



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SJ661 — P-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)} = 29.5\text{m}\Omega$ (typ.)
- Input capacitance $C_{iss} = 4360\text{pF}$ (typ.)
- 4V drive

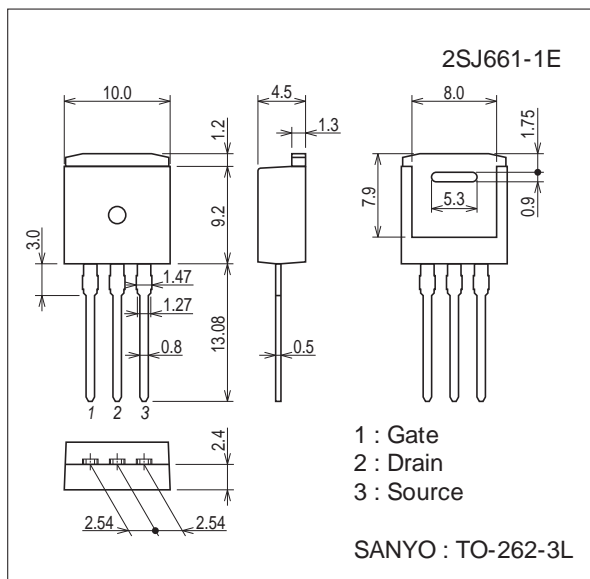
Specifications

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

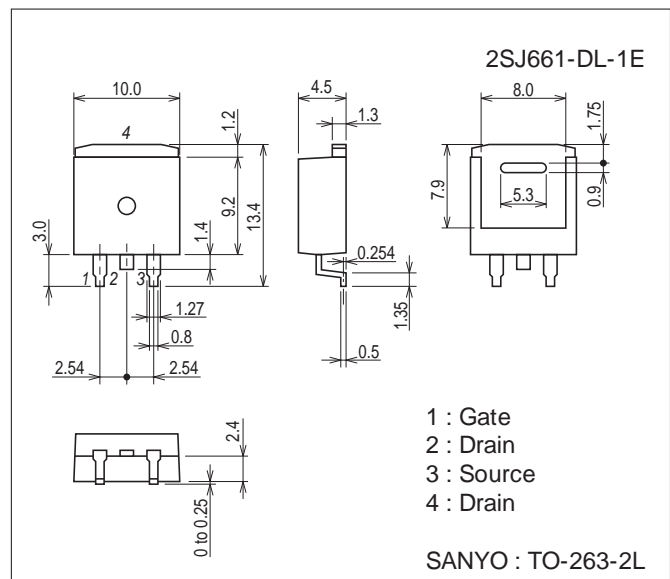
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-60	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-38	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-152	A
Allowable Power Dissipation	P_D		1.65	W
		$T_c = 25^\circ\text{C}$	65	W

Continued on next page.

Package Dimensions unit : mm (typ)
7537-001



Package Dimensions unit : mm (typ)
7535-001

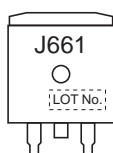


Product & Package Information

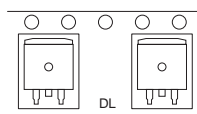
- Package : TO-262-3L
- JEITA, JEDEC : TO-262
- Minimum Packing Quantity : 50pcs./magazine

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

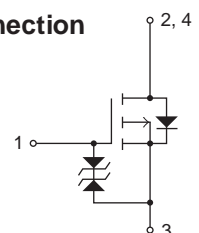
Marking



Packing Type : DL



Electrical Connection



2SJ661

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		250	mJ
Avalanche Current *2	I _{AV}		-38	A

Note : *1 V_{DD}=-30V, L=200μH, I_{AV}=-38A (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 _D =-1mA, V _{GS} =0V	-60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, 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 =-19A	18	31		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-19A, V _{GS} =-10V		29.5	39	mΩ
	R _{DS(on)2}	I _D =-19A, V _{GS} =-4V		40	56	mΩ
Input Capacitance	C _{iss}			4360		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		470		pF
Reverse Transfer Capacitance	C _{rss}			335		pF
Turn-ON Delay Time	t _{d(on)}	See Fig.2		33		ns
Rise Time	t _r			285		ns
Turn-OFF Delay Time	t _{d(off)}			295		ns
Fall Time	t _f			195		ns
Total Gate Charge	Q _g				80	
Gate-to-Source Charge	Q _{gs}	V _{DS} =-30V, V _{GS} =-10V, I _D =-38A		15		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			12		nC
Diode Forward Voltage	V _{SD}	I _S =-38A, V _{GS} =0V		-1.0	-1.2	V

