

N-Channel Silicon MOSFET

# 2SK2616

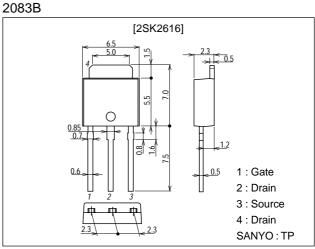
# **Ultrahigh-Speed Switching Applications**

### Features

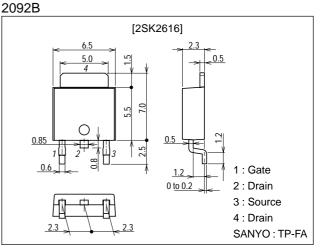
Low ON-resistance.
Low Qg.

## **Package Dimensions**

unit:mm



## unit:mm



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# Specifications

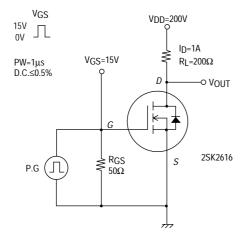
### Absolute Maximum Ratings at $Ta = 25^{\circ}C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		500	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±30	V
Drain Current (DC)	Ι <sub>D</sub>		2	A
Drain Current (Pulse)	I <sub>DP</sub>		8	A
Allowable Power Dissipation	D-		1	W
	PD	Tc=25°C	30	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

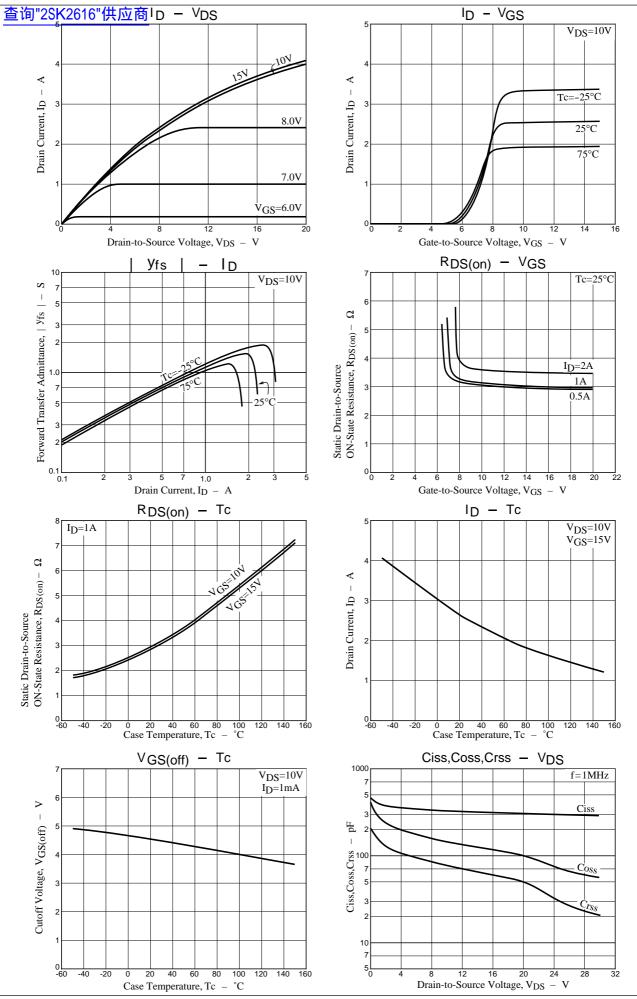
### **Electrical Characteristics** at $Ta = 25^{\circ}C$

Parameter	Symbol	Conditions	Ratings			1.1
			min	typ	max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0	500			V
Zero-Gate Voltage Drain Current	IDSS	V <sub>DS</sub> =500V, V <sub>GS</sub> =0			1.0	mA
Gate-to-Source Leakage Current	IGSS	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0			±100	nA
Cutoff Voltage	VGS(off)	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	3.5		5.5	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =10V, I <sub>D</sub> =1A	0.55	1.1		S
Static Drain-to-Source ON-State Resistance	R <sub>DS(on)</sub>	I <sub>D</sub> =1A, V <sub>GS</sub> =15V		3.0	4.0	Ω
Input Capacitance	Ciss	V <sub>DS</sub> =20V, f=1MHz		300		pF
Output Capacitance	Coss	V <sub>DS</sub> =20V, f=1MHz		100		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =20V, f=1MHz		50		pF
Total Gate Charge	Qg	V <sub>DS</sub> =200V, I <sub>D</sub> =2A, V <sub>GS</sub> =10V		8		nC
Turn-ON Delay Time	<sup>t</sup> d(on)	See specified Test Circuit		10		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit		13		ns
Turn-OFF Delay Time	<sup>t</sup> d(off)	See specified Test Circuit		20		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit		17		ns
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =2A, V <sub>GS</sub> =0			1.2	V

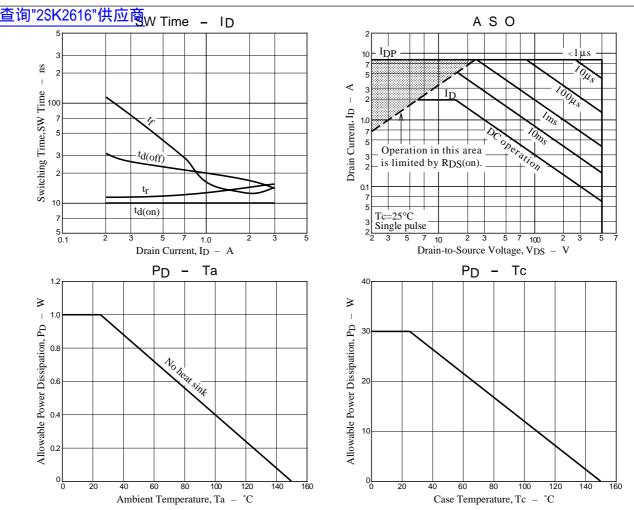
## Switching Time Test Circuit



#### 2SK2616



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