



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SK4065 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

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

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	EAS		735	mJ
Avalanche Current *2	I_{AV}		70	A

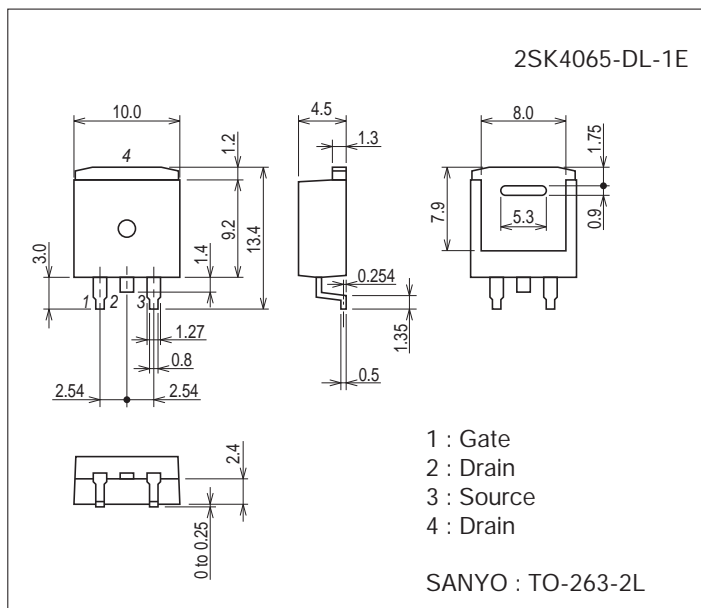
Note : *1 $V_{DD}=30V$, $L=200\mu H$, $I_{AV}=70A$ (Fig.1)

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

Package Dimensions

unit : mm (typ)

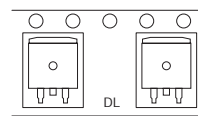
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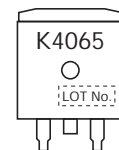
Product & Package Information

