



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

## 2SK4066 — General-Purpose Switching Device Applications

### Features

- ON-resistance  $R_{DS(on)1}=3.6m\Omega$ (typ.)
- Input capacitance  $C_{iss}=12500pF$ (typ.)
- 4V drive

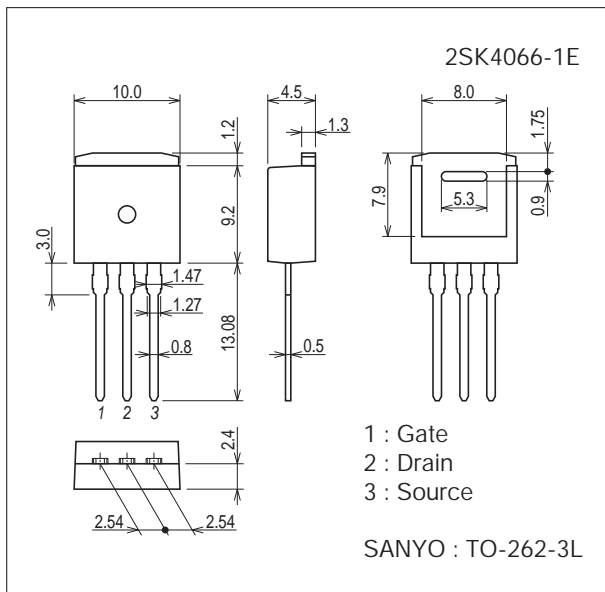
### Specifications

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

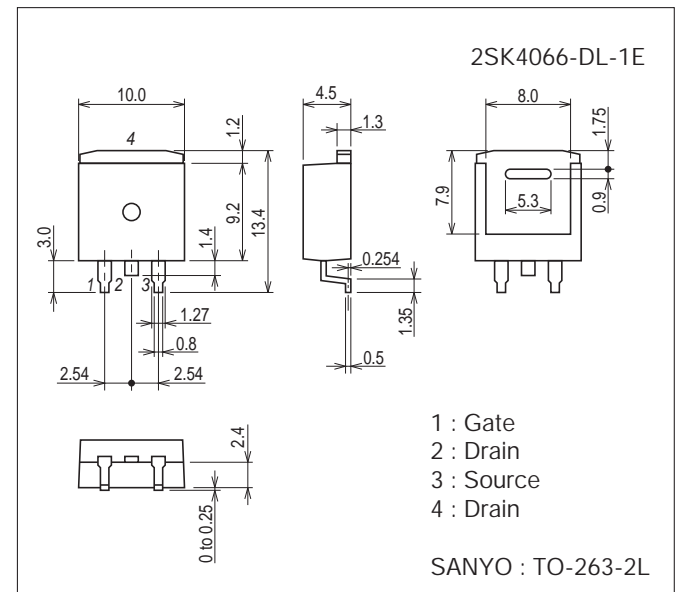
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		60	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		100	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	400	A
Allowable Power Dissipation	$P_D$		1.65	W
		$T_c=25^\circ C$	90	W

Continued on next page.

Package Dimensions unit : mm (typ)  
7537-001



Package Dimensions unit : mm (typ)  
7535-001

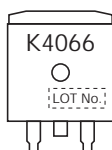


### Product & Package Information

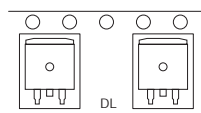
- Package : TO-262-3L
- JEITA, JEDEC : TO-262
- Minimum Packing Quantity : 50pcs./magazine

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

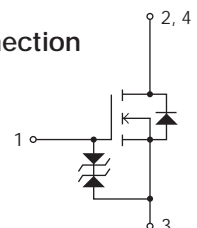
### Marking



### Packing Type : DL



### Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://semicon.sanyo.com/en/network>

# 2SK4066

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings	Unit
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	EAS		850	mJ
Avalanche Current *2	I <sub>AV</sub>		70	A