Fig.1 Avalanche Resistance Test Circuit

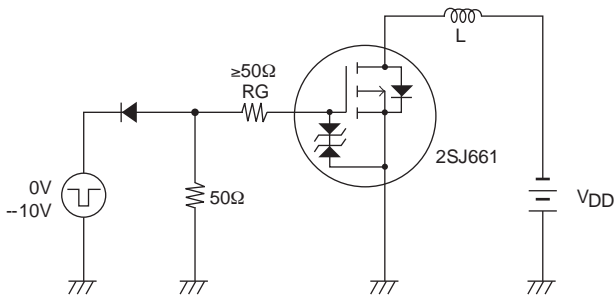
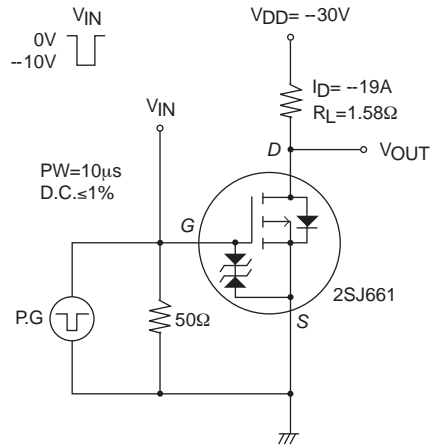
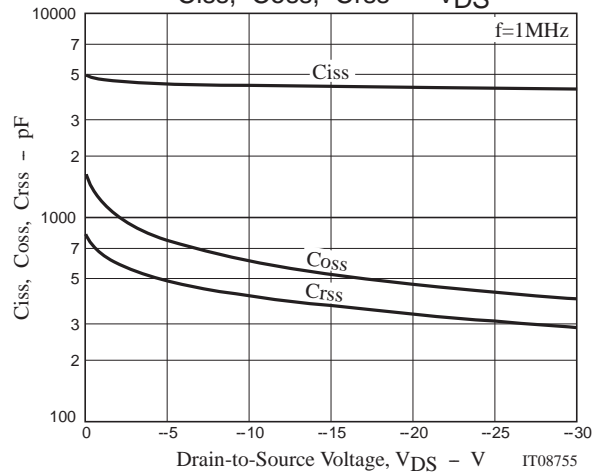
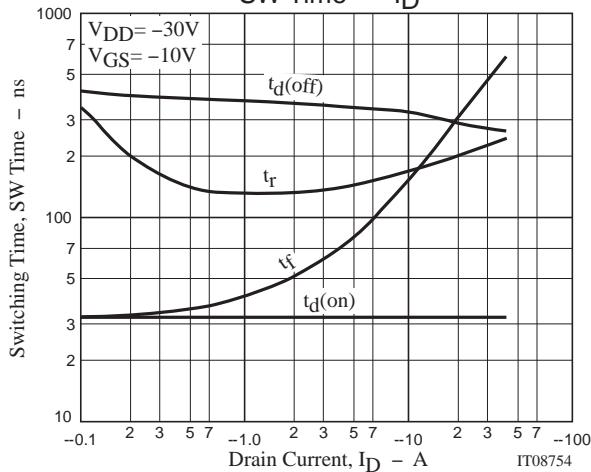
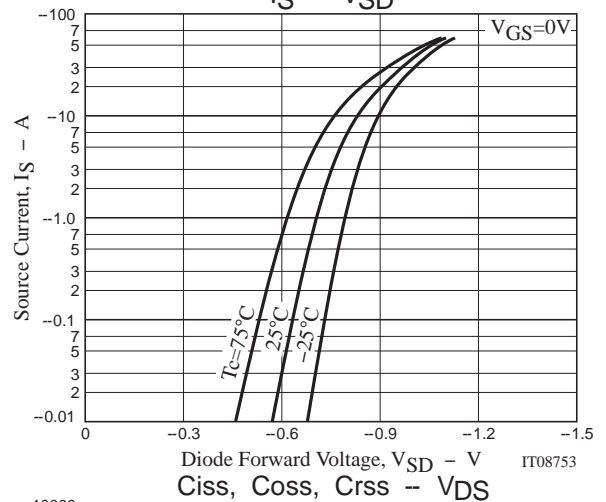