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

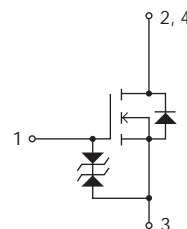
Packing Type: DL



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

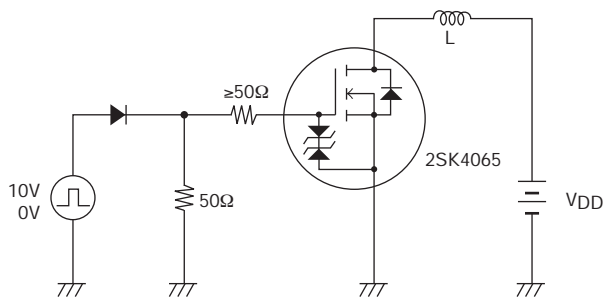
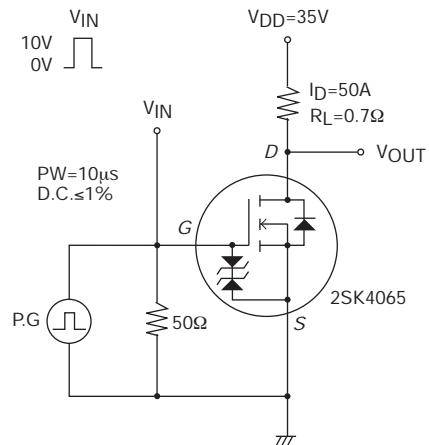
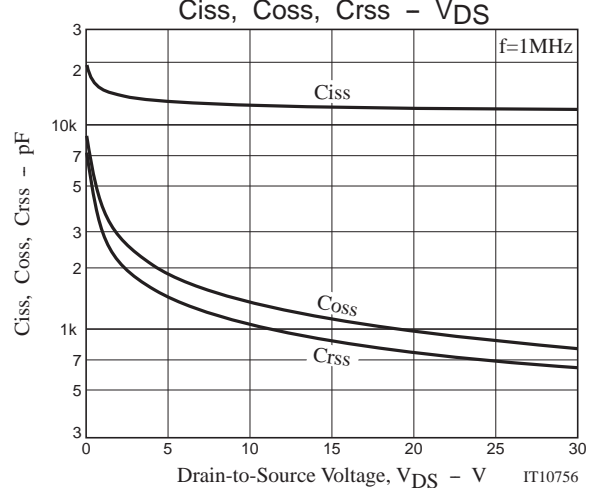
