



2SK4065

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

ON Semiconductor®

<http://onsemi.com>

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}		± 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)

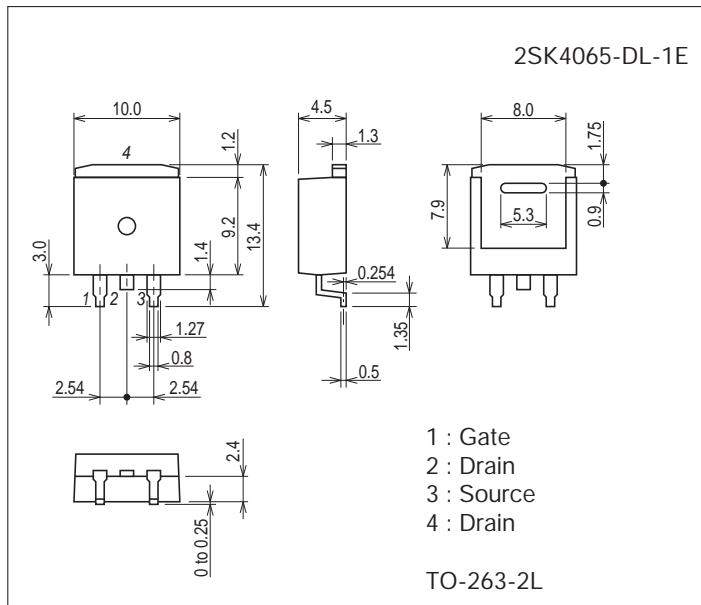
*2 $L \leq 200\mu H$, single pulse

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)

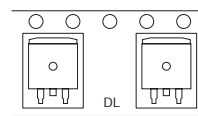
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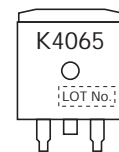
Product & Package Information

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

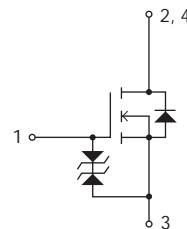
Packing Type: DL



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 _D =1mA, V _{GS} =0V	75			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =75V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =50A	47	78		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =50A, V _{GS} =10V		4.6	6.0	mΩ
	R _{DS(on)2}	I _D =50A, V _{GS} =4V		5.7	8.0	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		12200		pF
Output Capacitance	C _{oss}			950		pF
Reverse Transfer Capacitance	C _{rss}			730		pF
Turn-ON Delay Time	t _{d(on)}			80		ns
Rise Time	t _r	See Fig.2		460		ns
Turn-OFF Delay Time	t _{d(off)}			930		ns
Fall Time	t _f			640		ns
Total Gate Charge	Q _g			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}			50		nC
Diode Forward Voltage	V _{SD}		I _S =100A, V _{GS} =0V		0.9	1.2