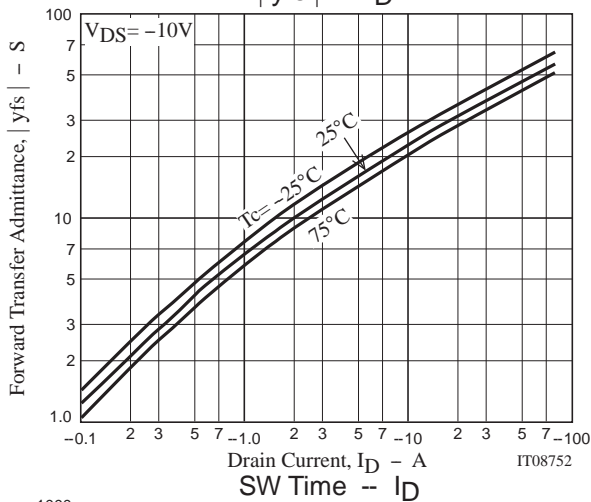
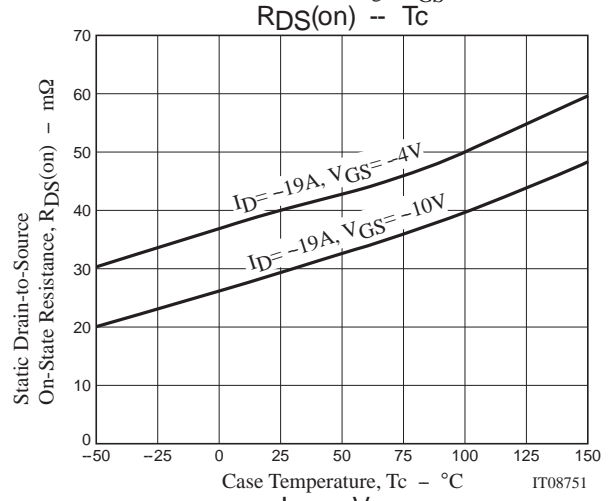
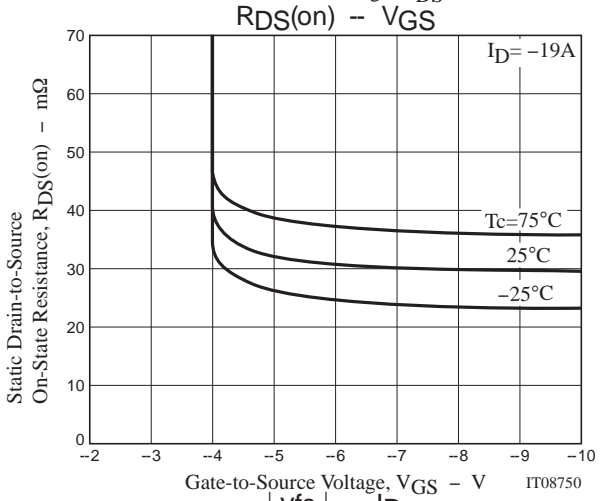
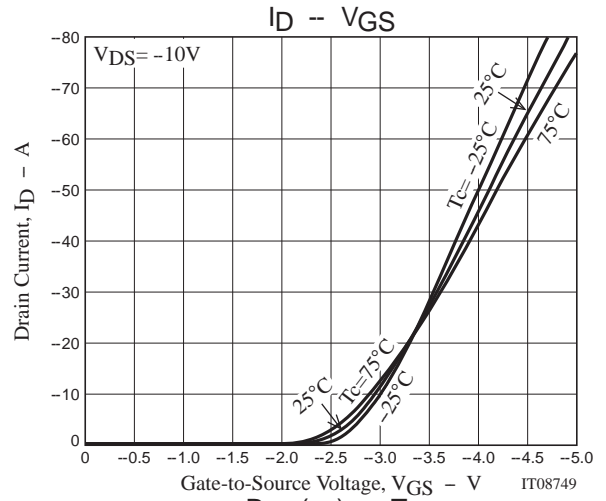
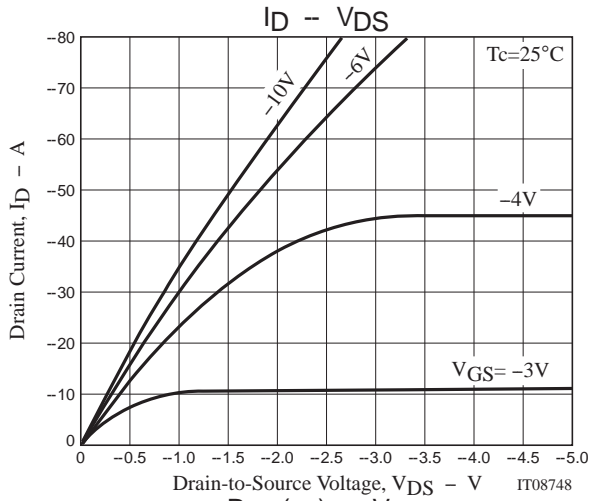


