

	No.4233	2SJ259 P-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 2SJ259-applied equipment.
 - High density surface mount applications.
 - Small size of 2SJ259-applied equipment.

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

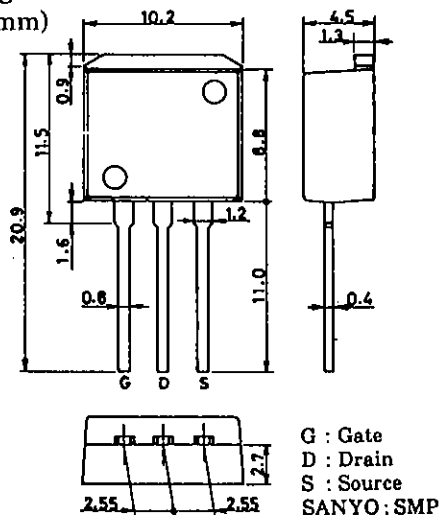
			unit
Drain to Source Voltage	V_{DS}	-30	V
Gate to Source Voltage	V_{GS}	± 15	V
Drain Current(DC)	I_D	-20	A
Drain Current(Pulse)	I_{DP}	$PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$	-80 A
Allowable Power Dissipation	P_D	1.65	W
		$T_c = 25^\circ\text{C}$	70 W
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

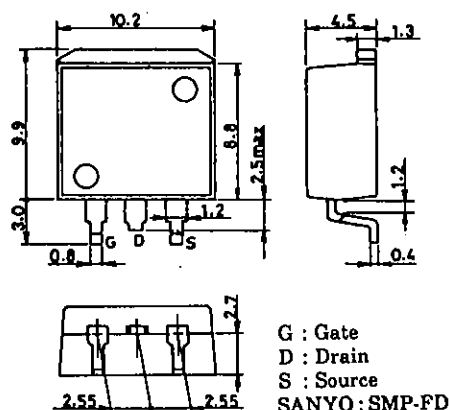
			min	typ	max	unit
D-S Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}, V_{GS} = 0$	-30			V
G-S Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu A, V_{DS} = 0$	± 15			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}, V_{GS} = 0$			-100	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{V}, V_{DS} = 0$			± 10	μA
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} $	$V_{DS} = -10\text{V}, I_D = -10\text{A}$	8.5	14		S
Static Drain to Source on State Resistance	$R_{DS(on)}$	$I_D = -10\text{A}, V_{GS} = -10\text{V}$		40	55	$\text{m}\Omega$
	$R_{DS(on)}$	$I_D = -10\text{A}, V_{GS} = -4\text{V}$		55	75	$\text{m}\Omega$

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Package Dimensions 2093 (unit: mm)



Package Dimensions 2090 (unit: mm)

