



# **Ultrahigh-Speed Switching Applications**

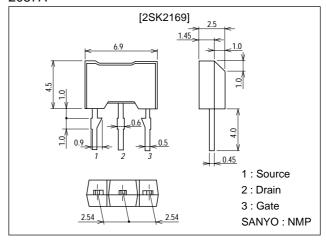
### **Features**

- · Low ON resistance.
- · Ultrahigh-speed switching.
- · Low-voltage drive.

# **Package Dimensions**

unit:mm

2087A



# **Specifications**

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		250	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		400	mA
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	1.6	Α
Allowable Power Dissipation	PD		1	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	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	I <sub>D</sub> =1mA, V <sub>GS</sub> =0	250			V
Zero-Gate Voltage Drain Current	IDSS	V <sub>DS</sub> =250V, V <sub>GS</sub> =0			100	μA
Gate-to-Source Leakage Current	IGSS	V <sub>GS</sub> =±18V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	VGS(off)	V <sub>DS</sub> =10V, I <sub>D</sub> = 1mA	1.5		2.5	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =10V, I <sub>D</sub> =200mA	0.4	0.6		S
Static Drain-to-Source ON-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =200mA, V <sub>GS</sub> =10V		3.5	5	Ω

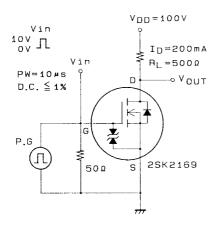
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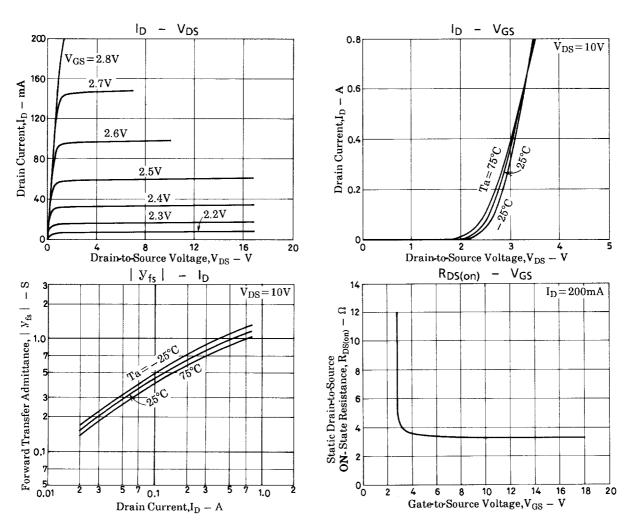
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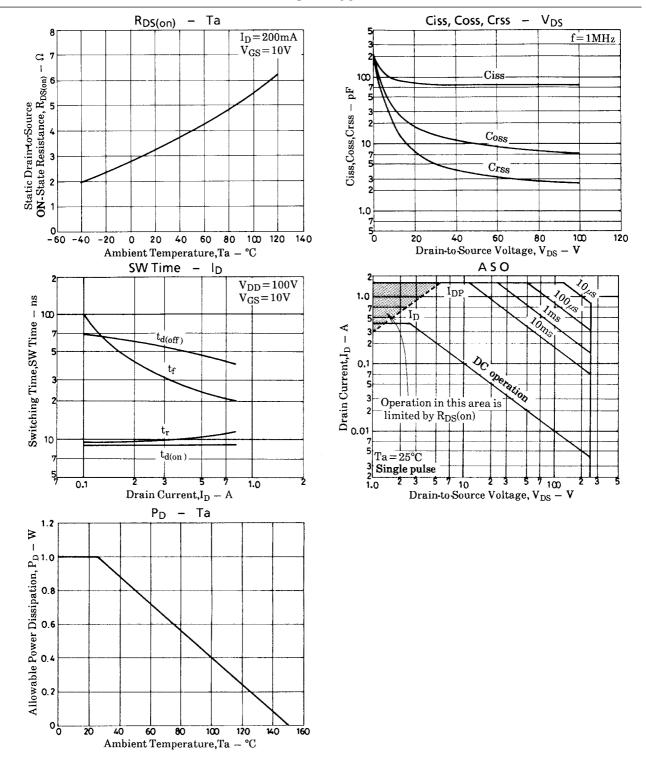
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oill
Input Capacitance	Ciss	V <sub>DS</sub> =20V, f=1MHz		80		pF
Output Capacitance	Coss	V <sub>DS</sub> =20V, f=1MHz		20		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =20V, f=1MHz		8		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit		10		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit		10		ns
Turn-OFF Delay Time	t <sub>d</sub> (off)	See specified Test Circuit		65		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit		40		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =400mA, V <sub>GS</sub> =0		0.9		V

## **Switching Time Test Circuit**







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