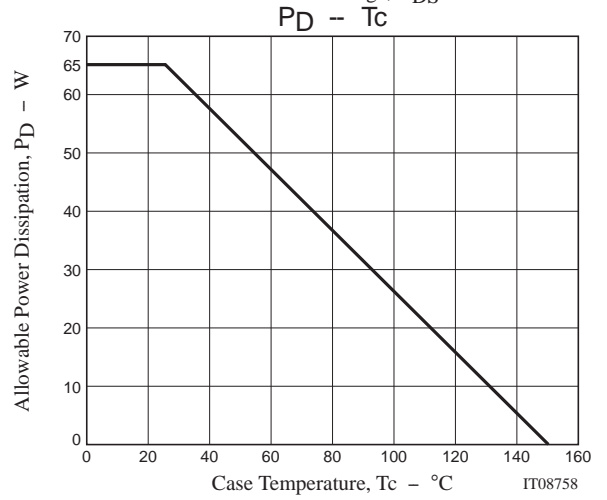
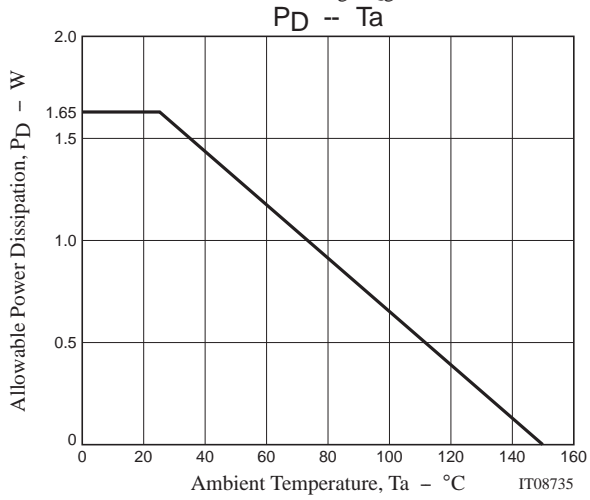
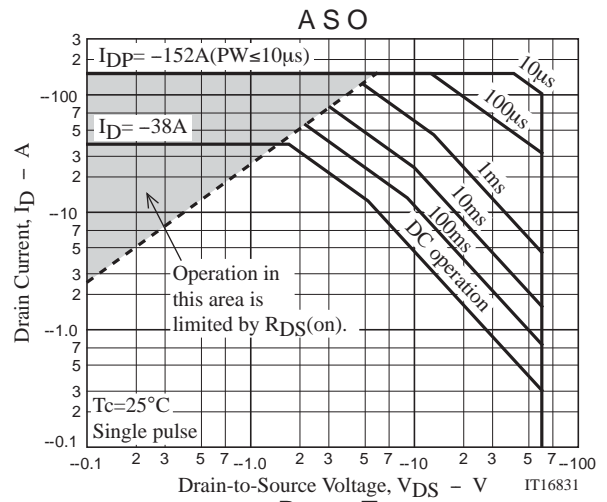
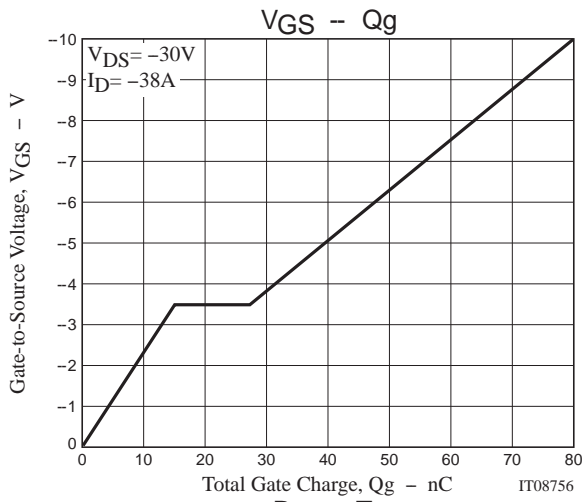
Fig.2 Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
2SJ661-1E	TO-262-3L	50pcs./magazine	Pb Free
2SJ661-DL-1E	TO-263-2L	800pcs./reel	





