



3LN01S — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance
- Ultrahigh-speed switching
- 2.5V drive

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		30	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		0.15	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	0.6	A
Allowable Power Dissipation	P _D		0.15	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

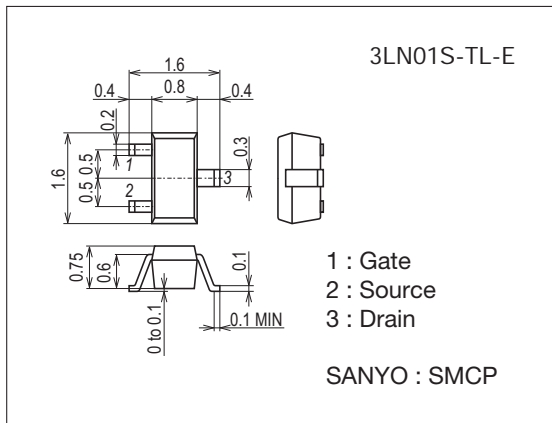
This product is designed to "ESD immunity < 200V*", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

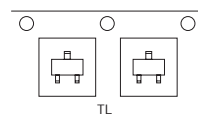
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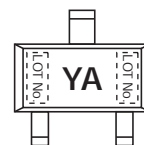
Product & Package Information

- Package : SMCP
- JEITA, JEDEC : SC-75, SOT-416
- Minimum Packing Quantity : 3,000 pcs./reel

