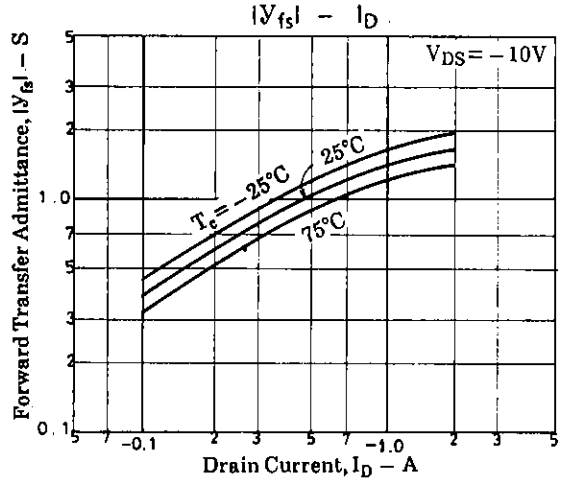

I_D – V_{DS}
Drain Current, I_D – A
Drain to Source Voltage, V_{DS} – V
V_{GS} = –10V
–8V
–6V
–4V
–3.5V
–3
–2.5
–2V

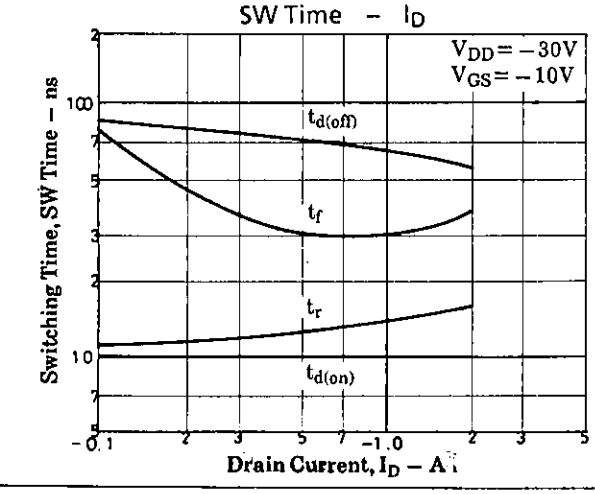

I_D – V_{DS}
Drain Current, I_D – A
Drain to Source Voltage, V_{DS} – V
V_{GS} = 4V
3V
2.8V
2.6V
2.4V
2.2V
2V

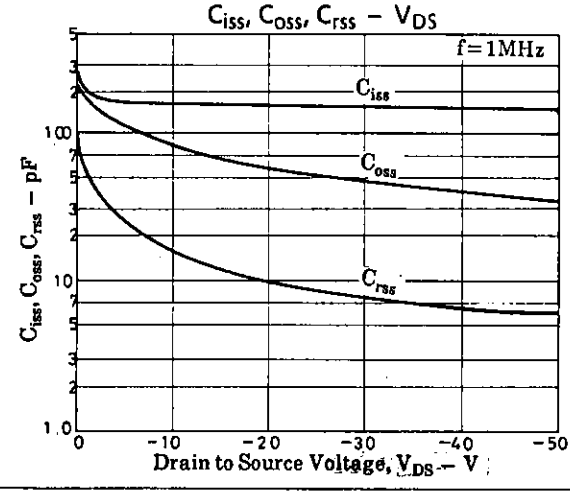

I_D – V_{GS}
Drain Current, I_D – A
Gate to Source Voltage, V_{GS} – V
V_{DS} = –10V
T_c = –25°C
25°C
75°C


$R_{DS(on)}$ – V_{GS}
Static Drain to Source on State Resistance, $R_{DS(on)}$ – Ω
Gate to Source Voltage, V_{GS} – V
I_D = –500mA


$R_{DS(on)}$ – T_c
Static Drain to Source on State Resistance, $R_{DS(on)}$ – Ω
Case Temperature, T_c – °C
I_D = –500mA
V_{GS} = –4V
V_{GS} = –10V


$|y_{fs}|$ – I_D
Forward Transfer Admittance, $|y_{fs}|$ – S
Drain Current, I_D – A
V_{DS} = –10V
T_c = –25°C
25°C
75°C


SW Time – I_D
Switching Time, SW Time – ns
Drain Current, I_D – A
V_{DD} = –30V
V_{GS} = –10V
$t_{d(off)}$
t_f
t_r
$t_{d(on)}$


C_{iss}, C_{oss}, C_{rss} – V_{DS}
C_{iss}, C_{oss}, C_{rss} – pF
Drain to Source Voltage, V_{DS} – V
f=1MHz
C_{iss}
C_{oss}
C_{rss}