Fig.1 Avalanche Resistance Test Circuit

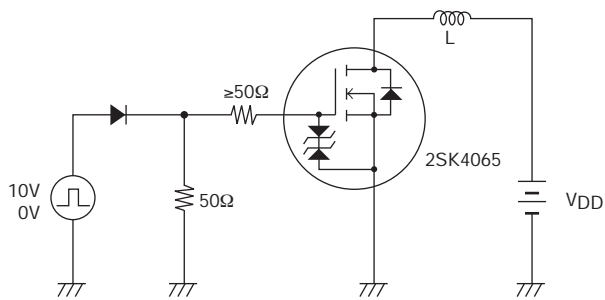
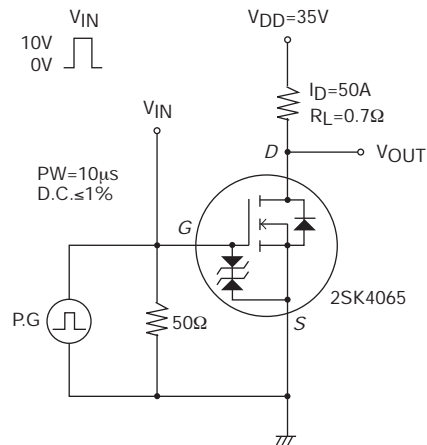
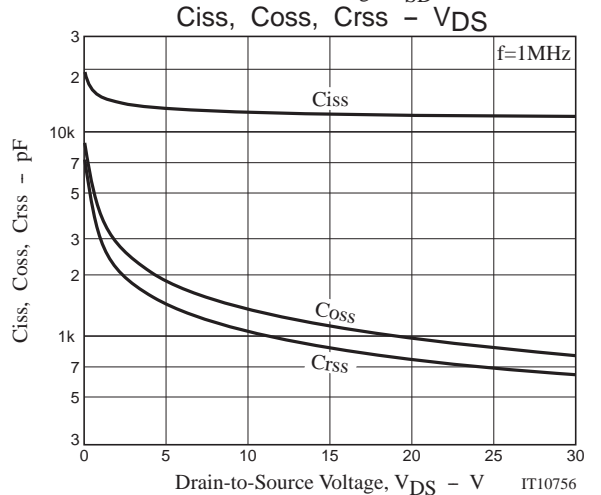
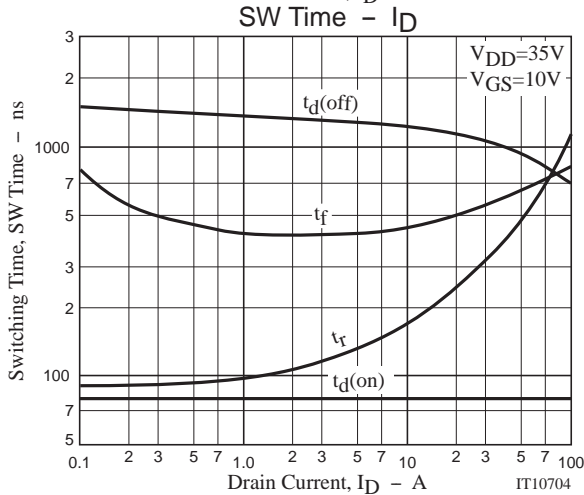
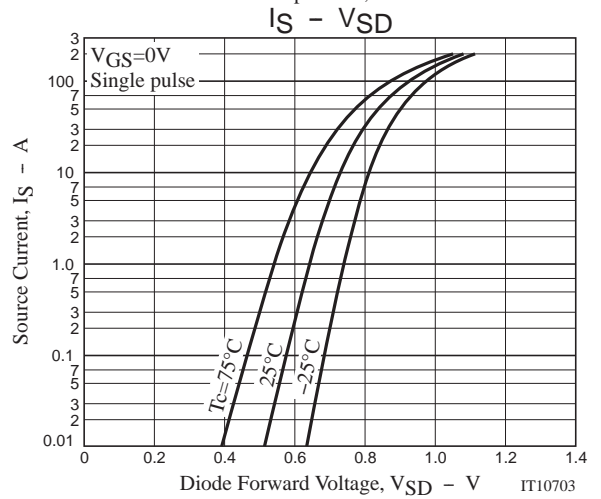
