

**2SK3119**

## Ultrahigh-Speed Switching Applications

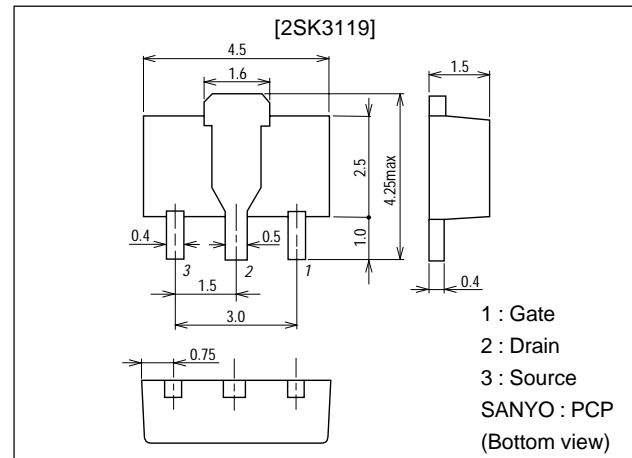
### Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

### Package Dimensions

unit:mm

2062A



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		20	V
Gate-to-Source Voltage	$V_{GS}$		±10	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	$P_D$	$T_c = 25^\circ C$	3.5	W
		Mounted on a ceramic board (250mm $\times$ 0.8mm)	1.3	W
Channel Temperature	$T_{ch}$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$ , $V_{GS} = 0$	20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20V$ , $V_{GS} = 0$			10	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V$ , $V_{DS} = 0$			±10	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$ , $I_D = 1mA$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$ , $I_D = 1A$	2.0	2.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = 1A$ , $V_{GS} = 4V$		200	300	$m\Omega$
	$R_{DS(on)2}$	$I_D = 200mA$ , $V_{GS} = 2.5V$		300	480	$m\Omega$

Marking : KS

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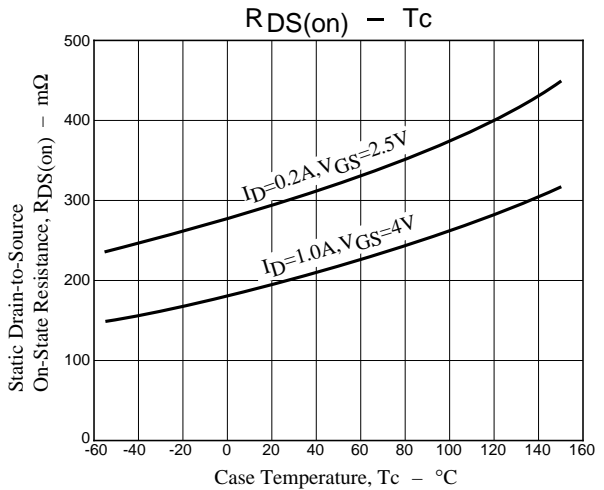
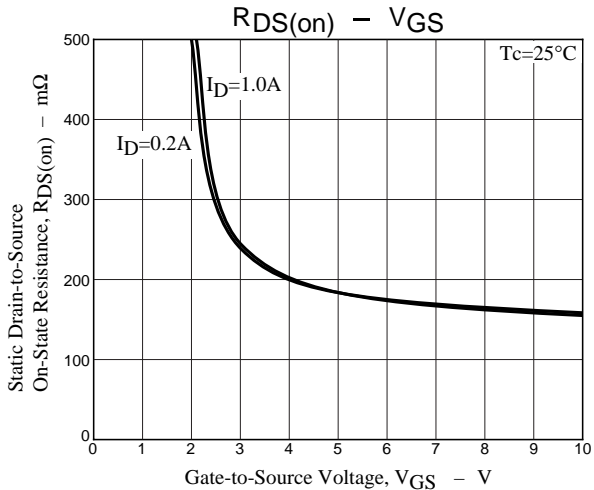
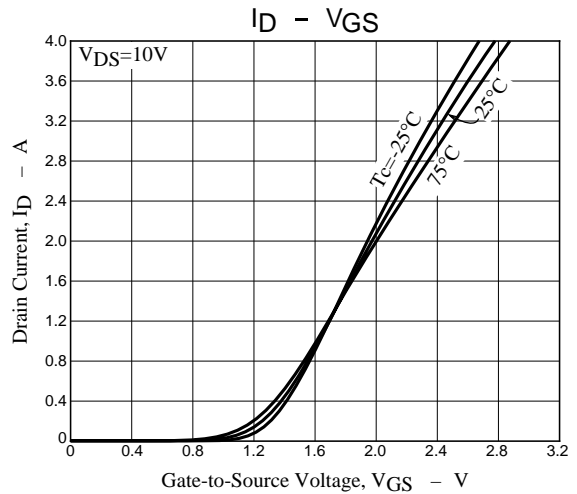
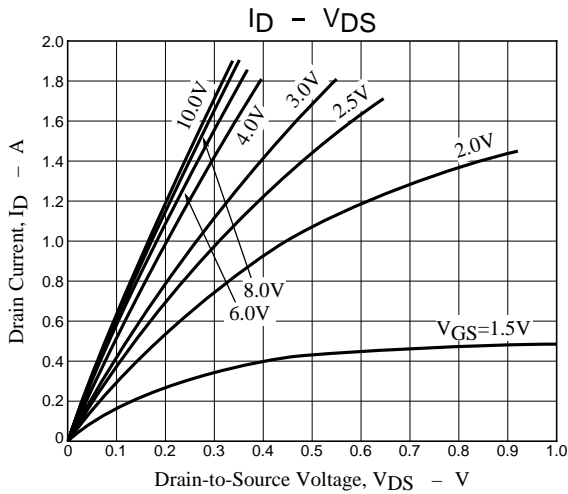
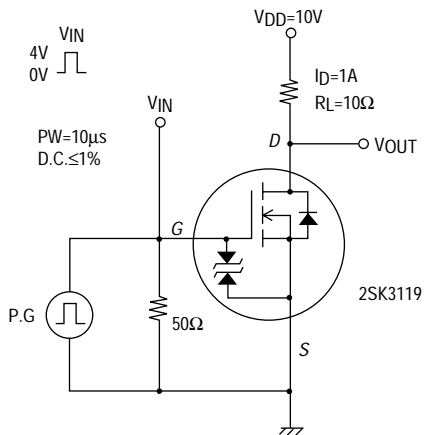
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# 2SK3119

