



# 2SK4065 — N-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Ultralow ON-resistance.
- Load switching applications.
- Avalanche resistance guarantee.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		75	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		100	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	400	A
Allowable Power Dissipation	P <sub>D</sub>		1.65	W
		T <sub>c</sub> =25°C	90	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E <sub>AS</sub>		735	mJ
Avalanche Current *2	I <sub>AV</sub>		70	A

Note : \*1 V<sub>DD</sub>=30V, L=200μH, I<sub>AV</sub>=70A

\*2 L≤200μH, Single pulse

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	75			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =75V, V <sub>GS</sub> =0V			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =50A	47	78		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =50A, V <sub>GS</sub> =10V		4.6	6.0	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =50A, V <sub>GS</sub> =4V		5.7	8.0	mΩ

Marking : K4065

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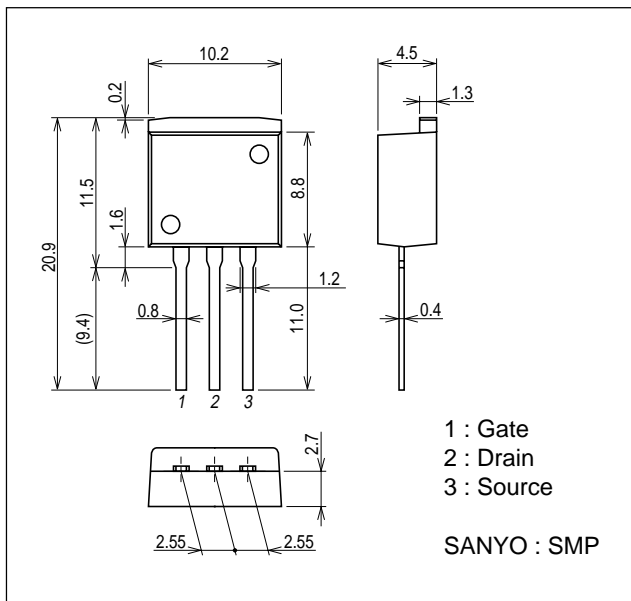
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		12200		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		950		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		730		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		80		ns
Rise Time	$t_r$	See specified Test Circuit.		460		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		930		ns
Fall Time	$t_f$	See specified Test Circuit.		640		ns
Total Gate Charge	$Q_g$	$V_{DS}=35V, V_{GS}=10V, I_D=100A$		220		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=35V, V_{GS}=10V, I_D=100A$		40		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=35V, V_{GS}=10V, I_D=100A$		50		nC
Diode Forward Voltage	$V_{SD}$	$I_S=100A, V_{GS}=0V$		0.9	1.2	V

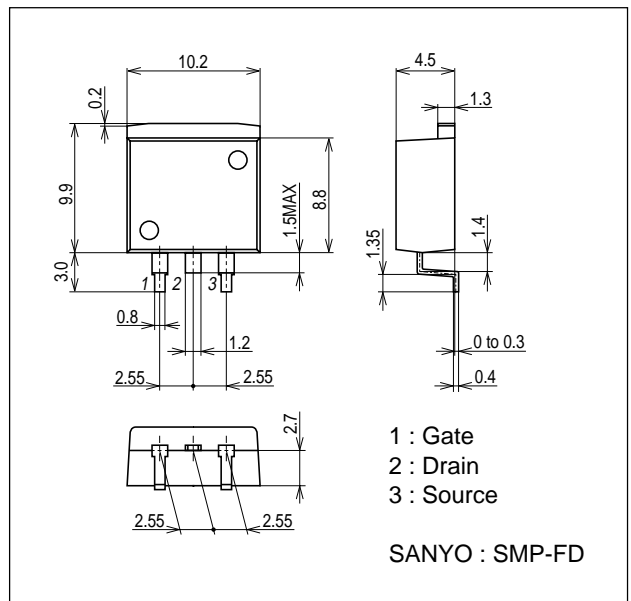
## Package Dimensions

unit : mm  
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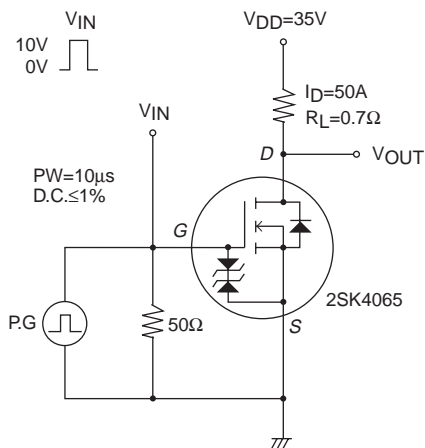