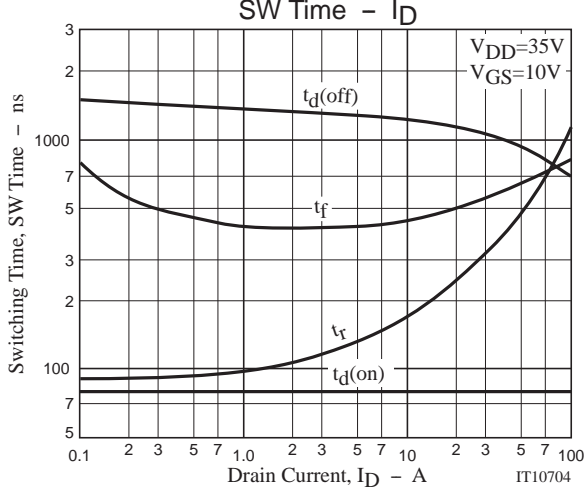
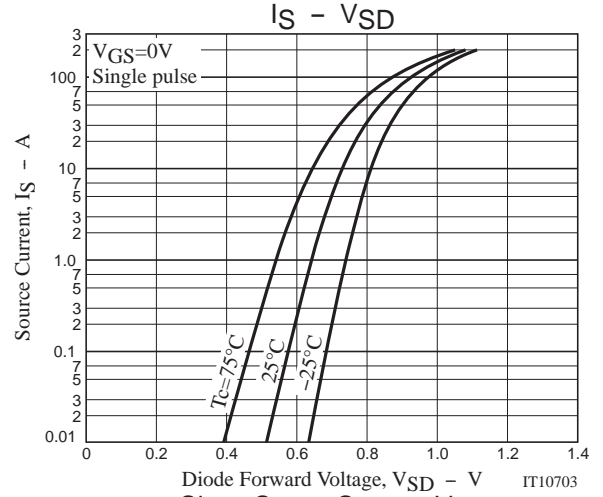
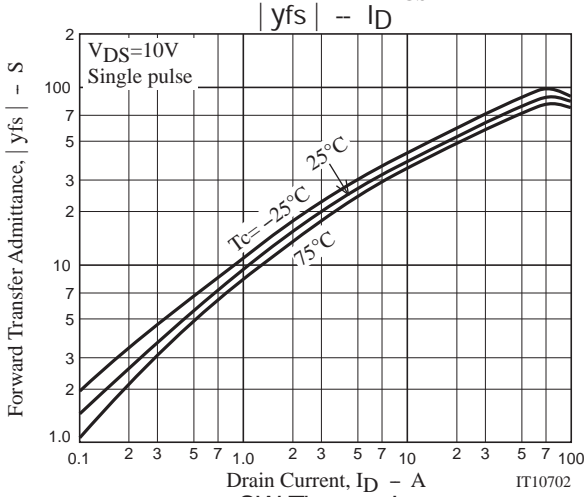
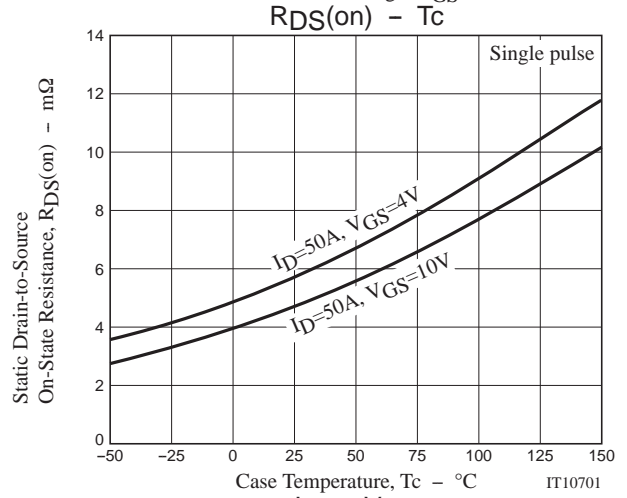
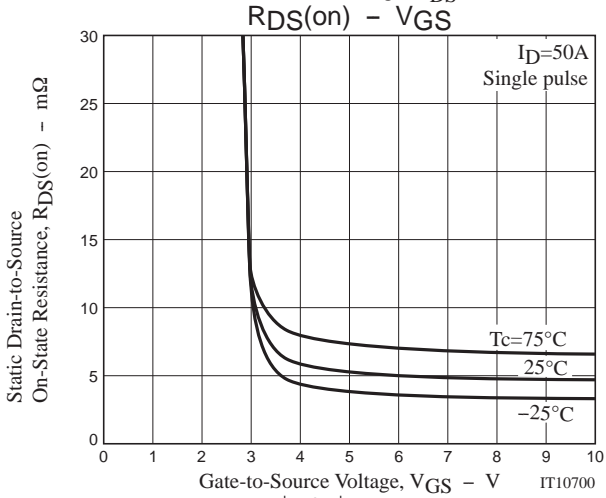
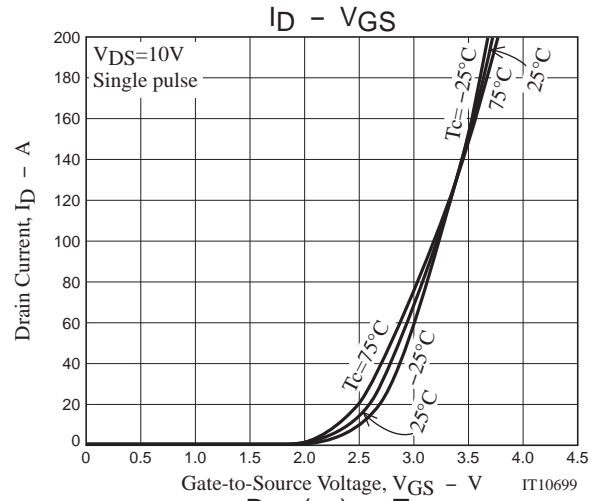
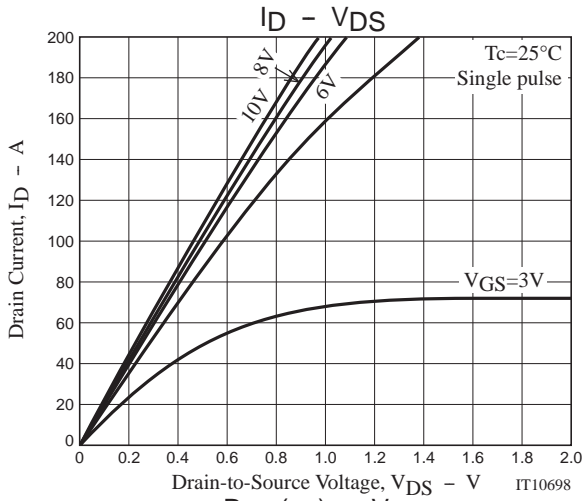


