



# **Ultrahigh-Speed Switching Applications**

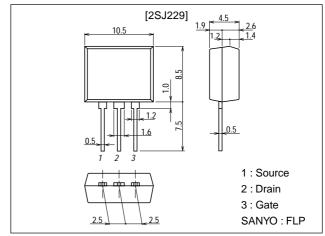
### **Features**

- · Low ON resistance.
- · Ultrahigh-speed switching.
- · Low-voltage drive.
- · Its height onboard is 9.5mm.
- · Meets radial taping.

## **Package Dimensions**

unit:mm

2085A



# **Specifications**

## Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±15	V
Drain Current (DC)	I <sub>D</sub>		-1.6	А
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-6.4	А
Allowable Power Dissipation	P <sub>D</sub>		1.5	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	
Drain-to-Source Breakdown Voltage	V(BR)DSS	$I_D=-1$ mA, $V_{GS}=0$	-60			V
Gate-to-Source Breakdown Voltage	V <sub>(BR)</sub> GSS	$I_{G}=\pm 100 \mu A, V_{DS}=0$	±15			V
Zero-Gate Voltage Drain Current	IDSS	V <sub>DS</sub> =-60V, V <sub>GS</sub> =0			-100	μΑ
Gate-to-Source Leakage Current	I <sub>GSS</sub>	$V_{GS}=\pm 12V$ , $V_{DS}=0$			±10	μΑ
Cutoff Voltage	V <sub>GS(off)</sub>	$V_{DS}$ =-10V, $I_D$ =-1mA	-1.0		-2.0	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =-10V, I <sub>D</sub> =-800mA	1.0	1.8		S
Static Drain-to-Source ON-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =-800mA, V <sub>GS</sub> =-10V		0.35	0.45	Ω
	R <sub>DS(on)</sub>	I <sub>D</sub> =-800mA, V <sub>GS</sub> =-4V		0.45	0.6	Ω

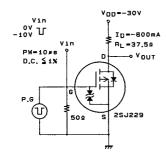
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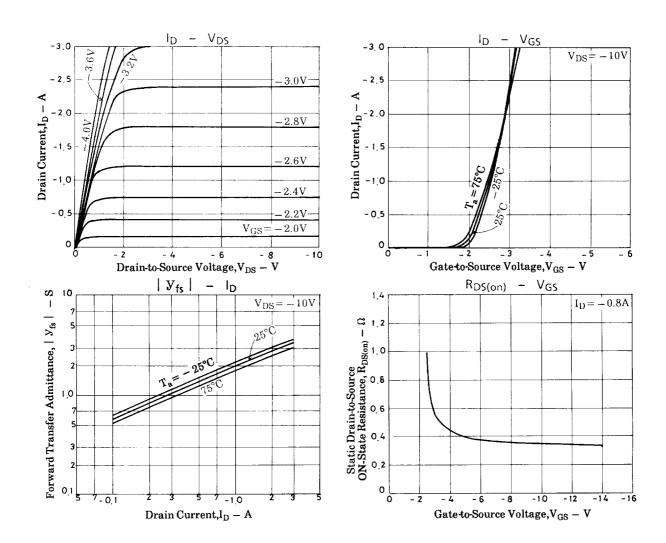
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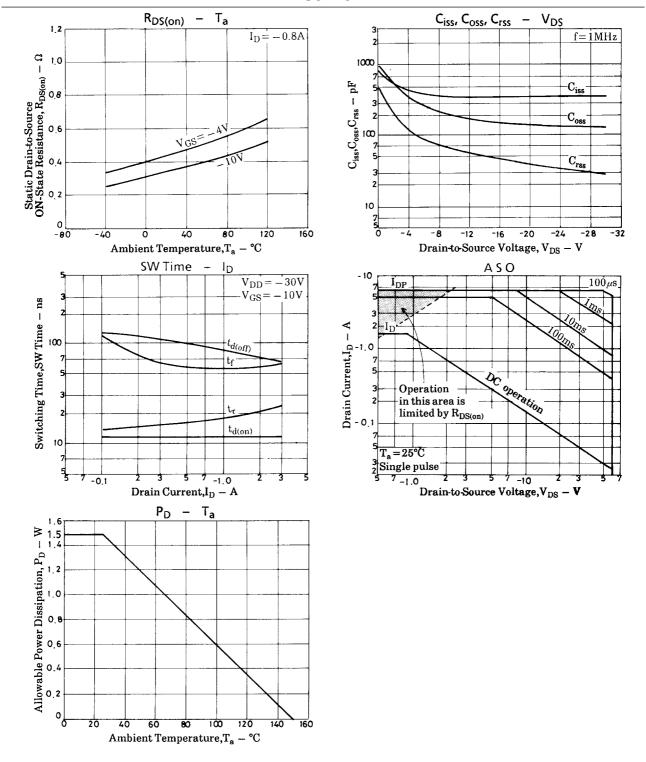
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	O IIII
Input Capacitance	Ciss	V <sub>DS</sub> =-20V, f=1MHz		380		pF
Output Capacitance	Coss	V <sub>DS</sub> =-20V, f=1MHz		150		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =-20V, f=1MHz		40		pF
Turn-ON Delay Time	t <sub>d</sub> (on)	See specified Test Circuit		12		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit		18		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit		90		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit		55		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.6A, V <sub>GS</sub> =0		-1.0	-1.5	V

## **Switching Time Test Circuit**







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