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

\*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(BR)DSS	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, 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	51	85		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =50A, V <sub>GS</sub> =10V		3.6	4.7	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =50A, V <sub>GS</sub> =4V		4.7	6.6	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =20V, f=1MHz		12500		pF
Output Capacitance	C <sub>oss</sub>			1200		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			950		pF
Turn-ON Delay Time	t <sub>d(on)</sub>			80		ns
Rise Time	t <sub>r</sub>	See Fig.2		630		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>			860		ns
Fall Time	t <sub>f</sub>			750		ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, I <sub>D</sub> =100A		220		nC
Gate-to-Source Charge	Q <sub>gs</sub>			31		nC
Gate-to-Drain "Miller" Charge	Q <sub>gd</sub>			55		nC
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =100A, V <sub>GS</sub> =0V		0.9	1.2	V

Fig.1 Avalanche Resistance Test Circuit

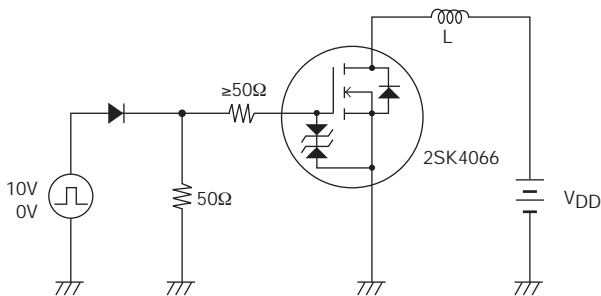
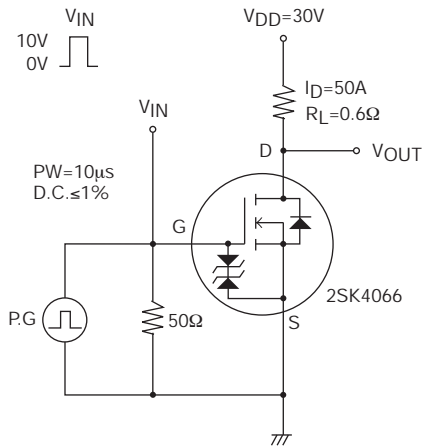
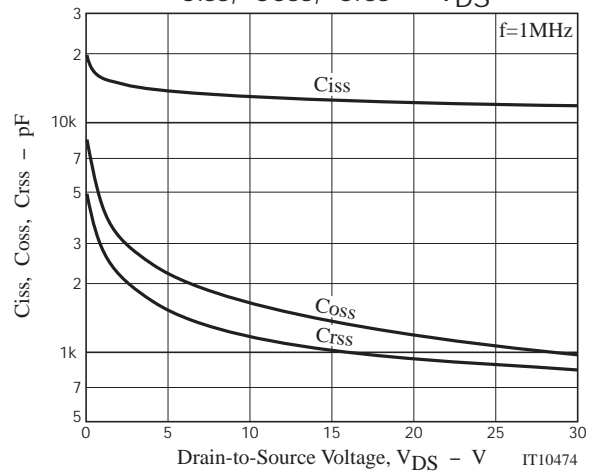
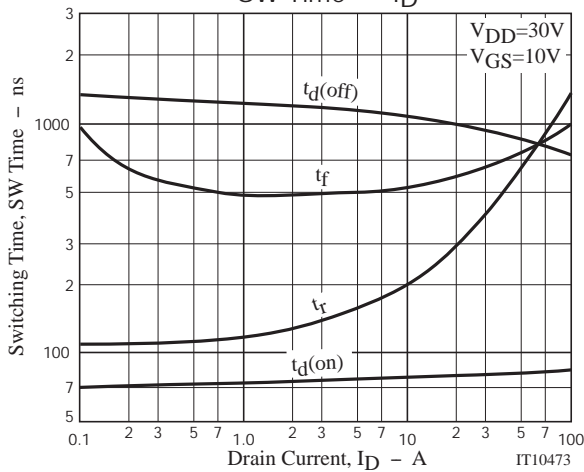
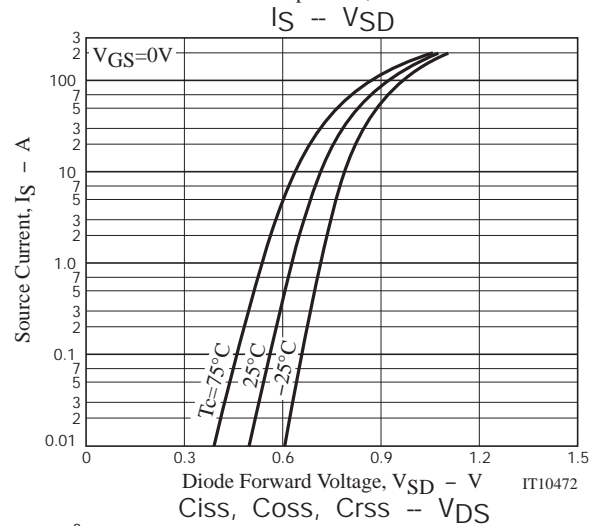
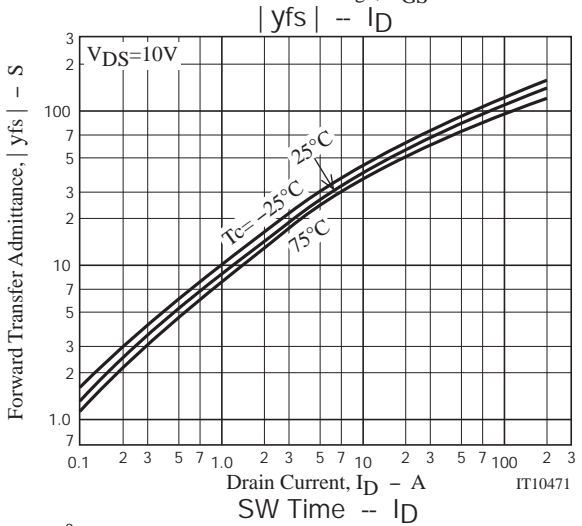
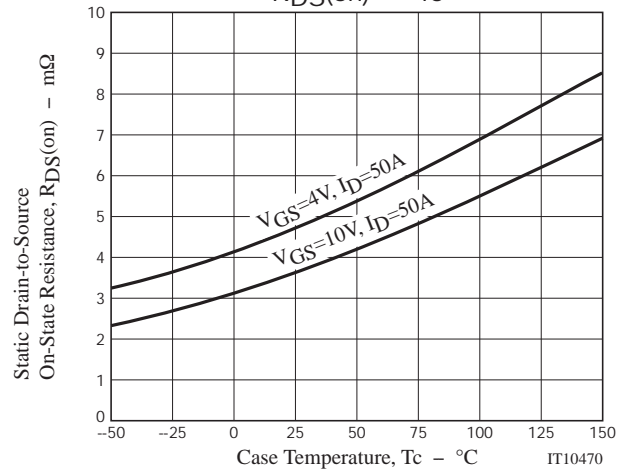
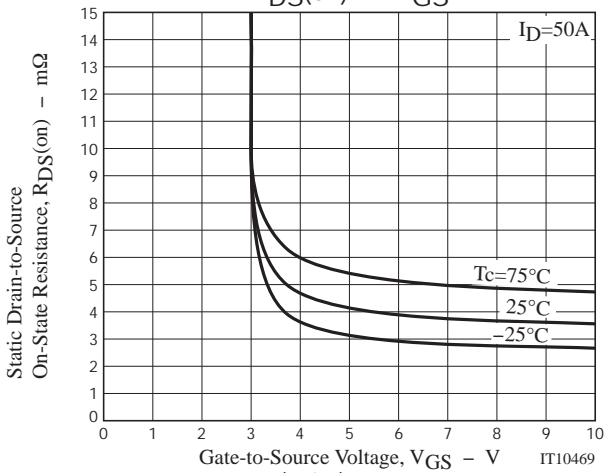
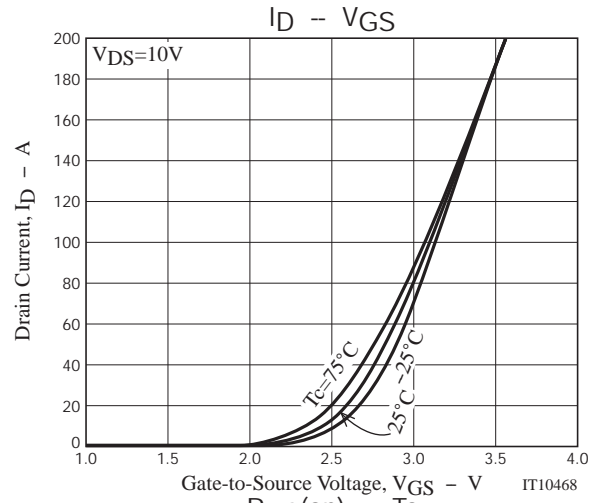
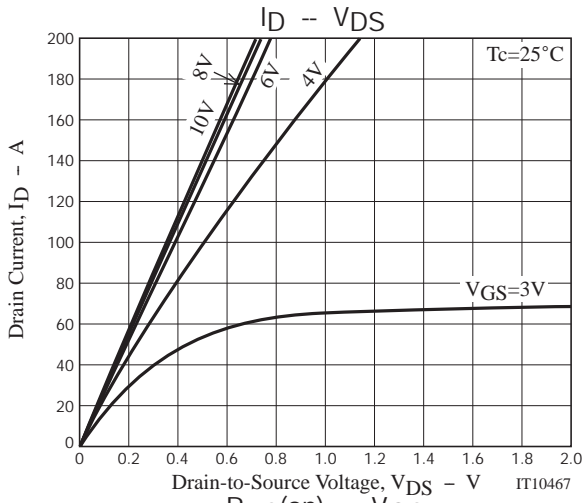