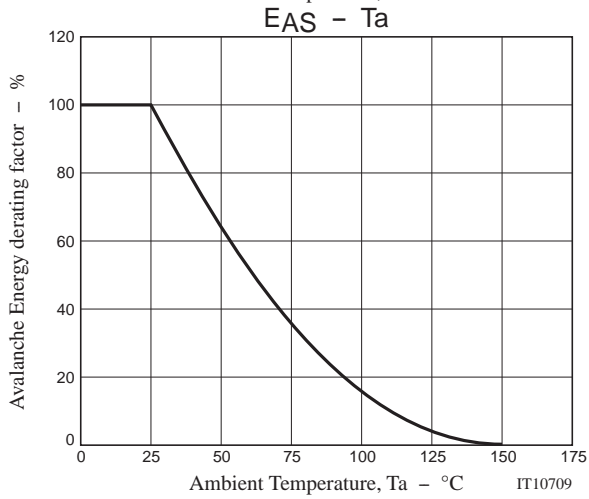
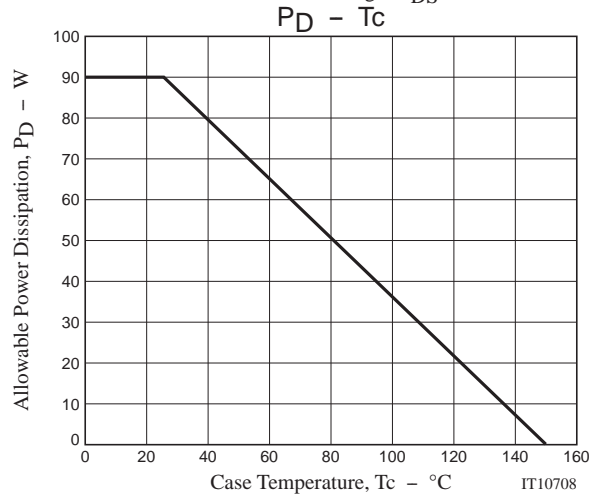
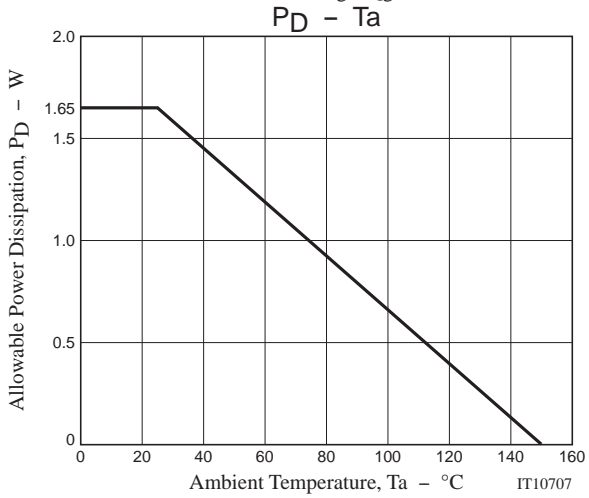
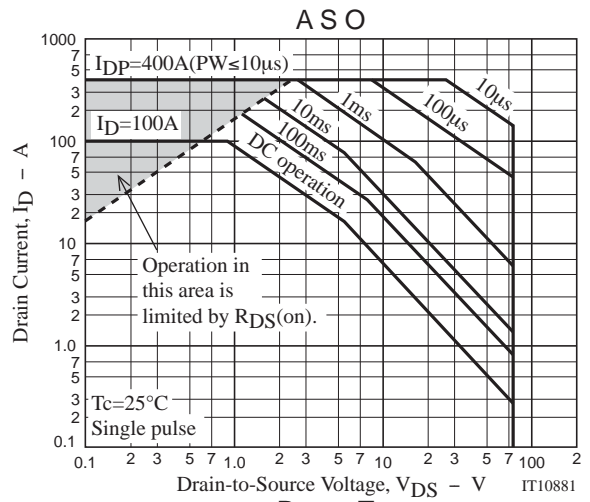
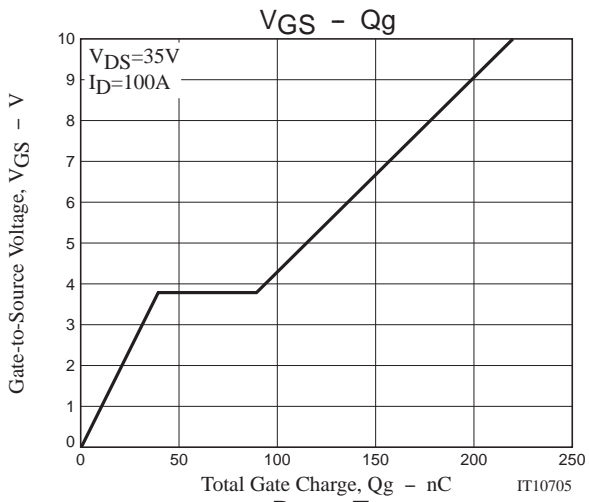
Fig.2 Switching Time Test Circuit