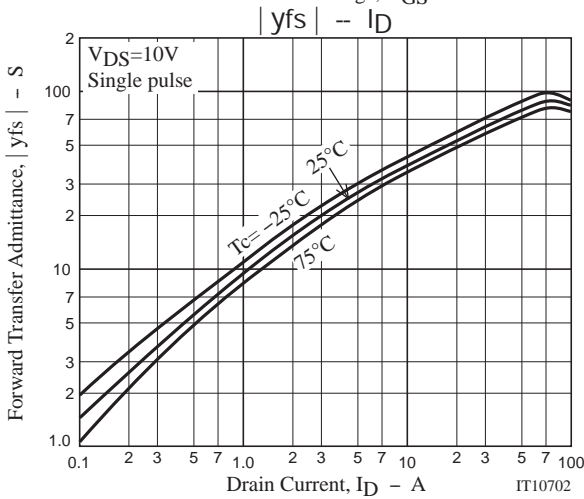
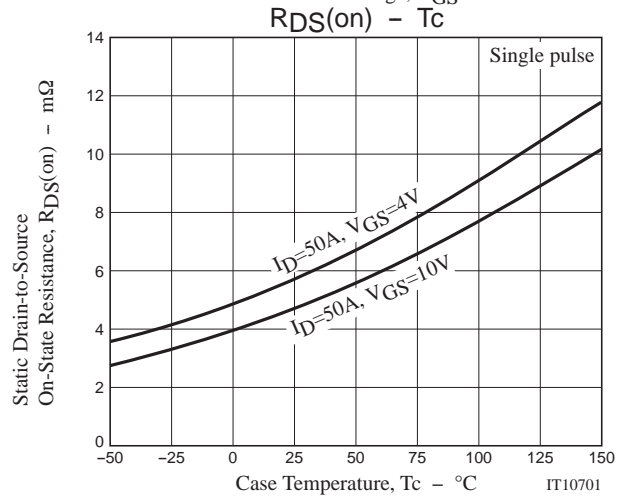
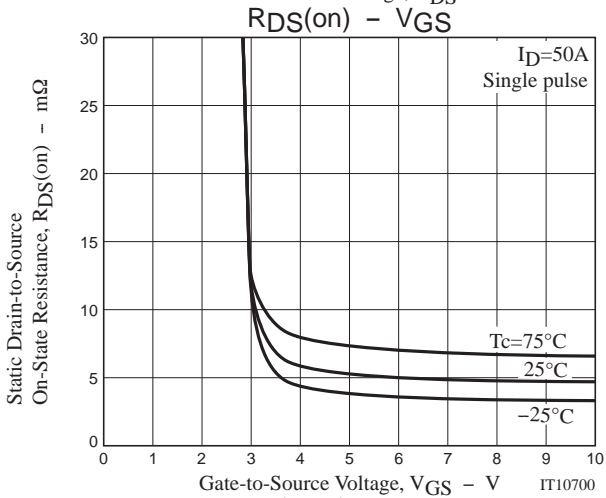
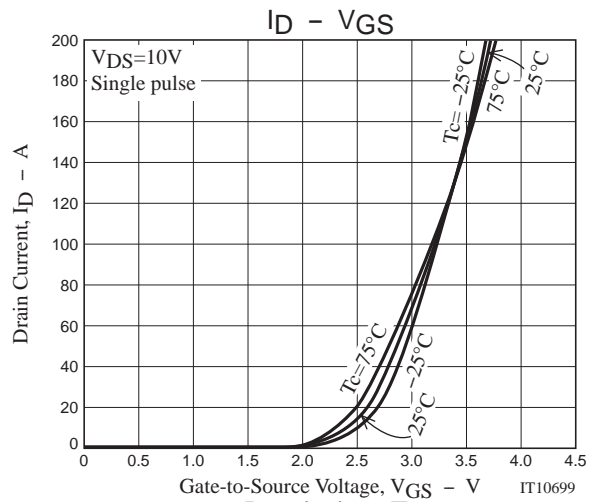
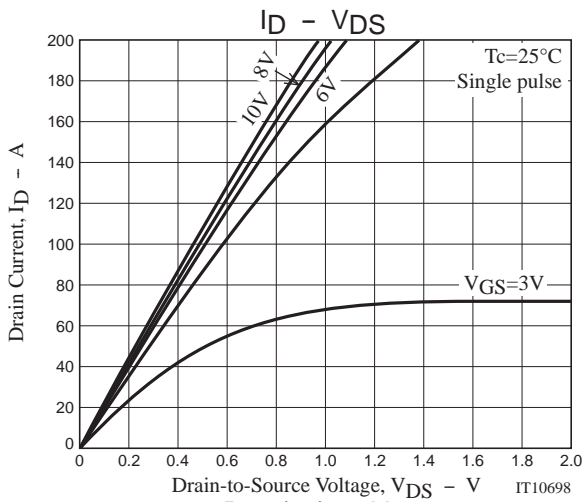