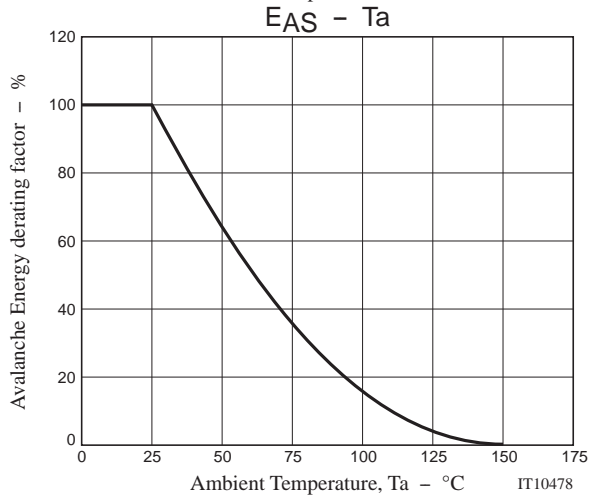
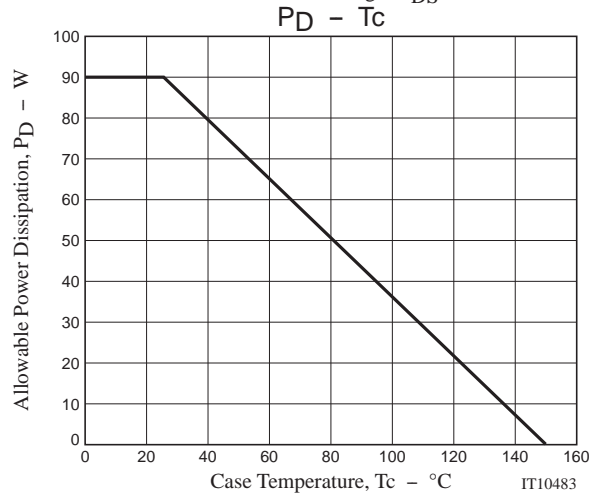
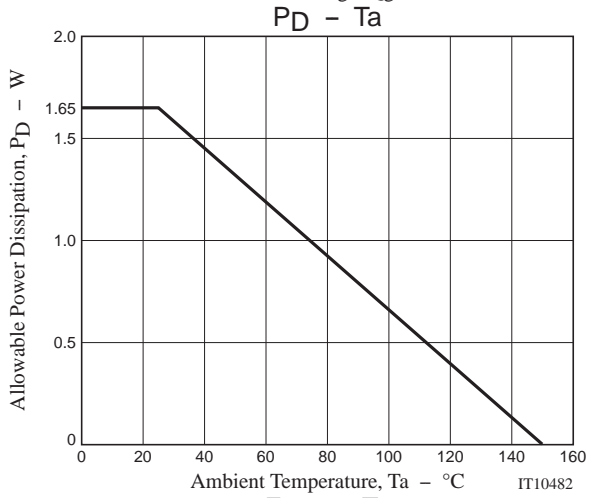
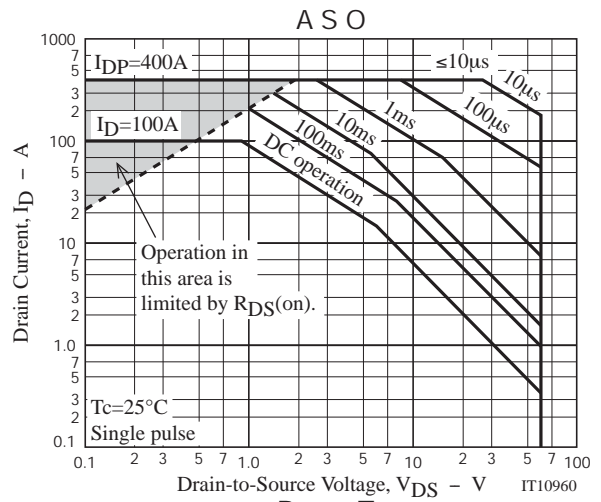
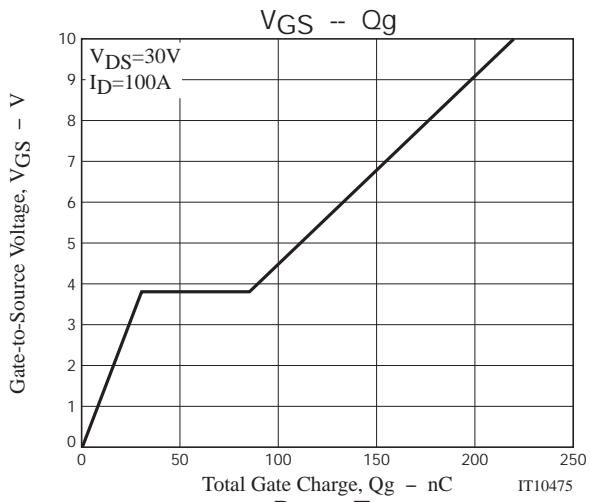
Fig.2 Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
2SK4066-1E	TO-262-3L	50pcs./magazine	Pb Free
2SK4066-DL-1E	TO-263-2L	800pcs./reel	