Taping Specification

2SJ661-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

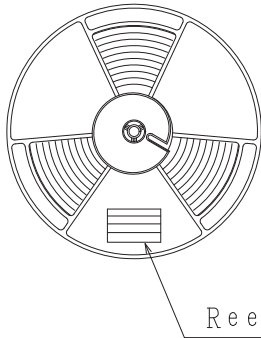
Reel label, Inner box label

Outer box label

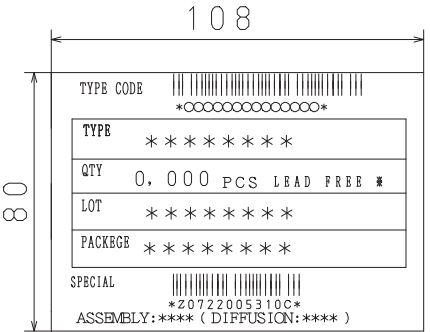
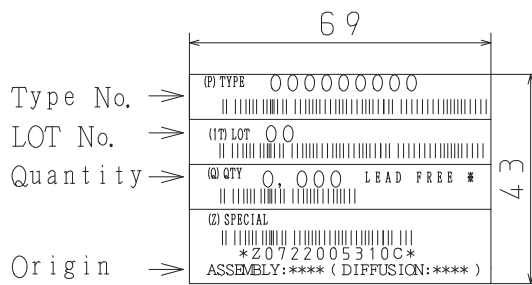
Packing method

(unit:mm)

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



Reel label



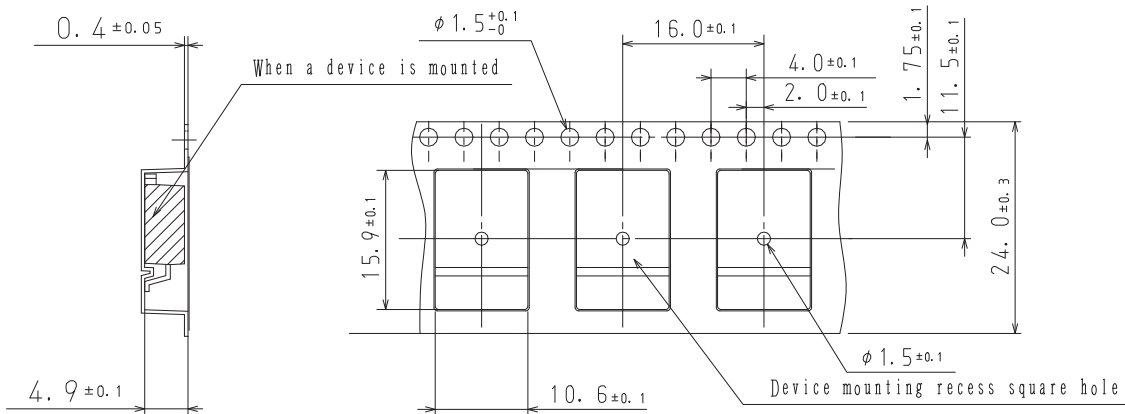
NOTE (1)

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

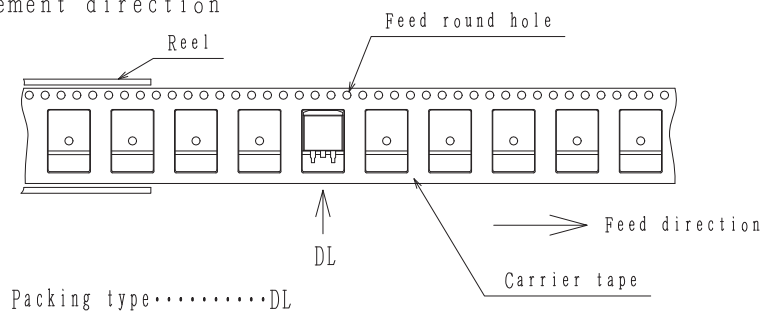
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

