



# 2SK4065

## N-Channel Power MOSFET 75V, 100A, 6mΩ, TO-263-2L

ON Semiconductor®

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### Features

- ON-resistance  $R_{DS(on)1}=4.6m\Omega$  (typ.)
- 4V drive
- Input capacitance  $C_{iss}=12200pF$  (typ.)

### Specifications

Absolute Maximum Ratings at  $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		75	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		100	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	400	A
Allowable Power Dissipation	$P_D$		1.65	W
		$T_c=25^\circ C$	90	W
Channel Temperature	$T_{ch}$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$
Avalanche Energy (Single Pulse) *1	$E_{AS}$		735	mJ
Avalanche Current *2	$I_{AV}$		70	A

Note : \*1  $V_{DD}=30V$ ,  $L=200\mu H$ ,  $I_{AV}=70A$  (Fig.1)

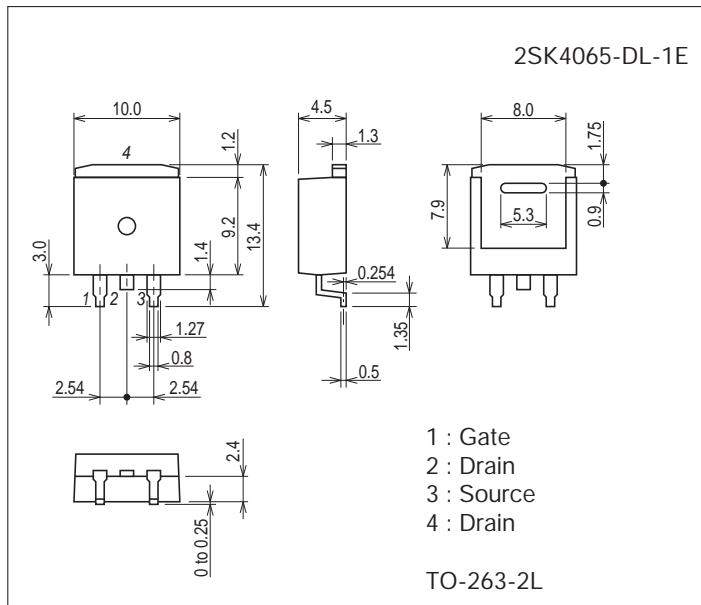
\*2  $L \leq 200\mu H$ , single pulse

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

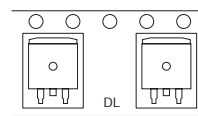
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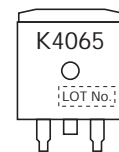
### Product & Package Information

- Package : TO-263-2L
- JEITA, JEDEC : SC-83, TO-263
- Minimum Packing Quantity : 800 pcs./reel

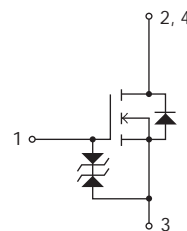
### Packing Type: DL



### Marking



### Electrical Connection



# 2SK4065

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	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
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		12200		pF
Output Capacitance	C <sub>oss</sub>			950		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			730		pF
Turn-ON Delay Time	t <sub>d(on)</sub>			80		ns
Rise Time	t <sub>r</sub>	See Fig.2		460		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>			930		ns
Fall Time	t <sub>f</sub>			640		ns
Total Gate Charge	Q <sub>g</sub>			220		nC
Gate-to-Source Charge	Q <sub>gs</sub>	V <sub>DS</sub> =35V, V <sub>GS</sub> =10V, I <sub>D</sub> =100A		40		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>			50		nC
Diode Forward Voltage	V <sub>SD</sub>		I <sub>S</sub> =100A, V <sub>GS</sub> =0V		0.9	1.2