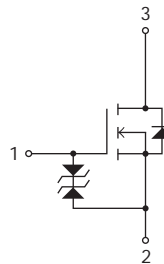
Packing Type: TL



Marking



Electrical Connection

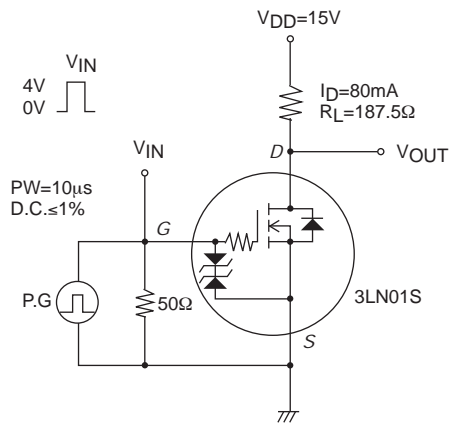


3LN01S

Electrical Characteristics at Ta=25°C

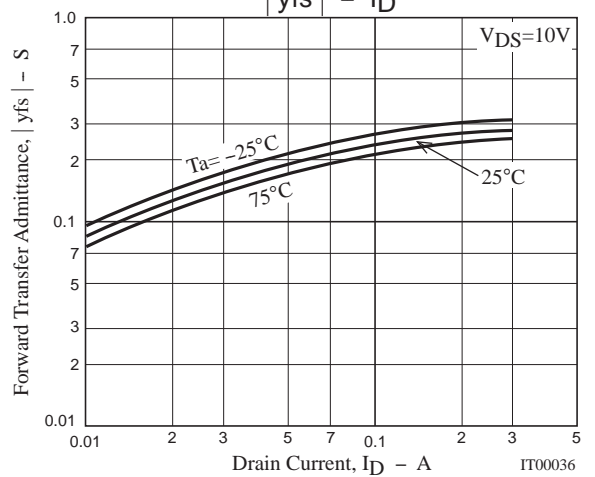
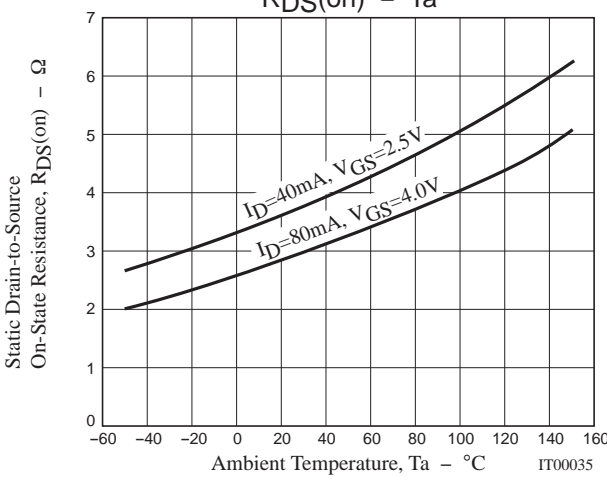
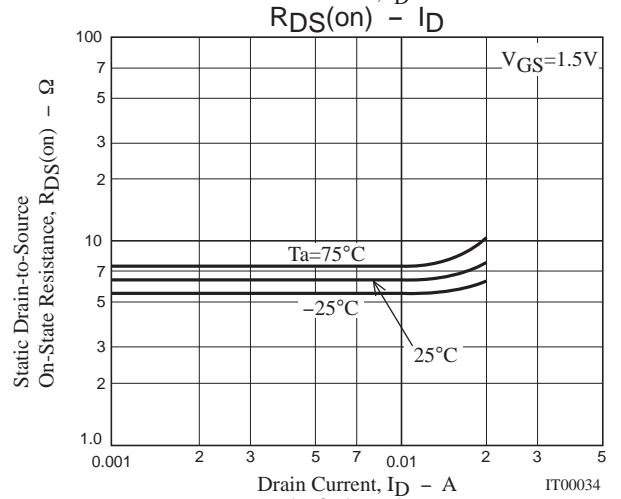
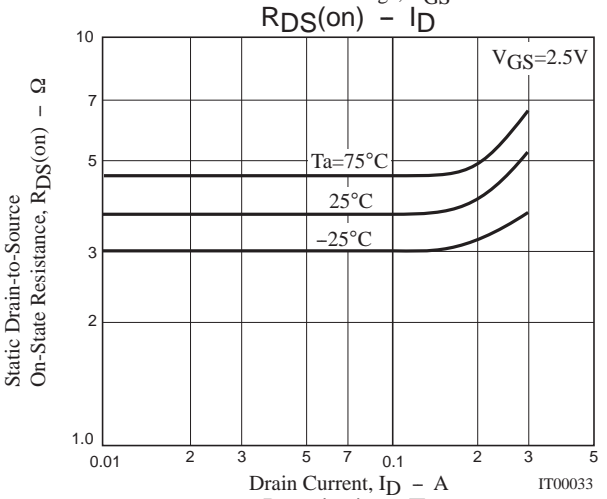
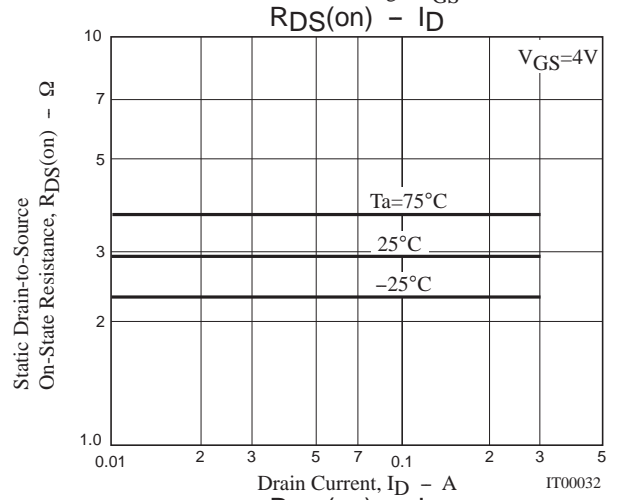
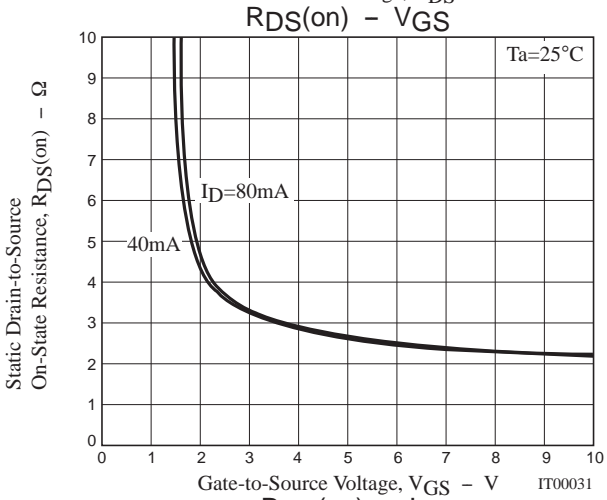
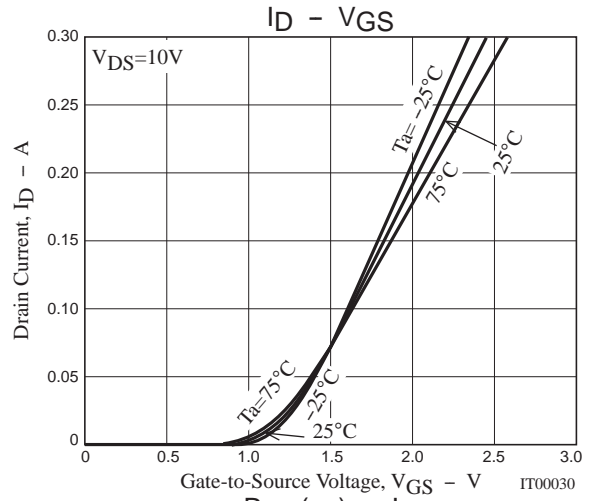
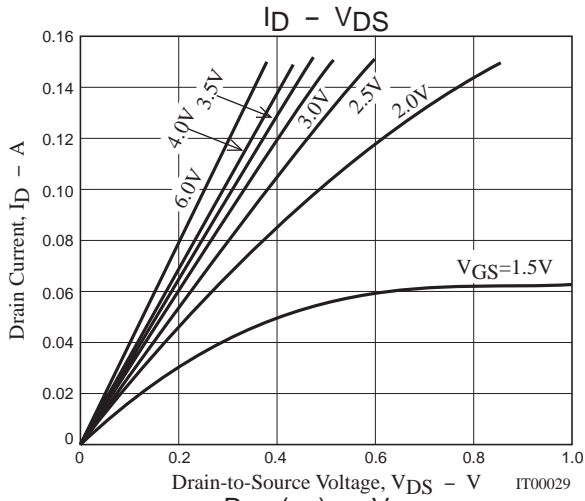
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =100μA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =80mA	0.15	0.22		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =80mA, V _{GS} =4V		2.9	3.7	Ω
	R _{DS(on)2}	I _D =40mA, V _{GS} =2.5V		3.7	5.2	Ω
	R _{DS(on)3}	I _D =10mA, V _{GS} =1.5V		6.4	12.8	Ω
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		7.0		pF
Output Capacitance	C _{oss}			5.9		pF
Reverse Transfer Capacitance	C _{rss}			2.3		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		19	
Rise Time	t _r			65		ns
Turn-OFF Delay Time	t _{d(off)}			155		ns
Fall Time	t _f			120		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =150mA			1.58	
Gate-to-Source Charge	Q _{gs}			0.26		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			0.31		nC
Diode Forward Voltage	V _{SD}		I _S =150mA, V _{GS} =0V		0.87	1.2

