

**FX205**

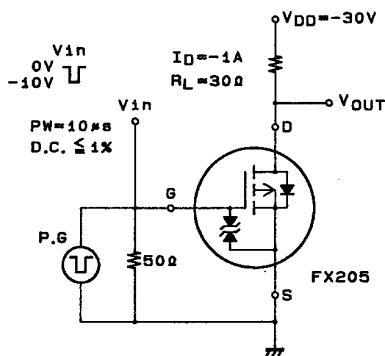
P-Channel Silicon MOSFET

## Very High-Speed Switching Applications

### Features

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

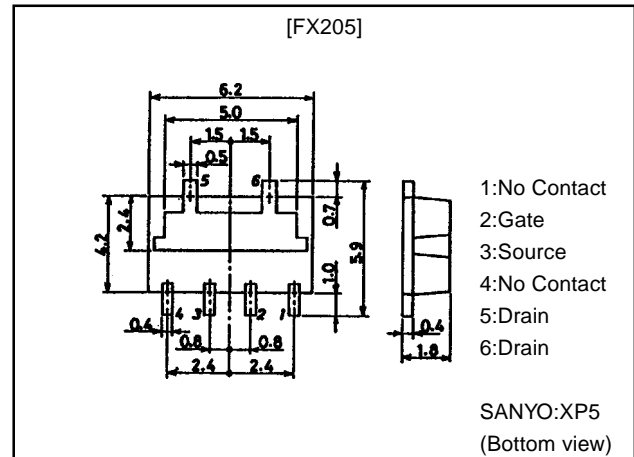
### Switching Time Test Circuit



### Package Dimensions

unit:mm

2121



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		-60	V
Gate-to-Source Voltage	$V_{GSS}$		±25	V
Drain Current (DC)	$I_D$		-2	A
Drain Current (Pulse)	$I_{DP}$	PW≤10μs, duty cycle≤1%	-8	A
Allowable Power Dissipation	$P_D$	Tc=25°C	8	W
	$P_D$	Mounted on ceramic board (750mm <sup>2</sup> ×0.8mm)	2	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

#### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0$	-60			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	$I_G = ±100μs, V_{DS} = 0$	±25			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -60V, V_{GS} = 0$			-100	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = ±20V, V_{DS} = 0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V, I_D = -1mA$	-1.5		-2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = -10V, I_D = -1A$	1.2	2		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	$I_D = -1A, V_{GS} = -10V$		300	400	mΩ
	$R_{DS(on)}$	$I_D = -1A, V_{GS} = -4V$		450	650	mΩ
Input Capacitance	$C_{iss}$	$V_{DS} = -20V, f = 1MHz$		240		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -20V, f = 1MHz$		150		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = -20V, f = 1MHz$		40		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		12		ns
Rise Time	$t_r$	See specified Test Circuit		16		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		85		ns
Fall Time	$t_f$	See specified Test Circuit		55		ns
Diode Forward Voltage	$V_{SD}$	$I_S = -2A, V_{GS} = 0$		-1.0	-1.5	V