Taping Specification

2SK4066-DL-1E

1. Packing Format

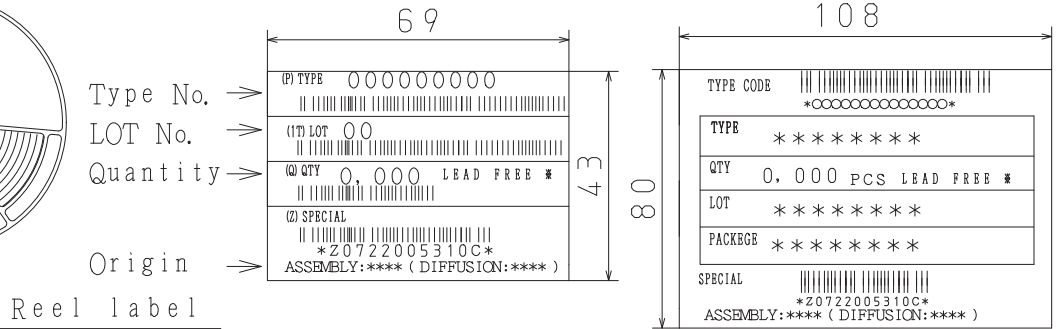
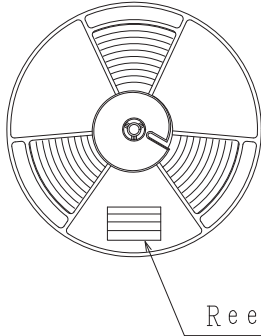
Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Reel	Inner box	Outer box	Inner BOX	Outer BOX
TO-263-2L	800	1600	6400	SPD-0V0011 2 reel contained Dimensions:mm (external) 351×340×68	SPD-0V0009 4 inner boxes contained Dimensions:mm (external) 390×370×318

Reel label, Inner box label (unit:mm)

Outer box label

Packing method

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



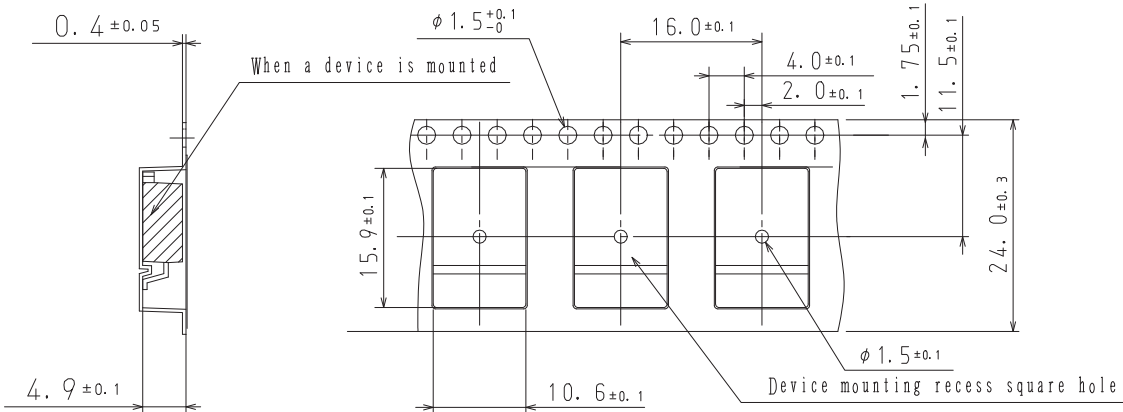
NOTE (1)

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

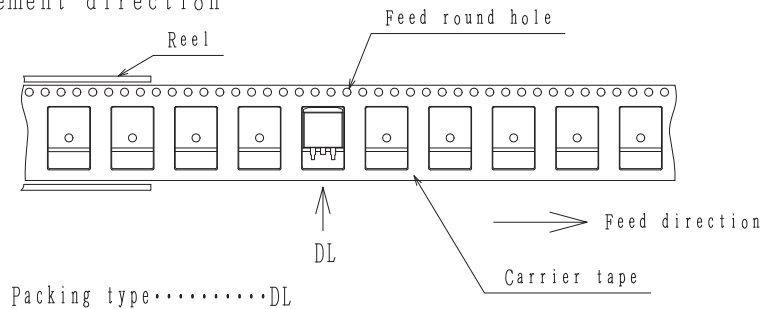
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