Fig.1 Avalanche Resistance Test Circuit

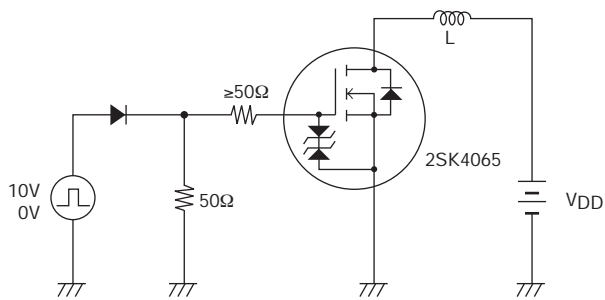
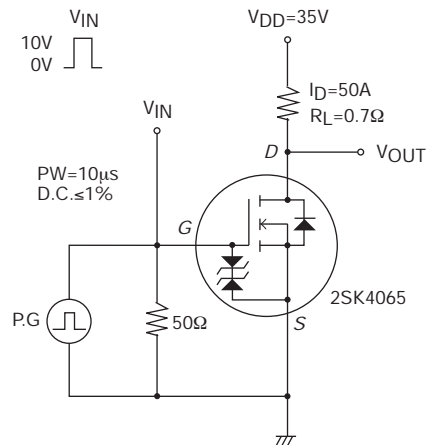
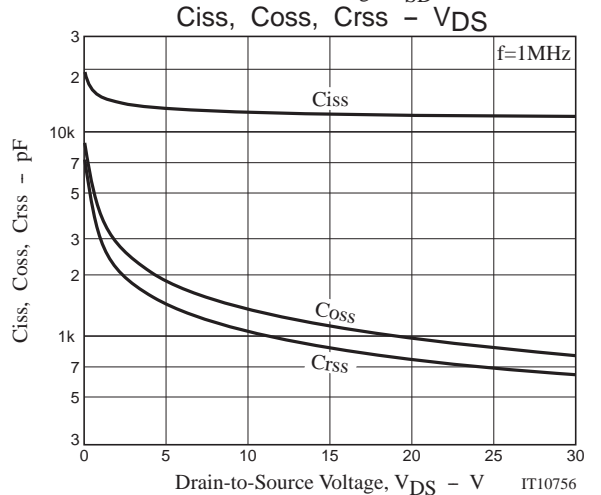
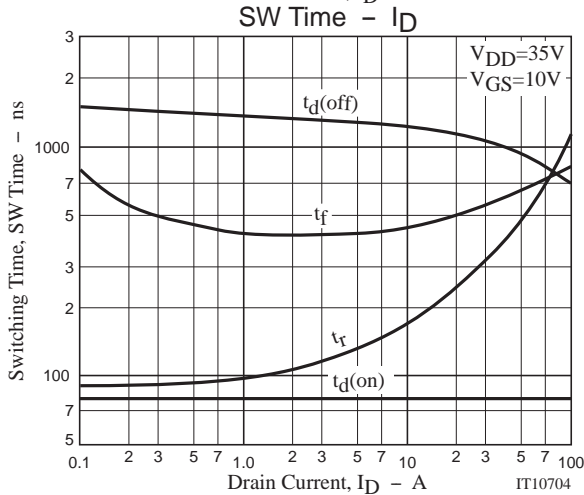
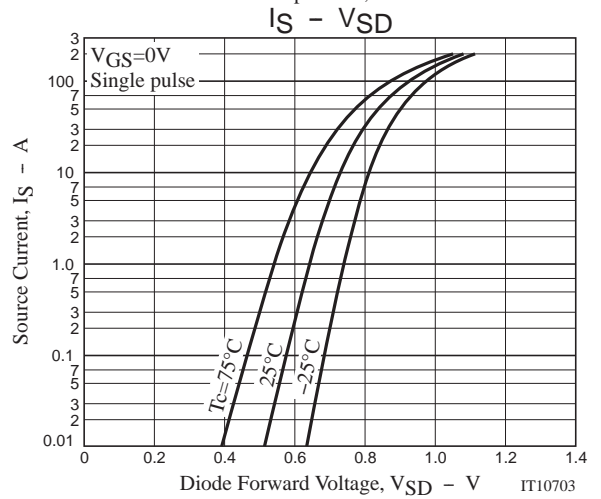