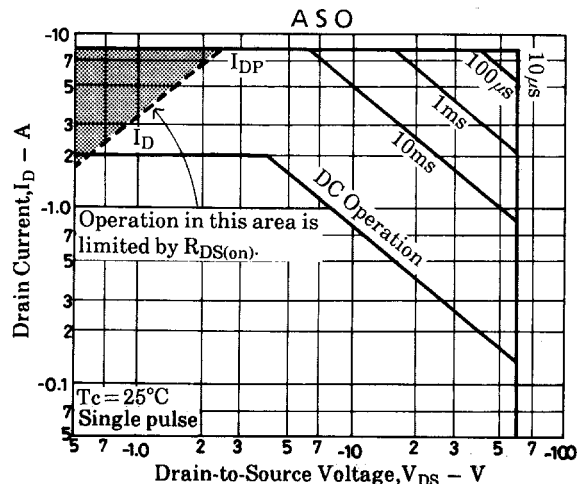
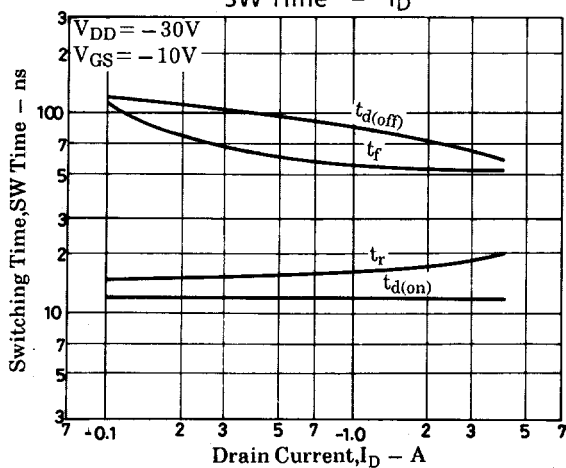
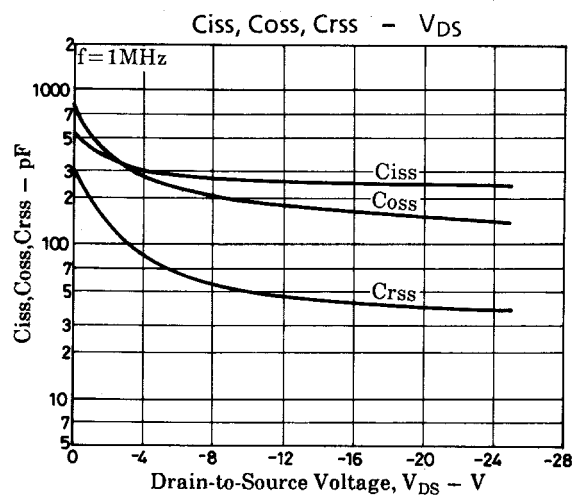
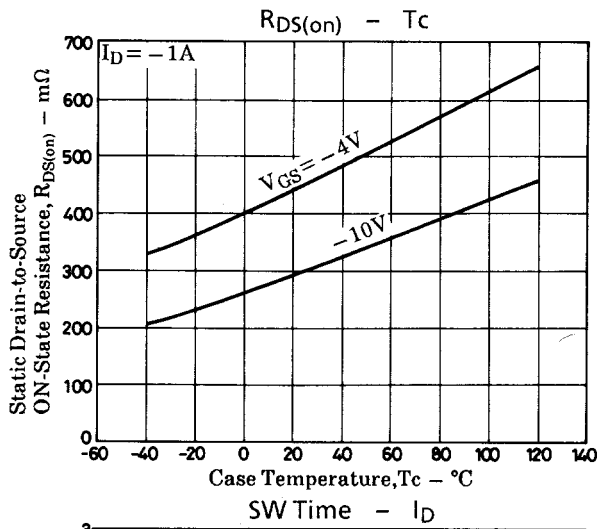
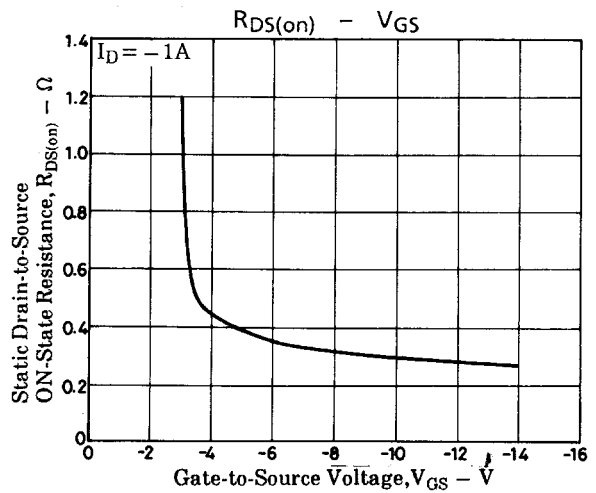
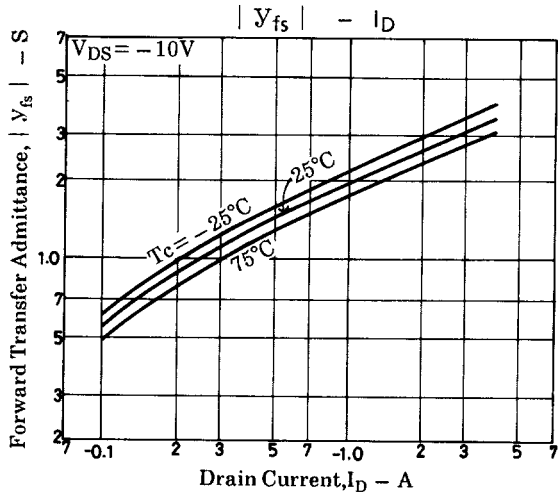