2. Taping configuration

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



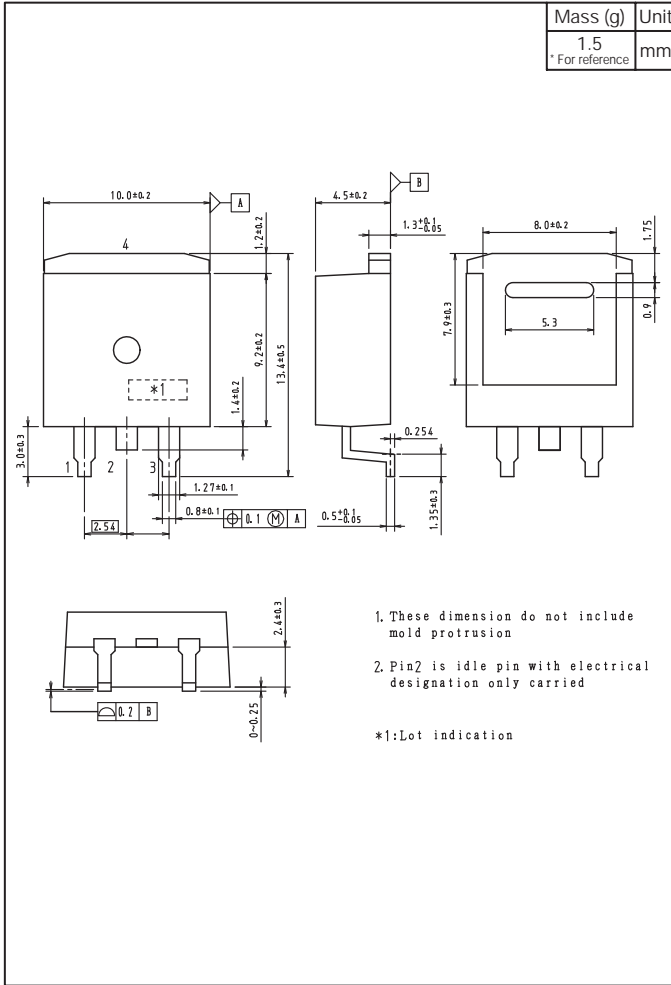
2-2. Device placement direction



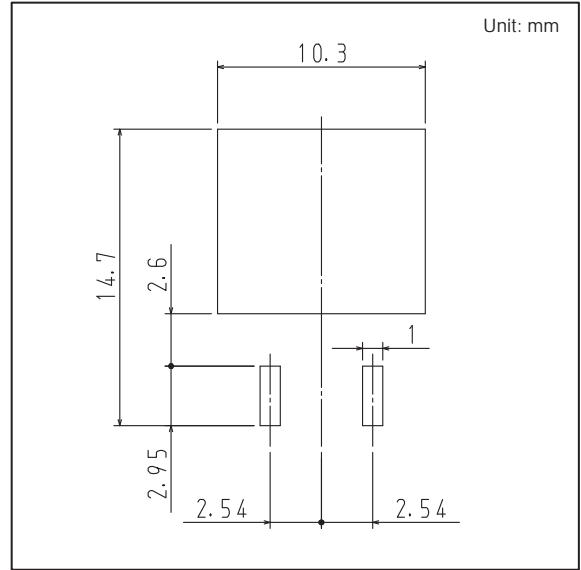
# 2SK4066

## Outline Drawing

2SK4066-DL-1E



## Land Pattern Example



Magazine Specification

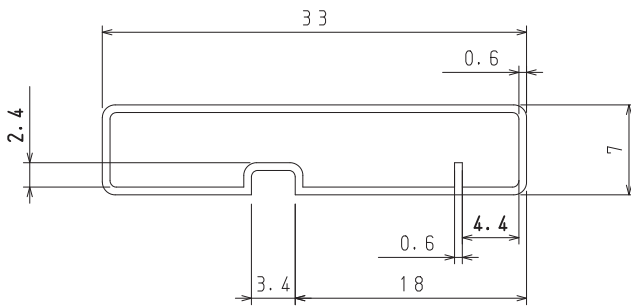
2SK4066-1E

1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-262-3L	50	1,000	4000	SPD-0V0001 20 magazines contained Dimensions:mm (external) 568×150×55	SPD-LV0010 4 inner boxes contained Dimensions:mm (external) 590×225×178