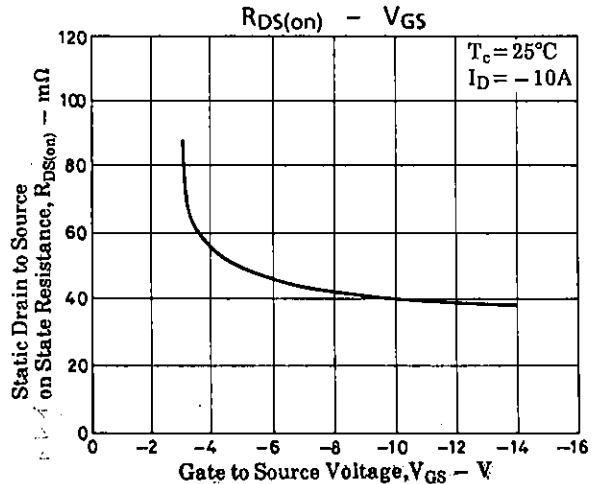
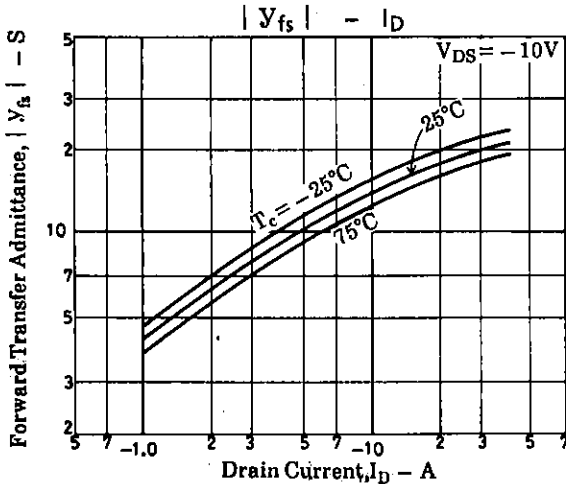
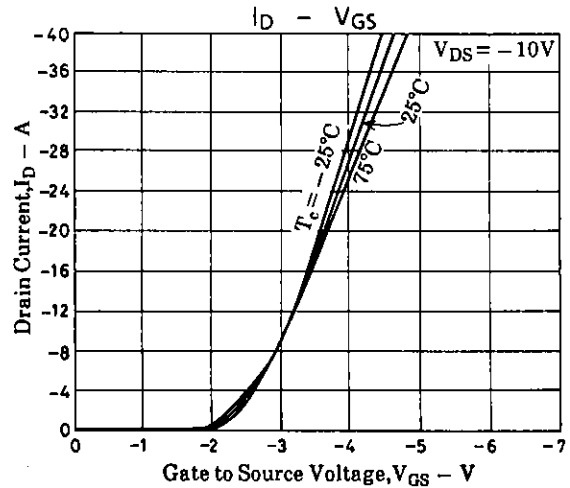
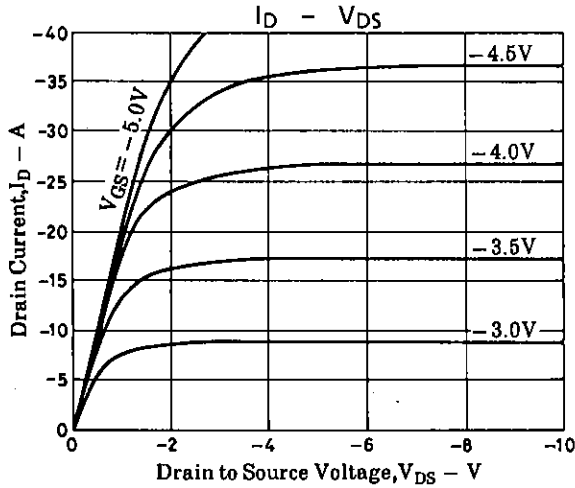
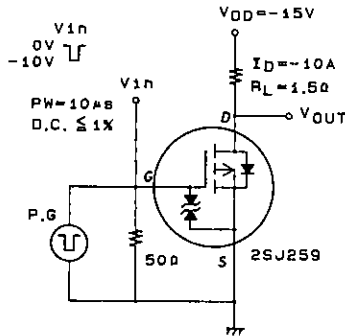