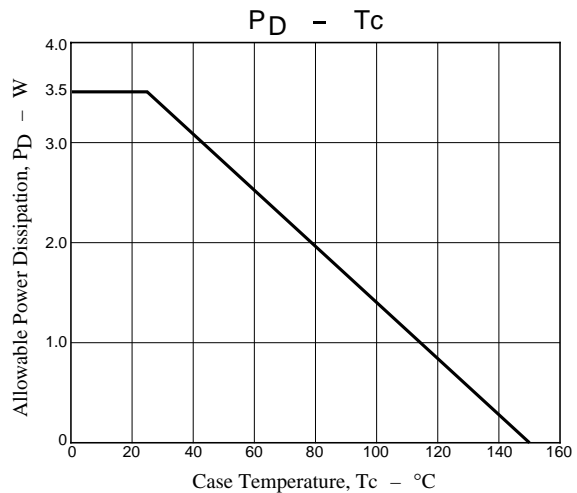
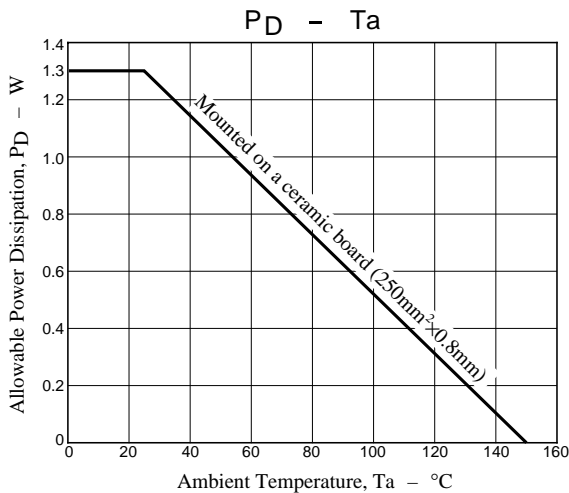
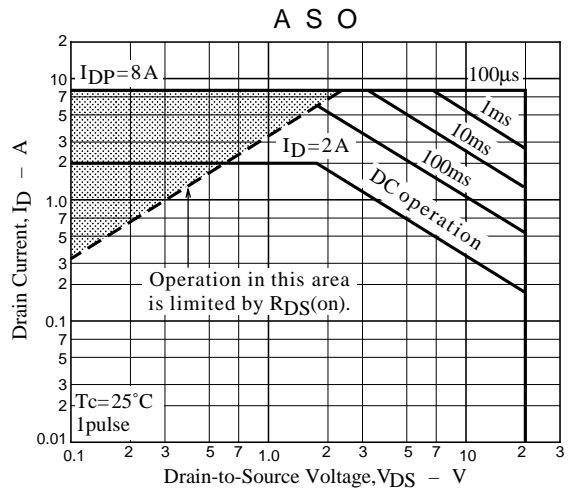
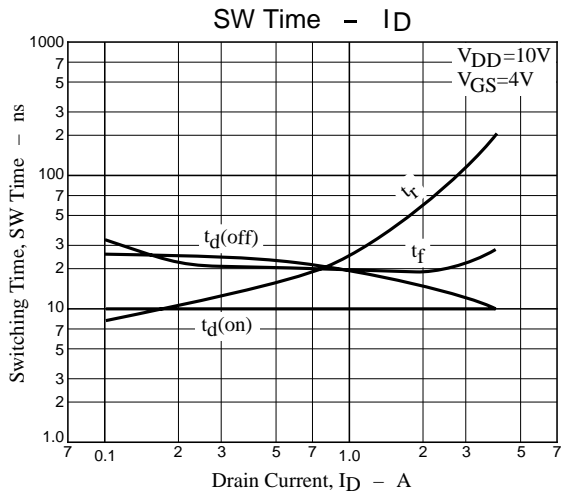
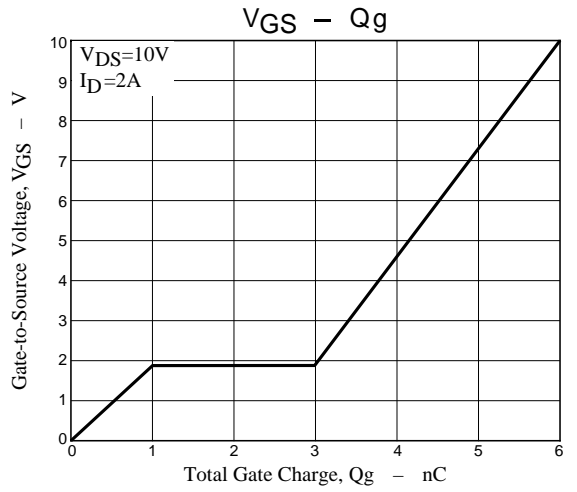
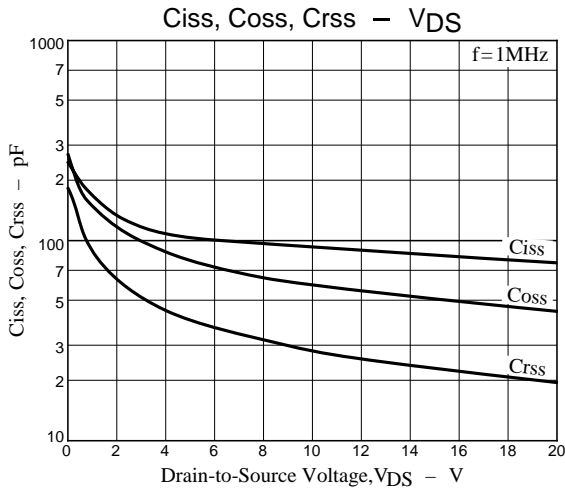
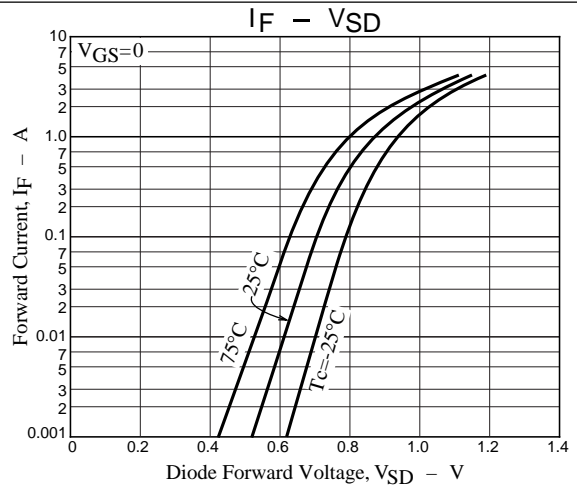
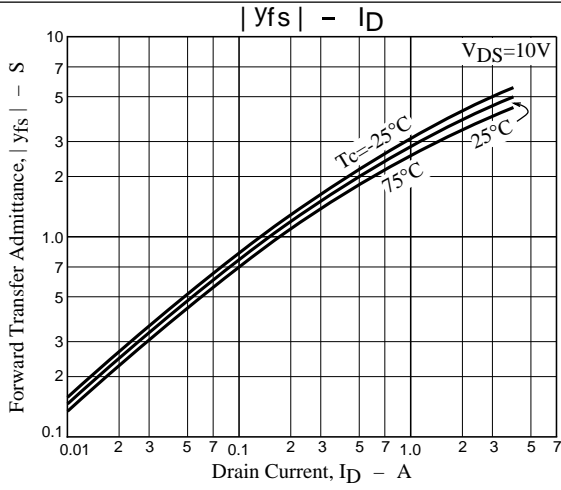
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		90		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		60		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		28		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	$t_r$	See specified Test Circuit		25		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		20		ns
Fall Time	$t_f$	See specified Test Circuit		20		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=10V, I_D=2A$		6		nC
Gate-to-Source Charge	$Q_{gs}$			1		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			2		nC
Diode Forward Voltage	$V_{SD}$	$I_S=2A, V_{GS}=0$		1.0	1.2	V

## Switching Time Test Circuit



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