Ordering Information

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





Taping Specification

2SK4065-DL-1E

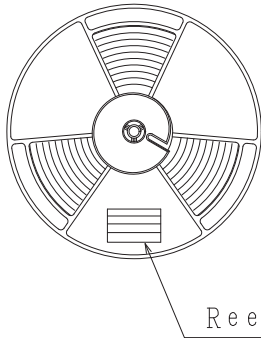
1. Packing Format

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

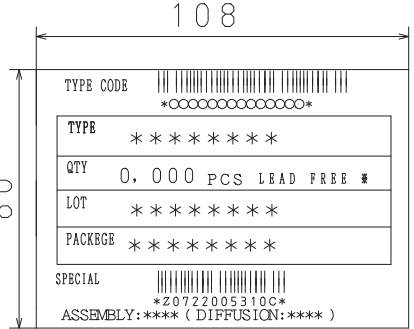
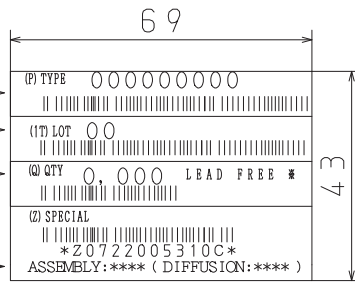
Reel label, Inner box label
(unit:mm)

Outer box label

Packing method



Type No. →
LOT No. →
Quantity →
Origin →
Reel label



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

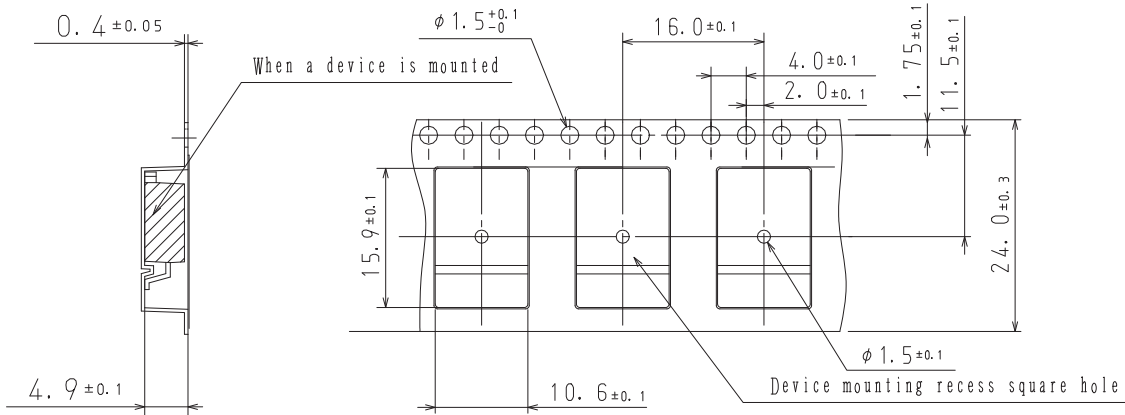
NOTE (1)