## Package Dimensions

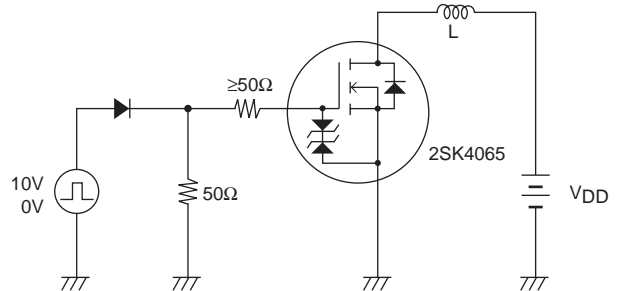
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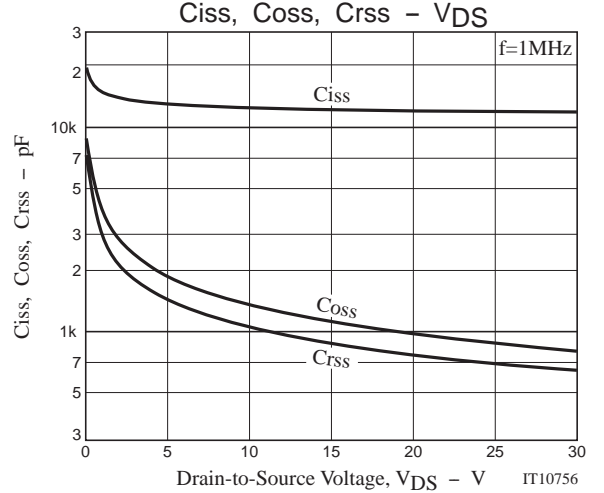
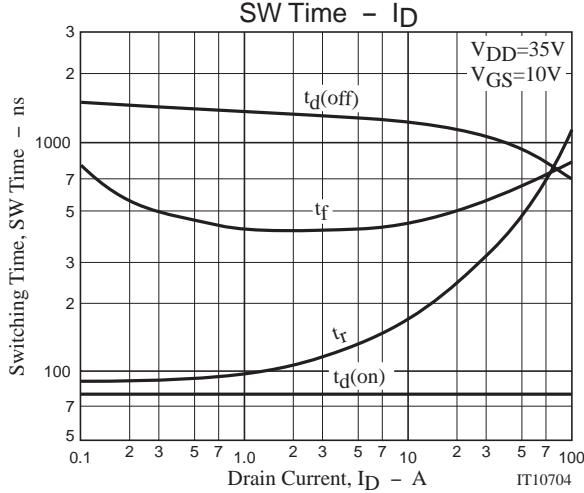
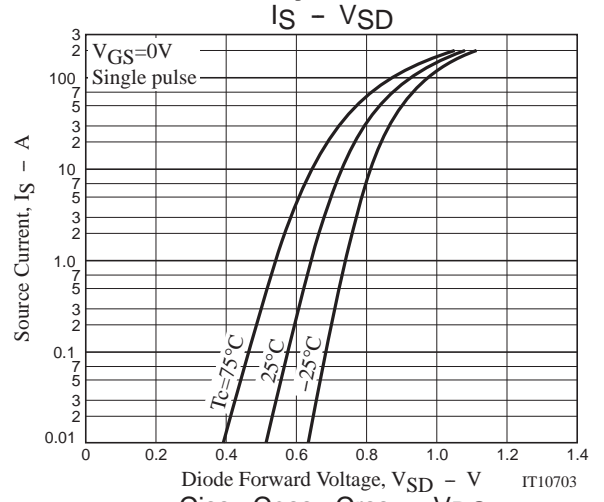