2. Taping configuration

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



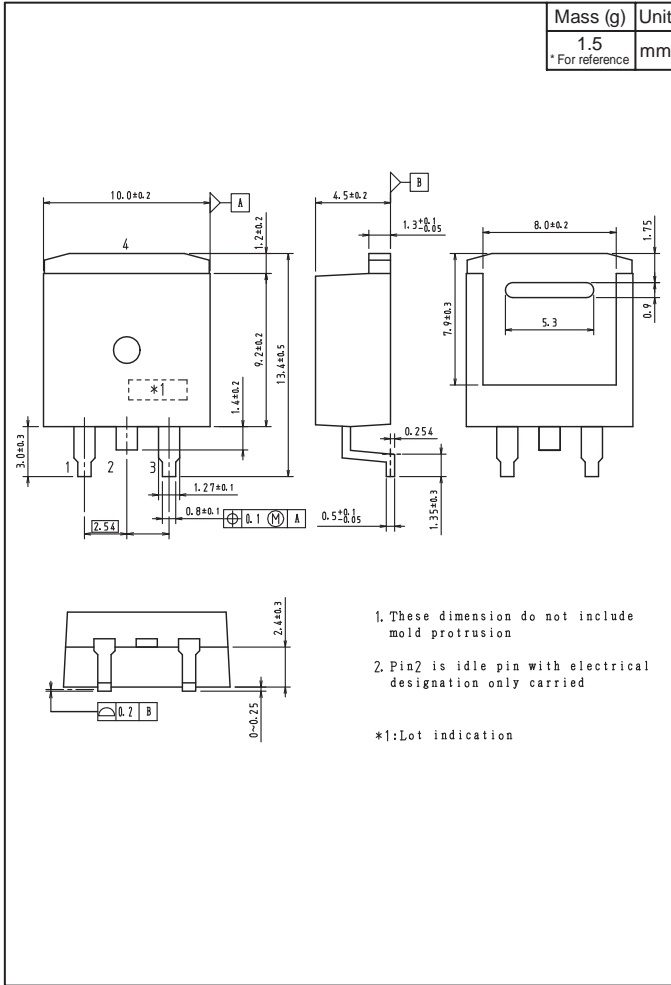
2-2. Device placement direction



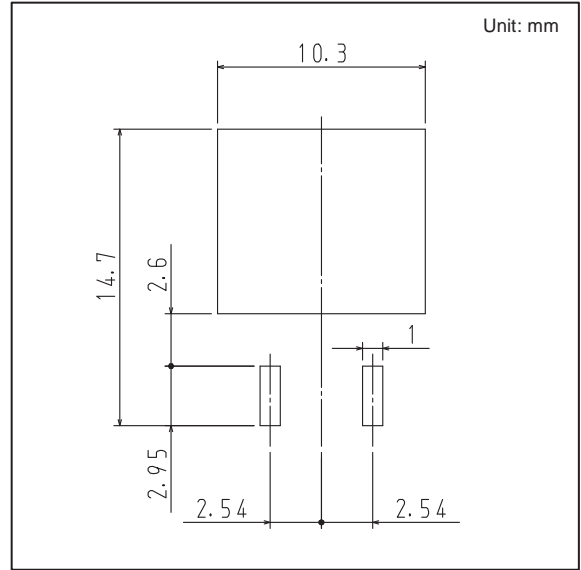
2SJ661

Outline Drawing

2SJ661-DL-1E



Land Pattern Example



2SJ661

Magazine Specification

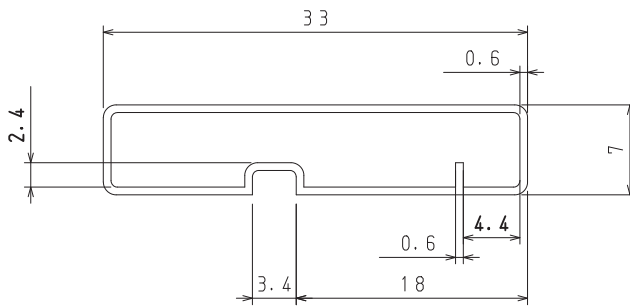
2SJ661-1E

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

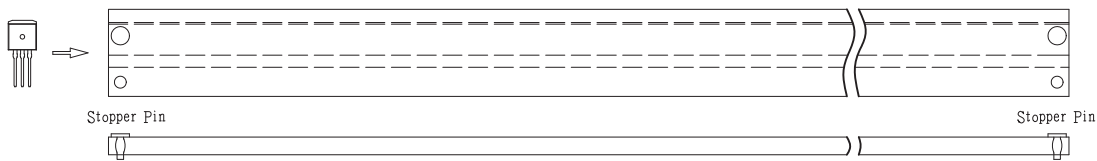
2. Magazine dimensions

(unit:mm)

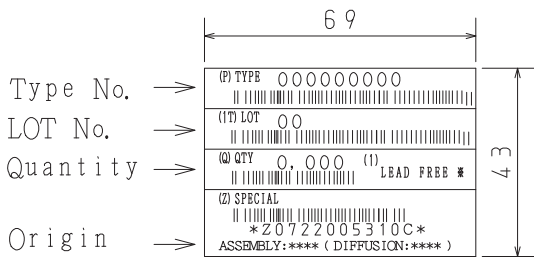