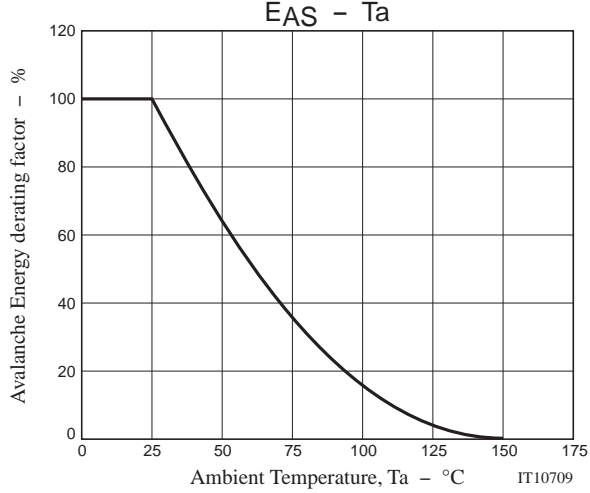
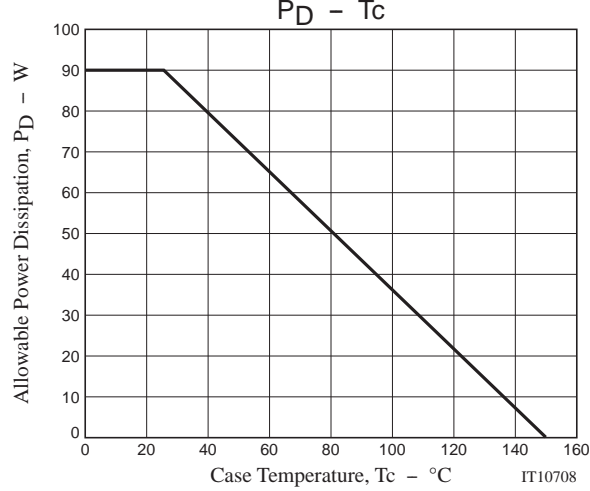
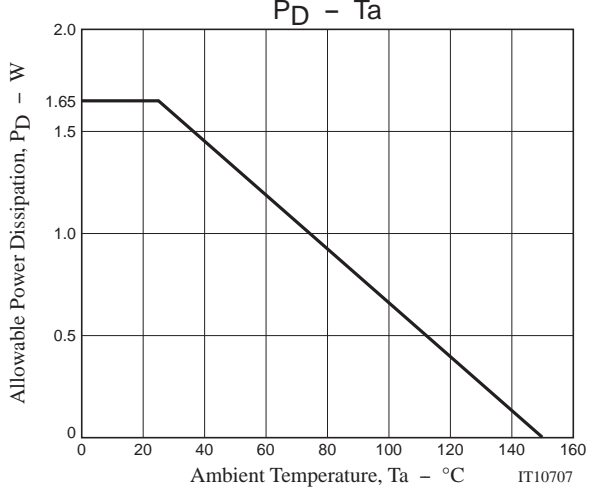
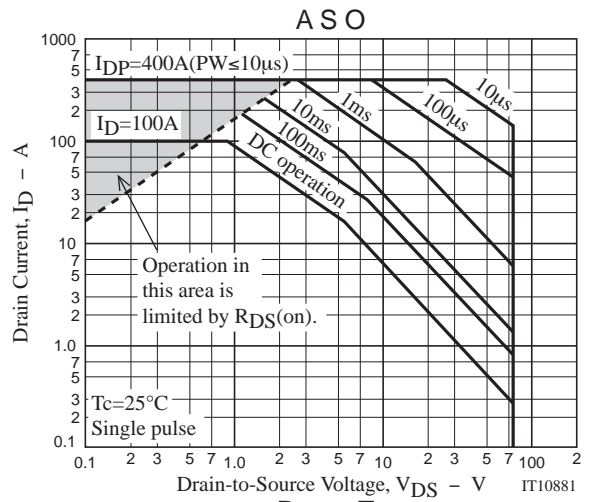
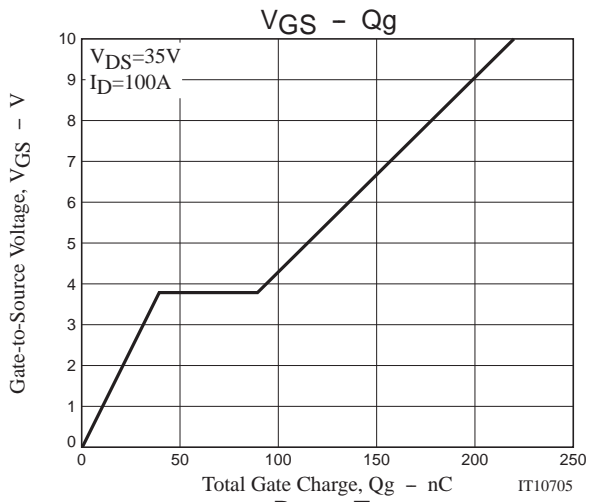
Fig.2 Switching Time Test Circuit



