



## Ultrahigh-Speed Switching Applications

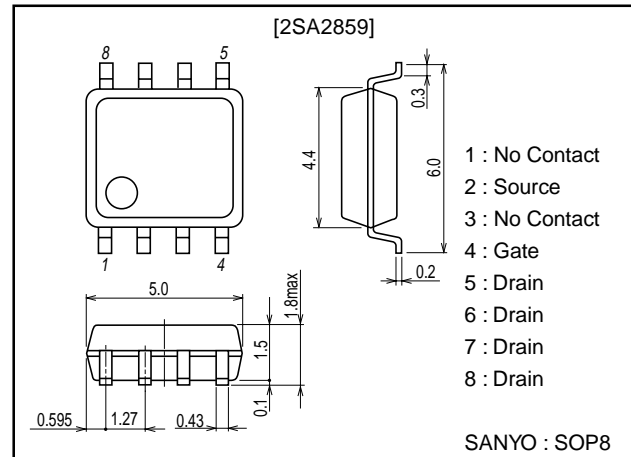
### Features

- Low On resistance.
- Ultrahigh-speed switching.
- 4V drive.

### Package Dimensions

unit:mm

2149



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		100	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 15$	V
Drain Current (DC)	$I_D$		2	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	8	A
Allowable Power Dissipation	$P_D$		1.6	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg	Mounted on a ceramic board (1000 <sup>2</sup> ×0.8mm)	-55 to +150	°C