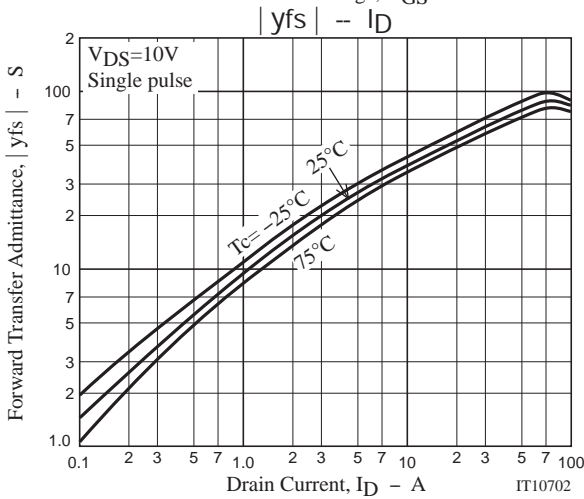
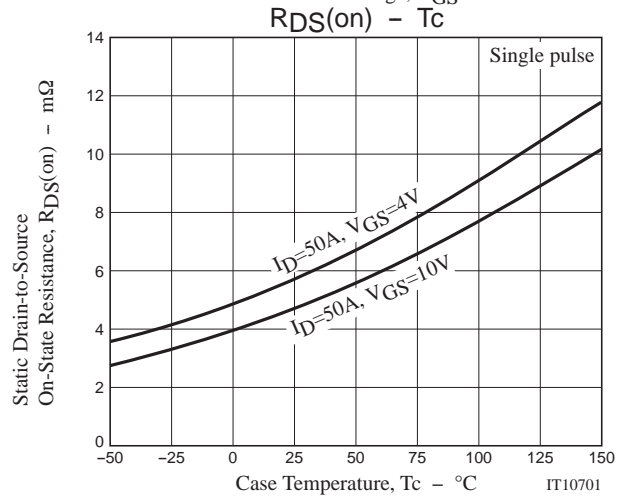
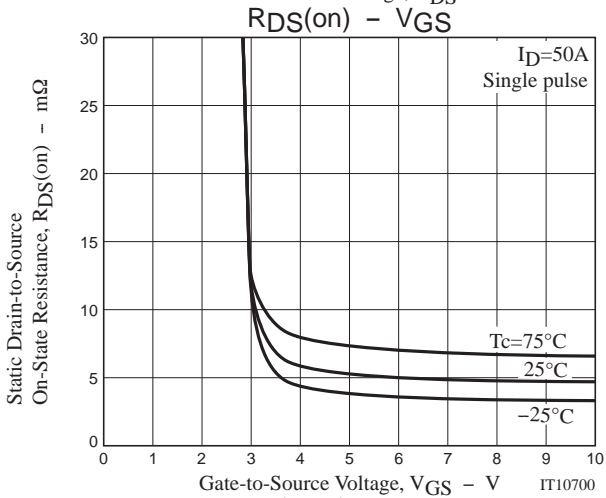
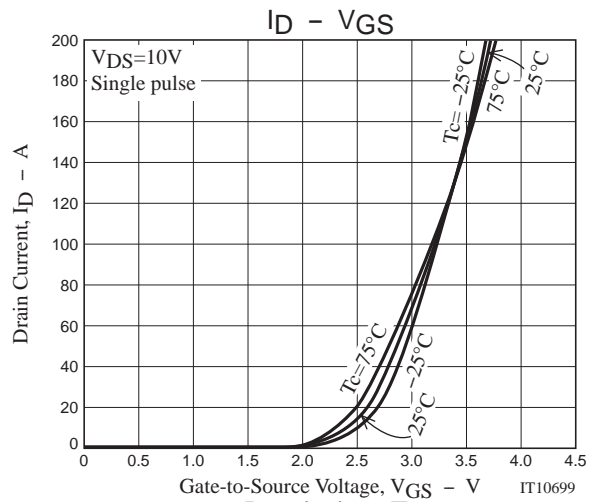
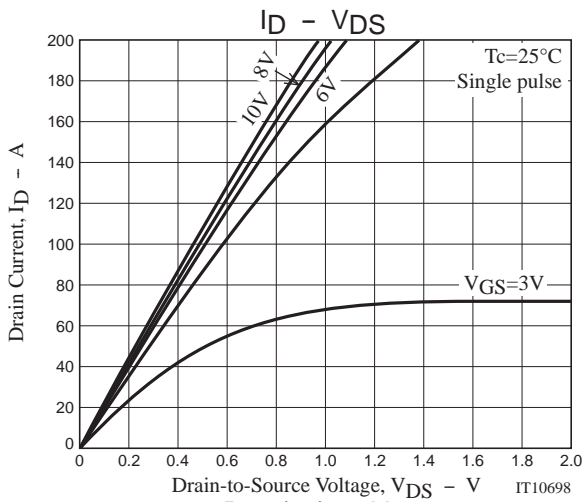