Ordering Information

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





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Taping Specification

2SK4065-DL-1E

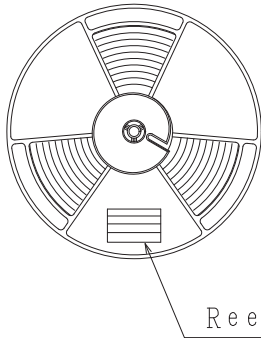
1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Reel	Inner box	Outer box	Inner BOX	Outer BOX
TO-263-2L	800	1600	6400	SPD-0V0011 2 reel contained Dimensions:mm (external) 351×340×68	SPD-0V0009 4 inner boxes contained Dimensions:mm (external) 390×370×318

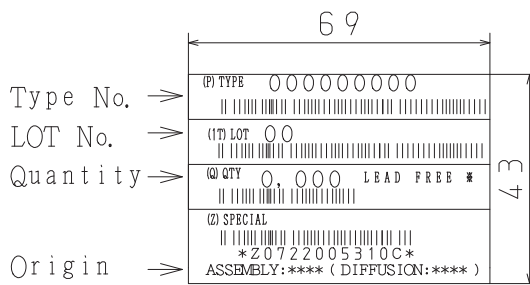
Reel label, Inner box label
(unit:mm)

Outer box label

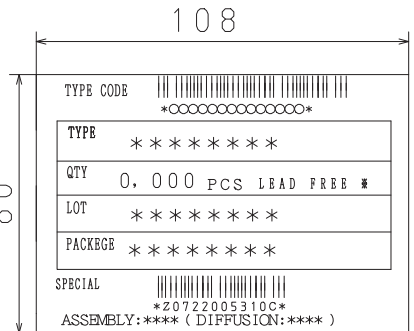
Packing method



Origin
Reel label



It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



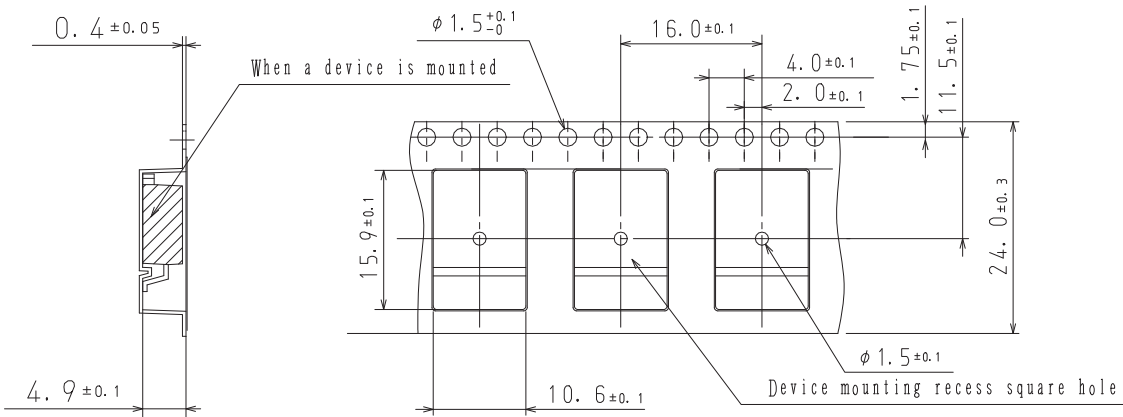
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