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

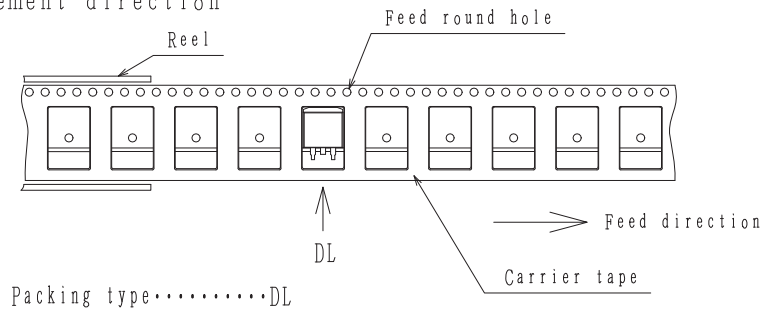
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

2. Taping configuration

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



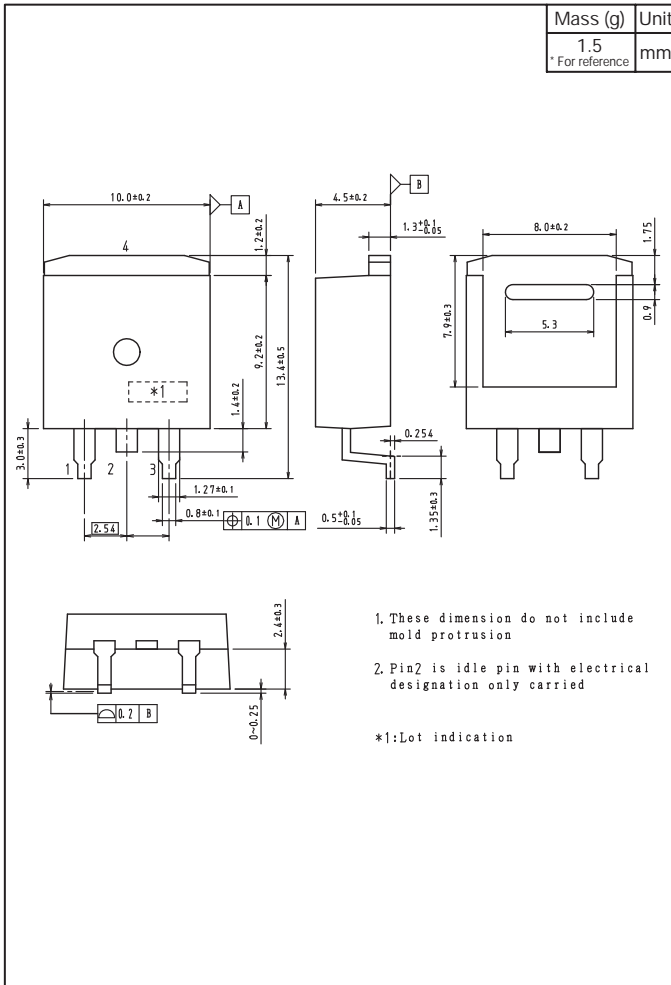
2-2. Device placement direction



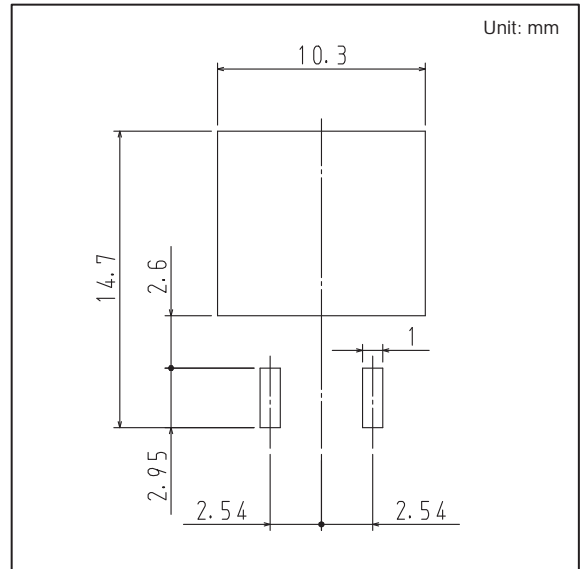
2SK4065

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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