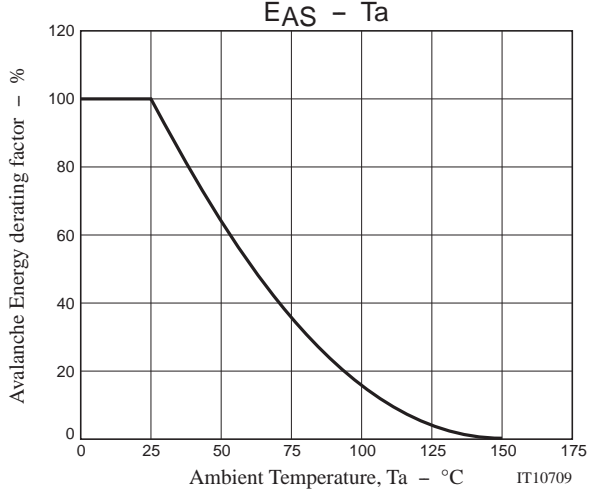
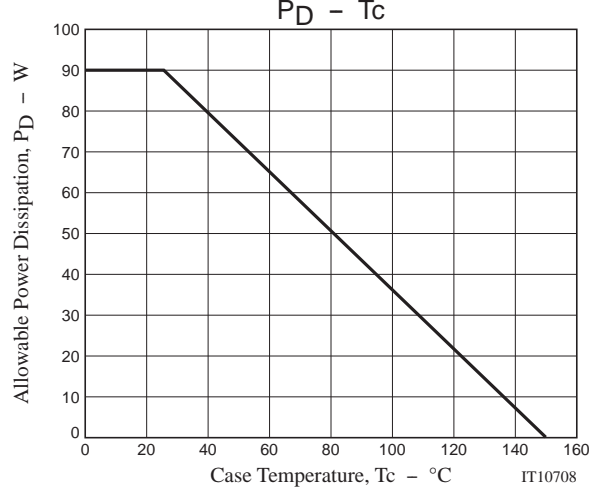
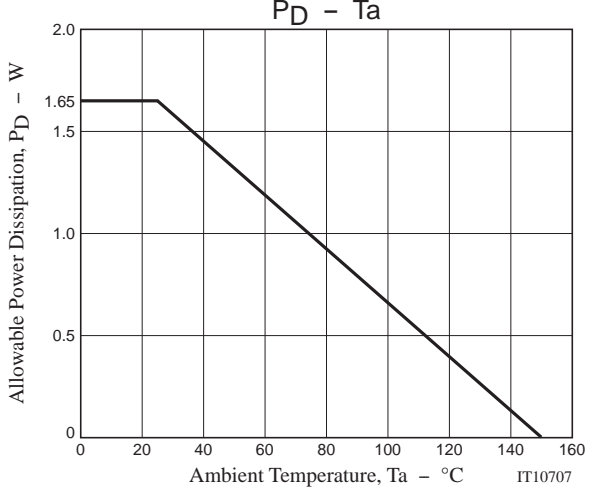
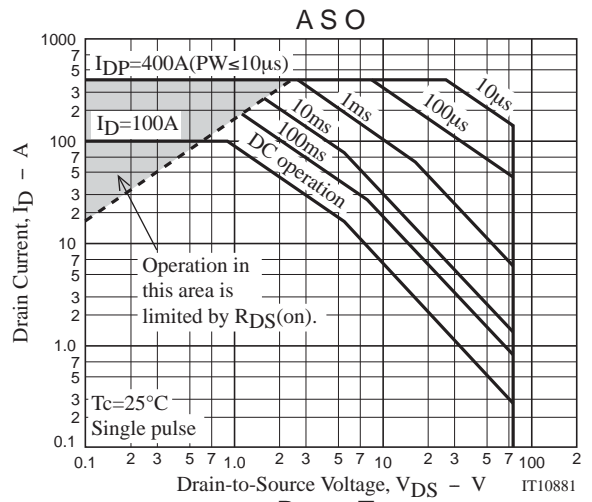
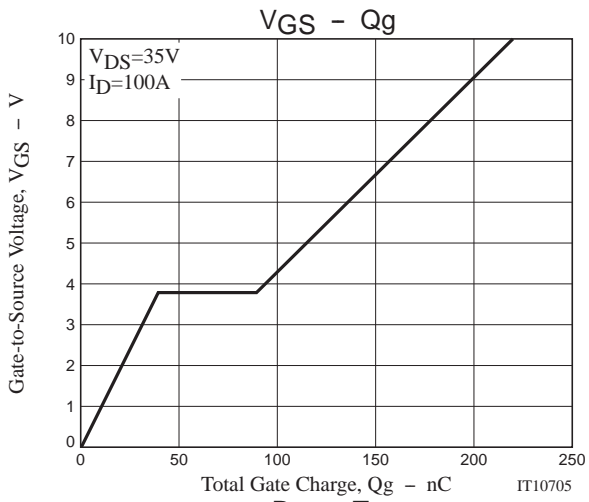
Fig.2 Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
2SK4065-DL-1E	TO-263-2L	800pcs./reel	Pb Free