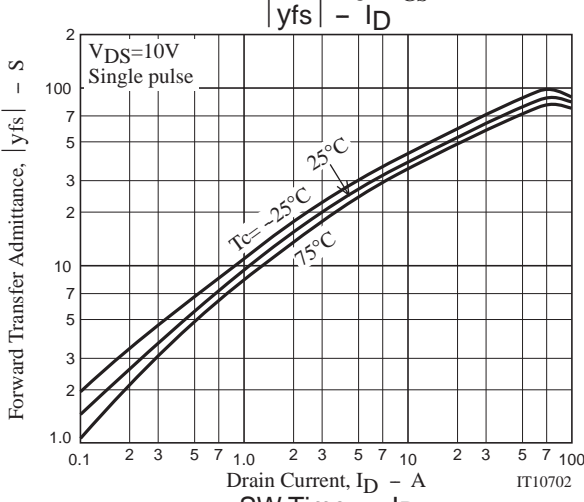
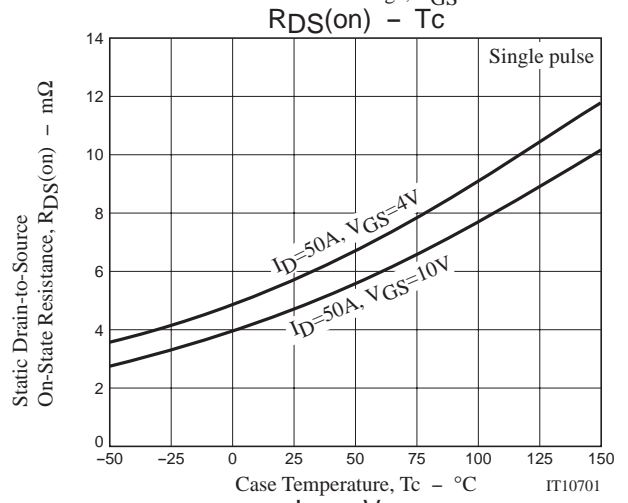
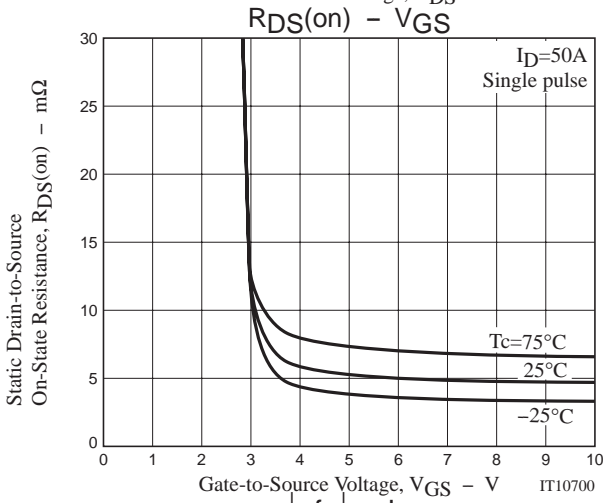
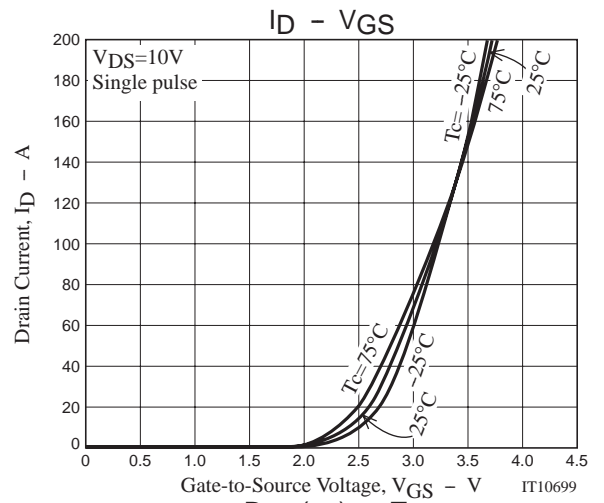
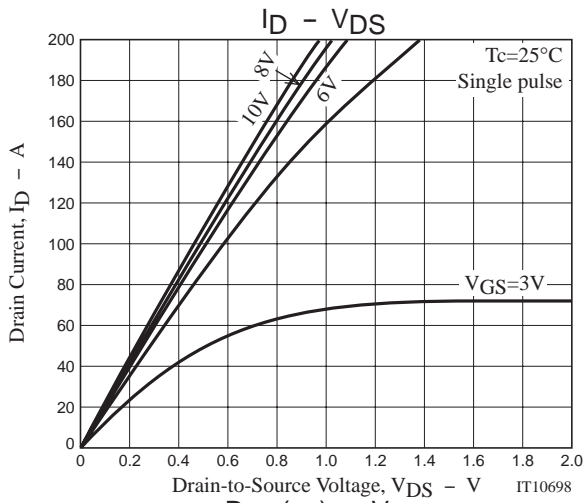
## Switching Time Test Circuit