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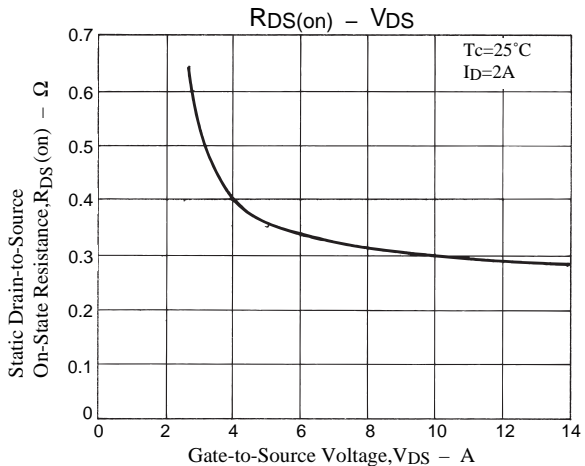
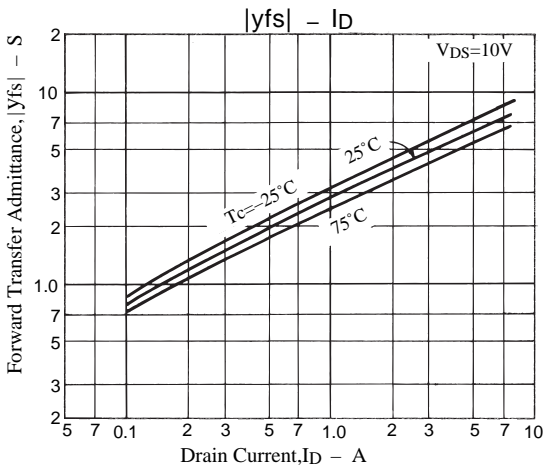
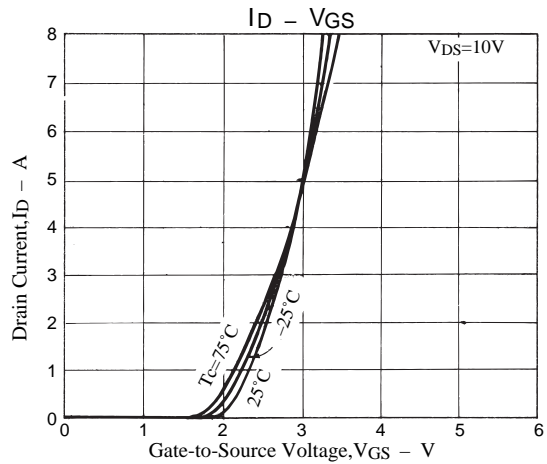
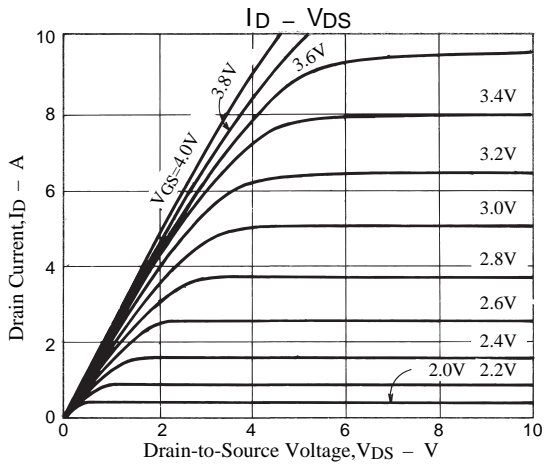
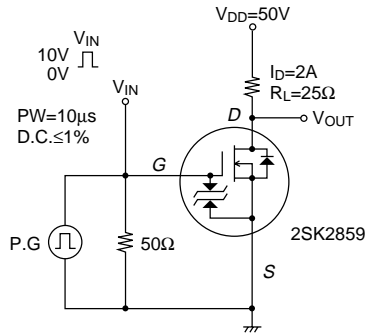
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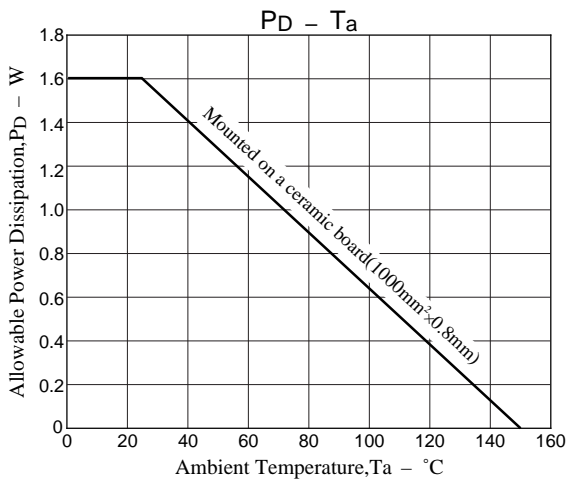
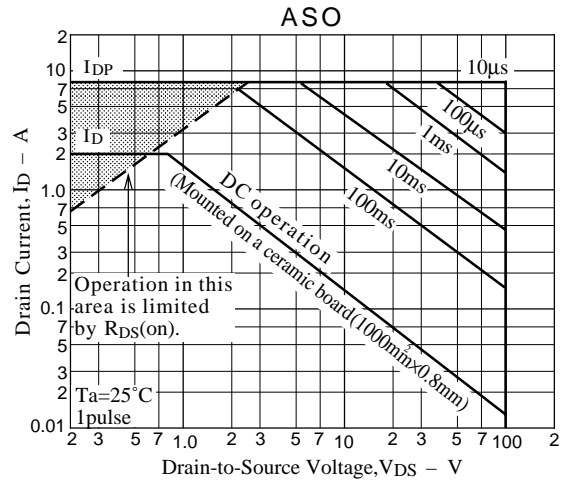
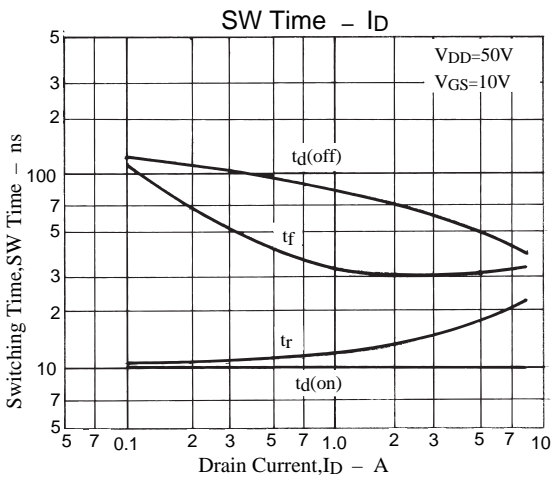
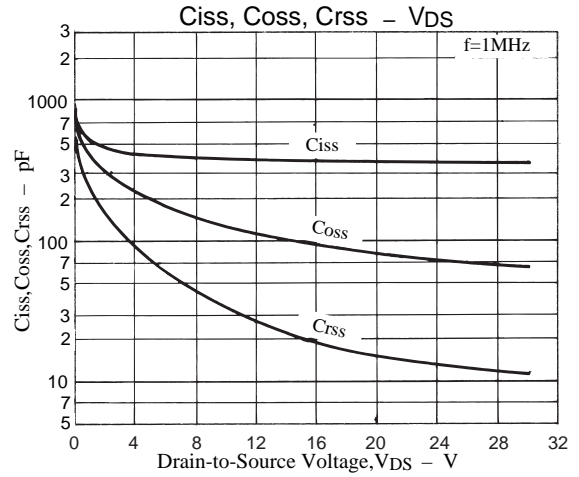
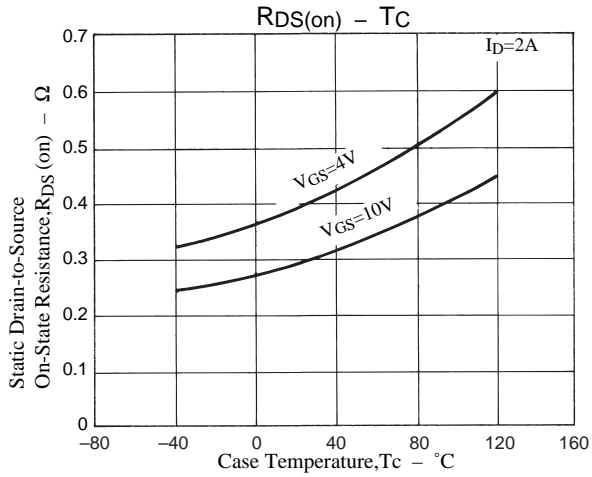
## Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	100			V
Drain-to-Source Cutoff Current	$I_{DSS}$	$V_{DS}=100V, V_{GS}=0$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 12V, V_{DS}=0$			$\pm 10$	$\mu A$
Gate-to-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=2A$	2.5	4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2A, V_{GS}=10V$		0.3	0.4	$\Omega$
	$R_{DS(on)2}$	$I_D=2A, V_{GS}=4V$		0.4	0.55	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		380		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		80		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		15		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	$t_r$	See specified Test Circuit		13		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		70		ns
Fall Time	$t_f$	See specified Test Circuit		30		ns
Diode Forward Voltage	$V_{SD}$	$I_S=2A, V_{GS}=0$		1.0	1.2	V

## Switching Time Test Circuit



# 2SK2859



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