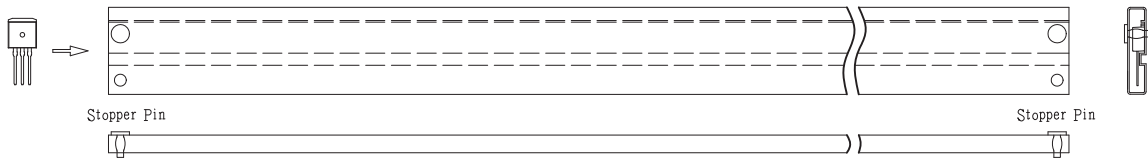
2. Magazine dimensions

(unit:mm)

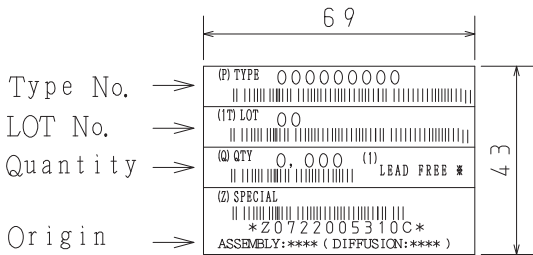


Tolerance=±0.2mm  
 Thickness=0.6+0.2/-0mm  
 Length =512.6±1mm  
 Material =PVC (Antistatic treatment)

3. Storage method to magazine

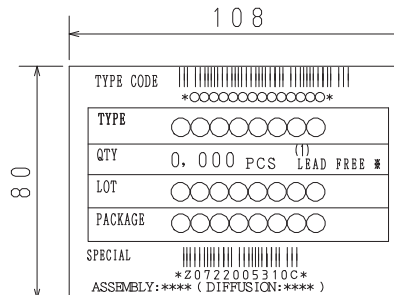


4. Inner box label (unit:mm)



5. Outer box label (unit:mm)

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



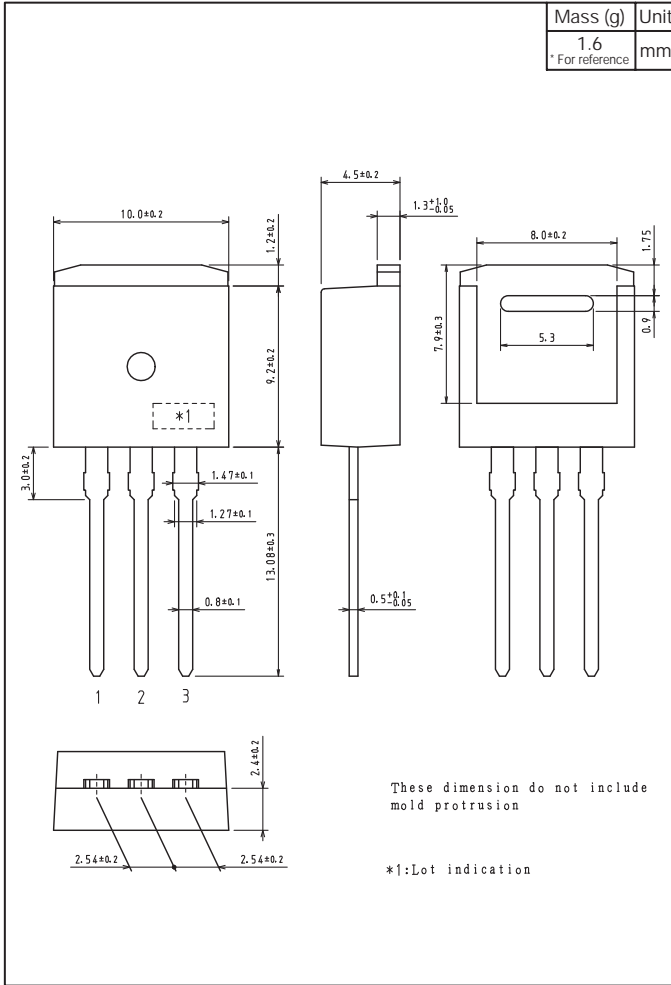
NOTE (1)

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

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

Outline Drawing

2SK4066-1E





Note on usage : Since the 2SK4066 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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