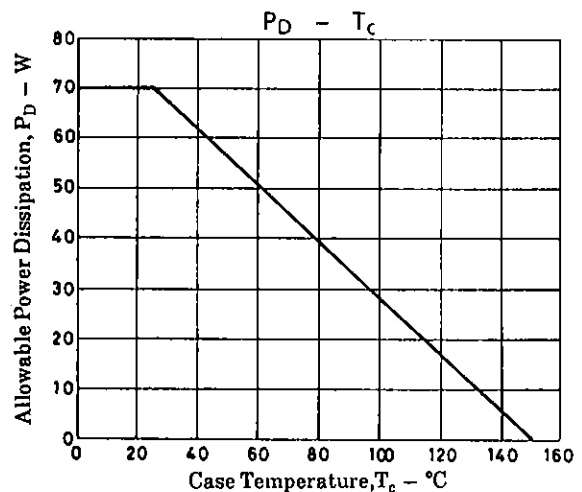
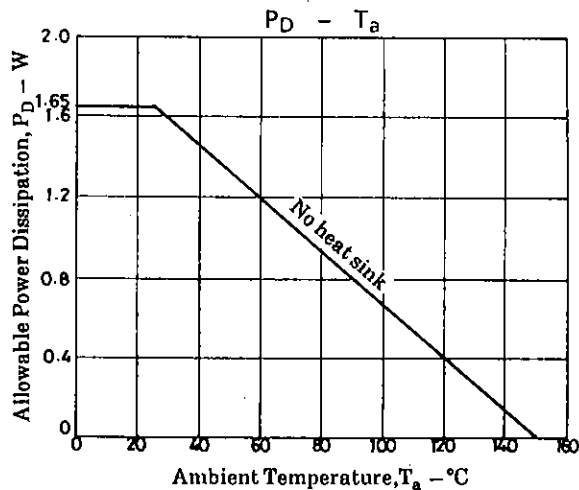
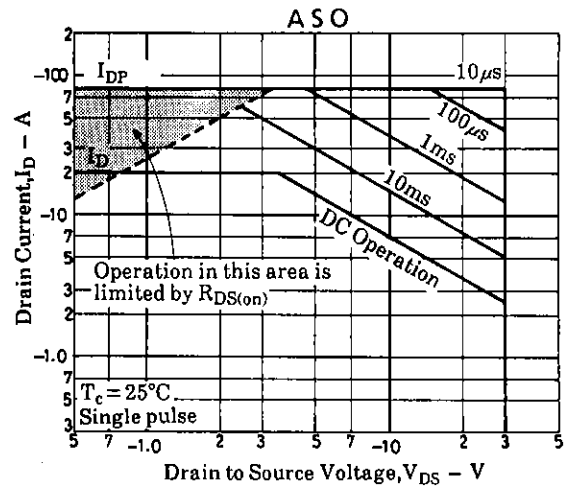
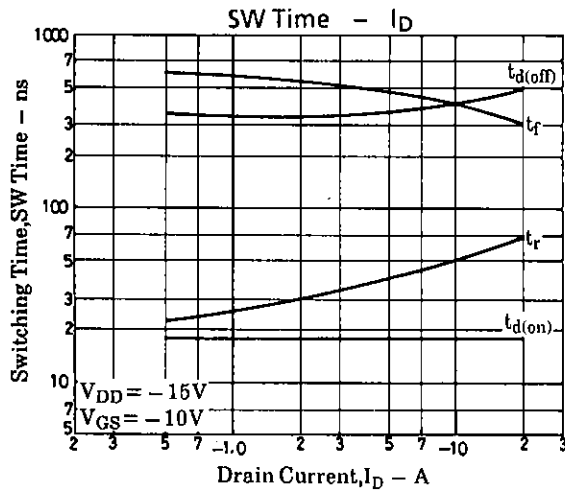
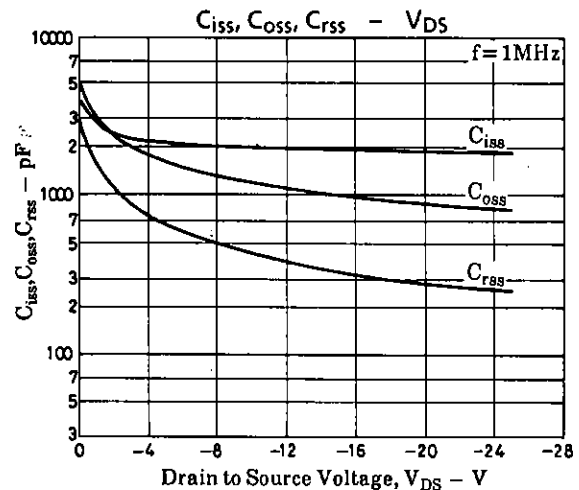
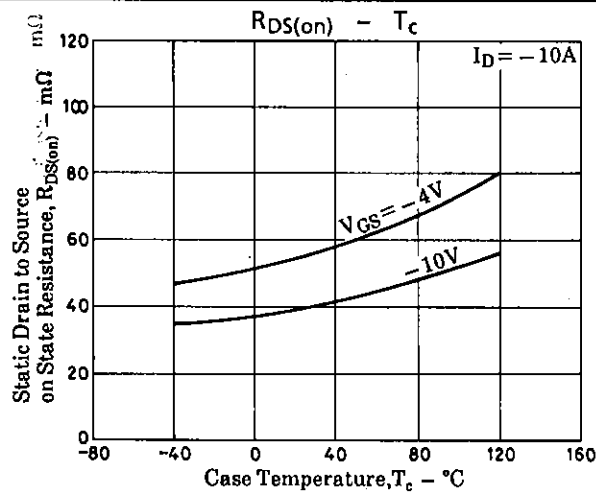
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			min	typ	max	unit
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		2000		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		1200		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		440		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		18		ns
Rise Time	t_r	"		50		ns
Turn-OFF Delay Time	$t_{d(off)}$	"		400		ns
Fall Time	t_f	"		400		ns
Diode Forward Voltage	V_{SD}	$I_S = -20A, V_{GS} = 0$	-1.0	-1.5		V

Switching Time Test Circuit





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