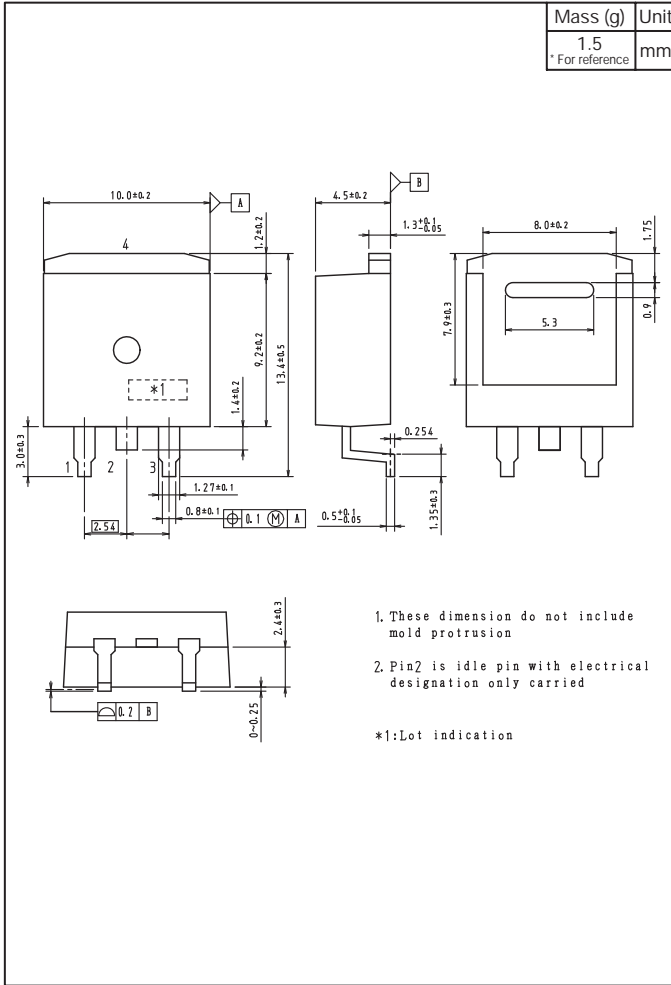




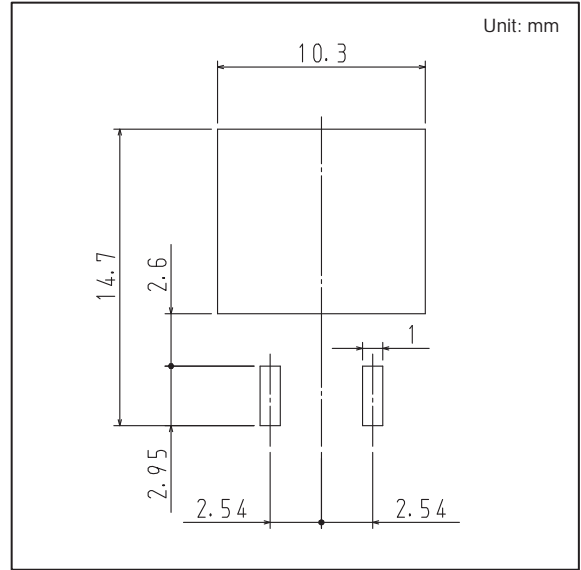
# 2SK4065

## Outline Drawing

2SK4065-DL-1E



## Land Pattern Example



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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