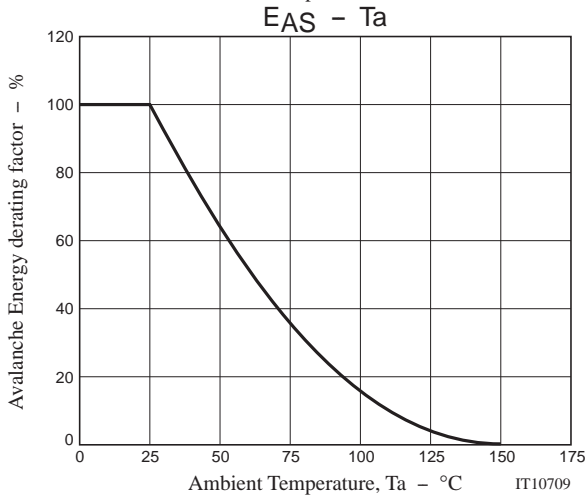
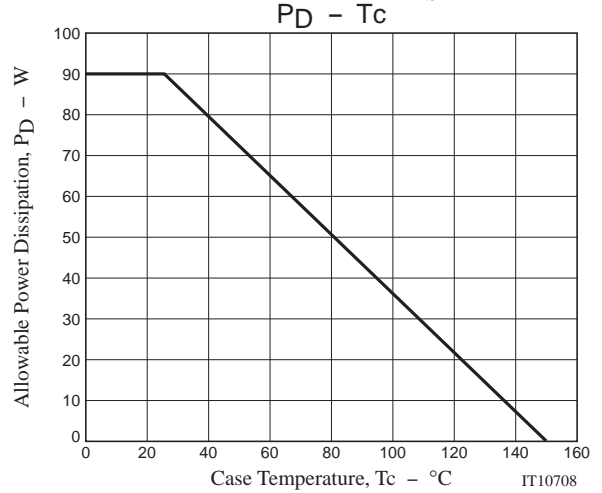
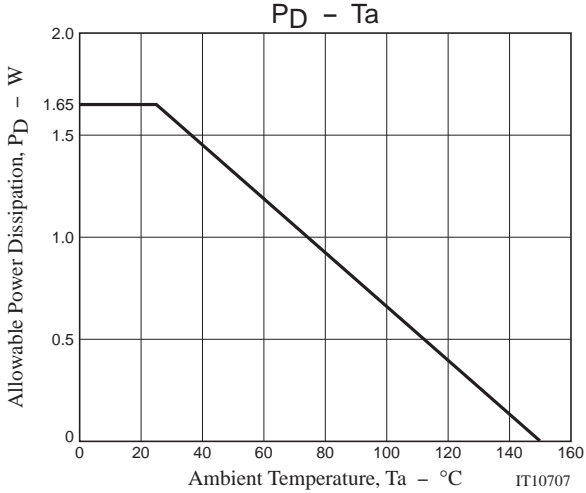
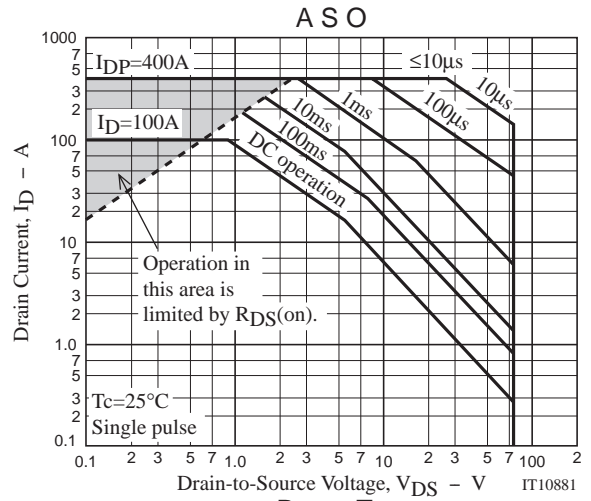
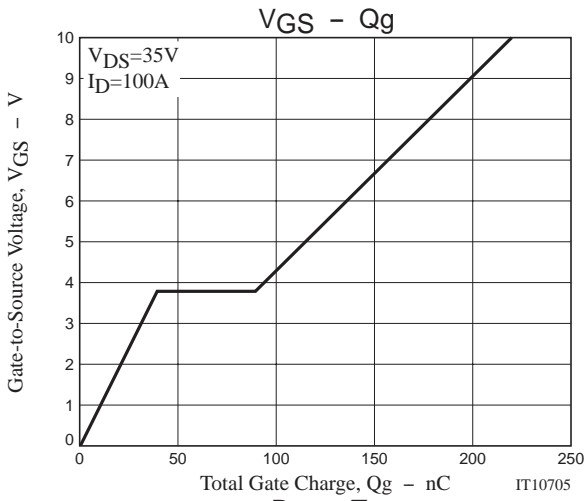
## Avalanche Resistance Test Circuit



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# 2SK4065



Note on usage : Since the 2SK4065 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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