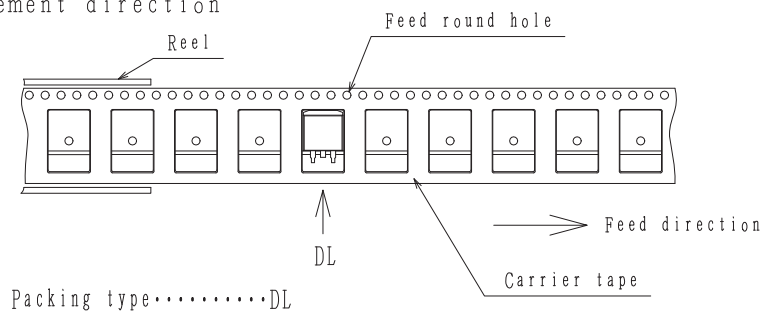
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

2. Taping configuration

2-1. Carrier tape size (unit:mm)



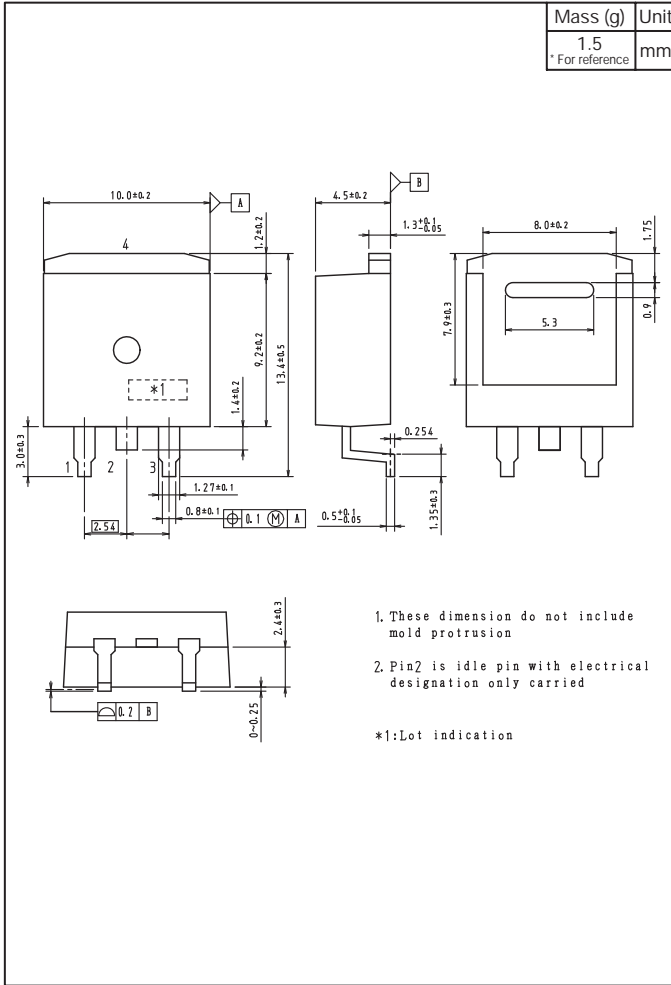
2-2. Device placement direction



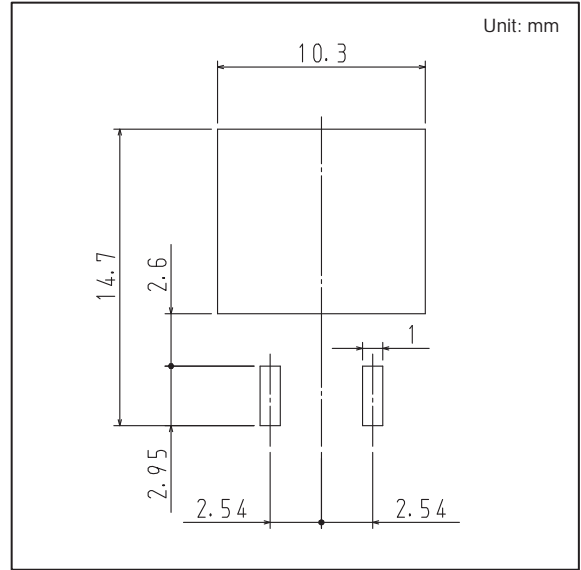
2SK4065

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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