Tolerance=±0.2mm
 Thickness=0.6+0.2/-0mm
 Length =512.6±1mm
 Material =PVC (Antistatic treatment)

3. Storage method to magazine

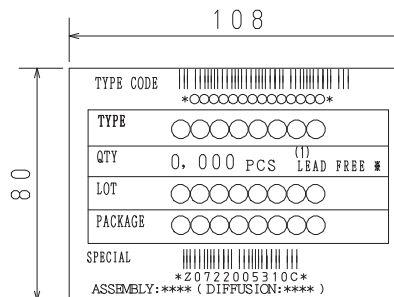


4. Inner box label (unit:mm)



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.



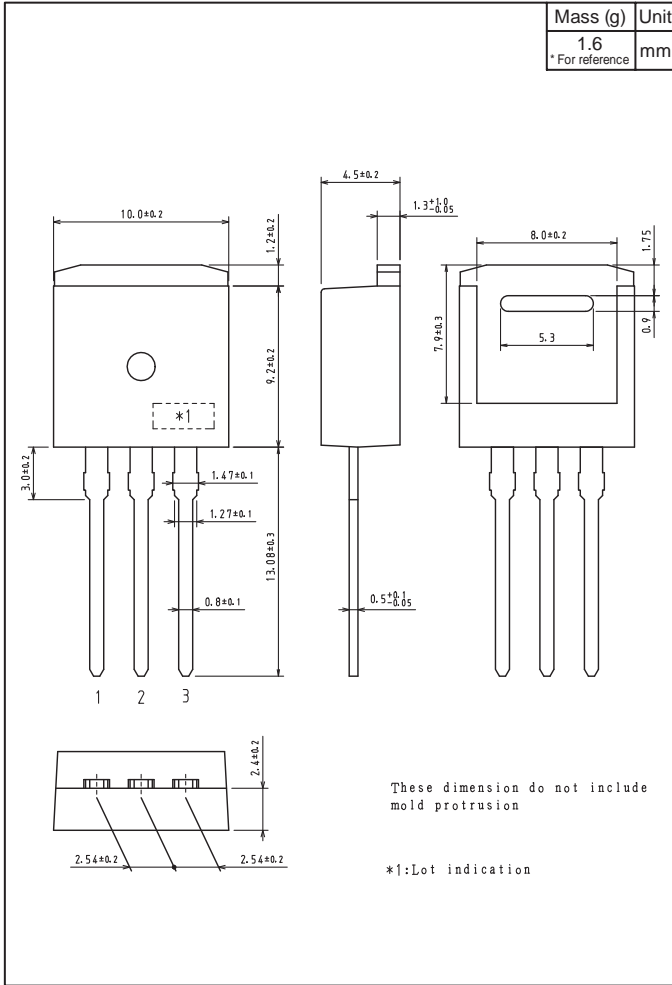
NOTE (1)

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

2SJ661-1E



Note on usage : Since the 2SJ661 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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