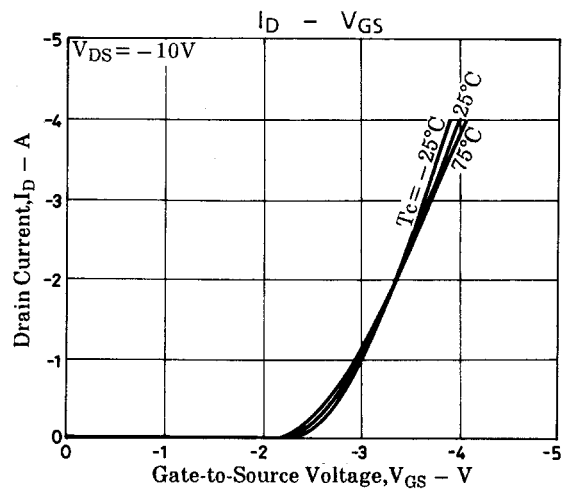
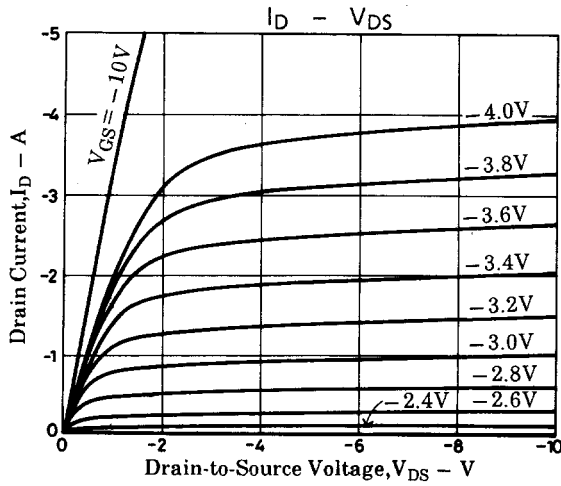
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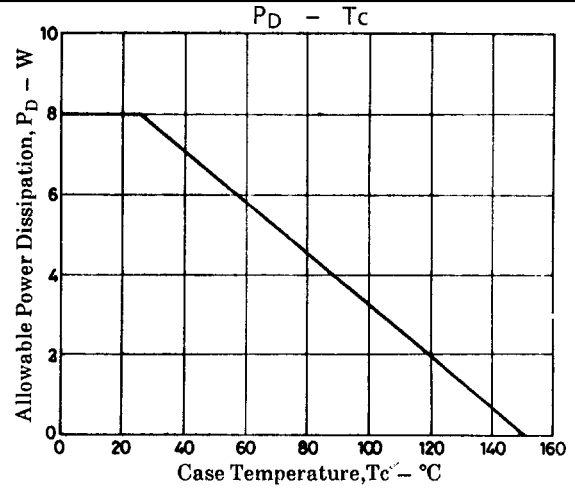
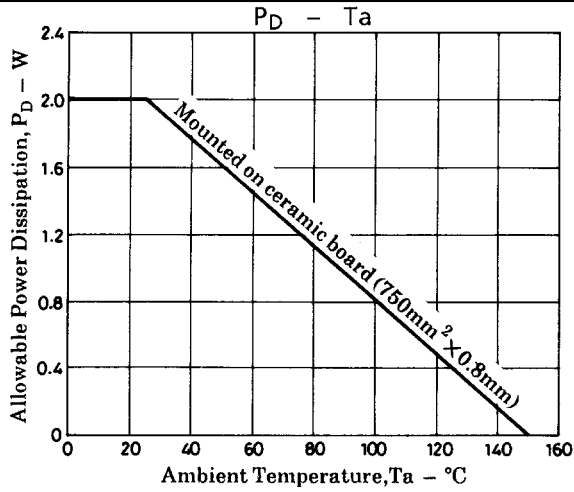
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