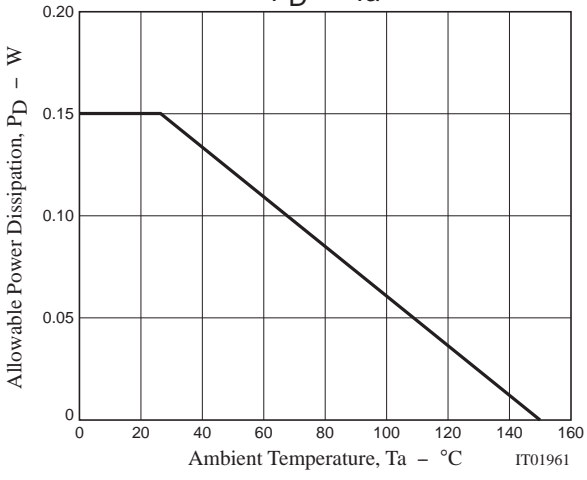
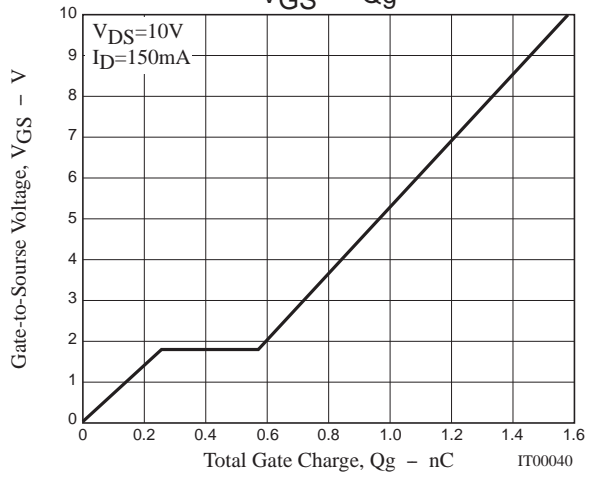
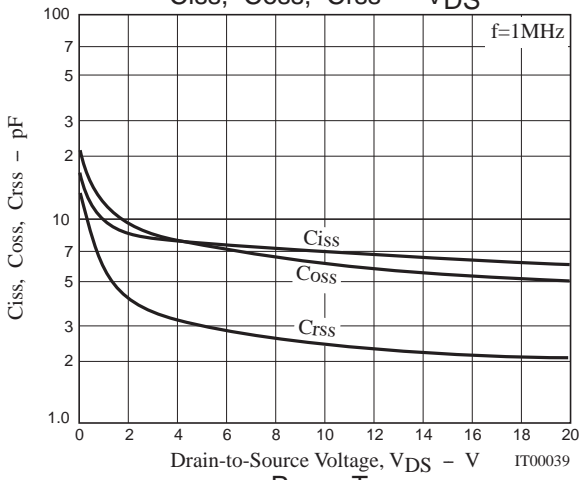
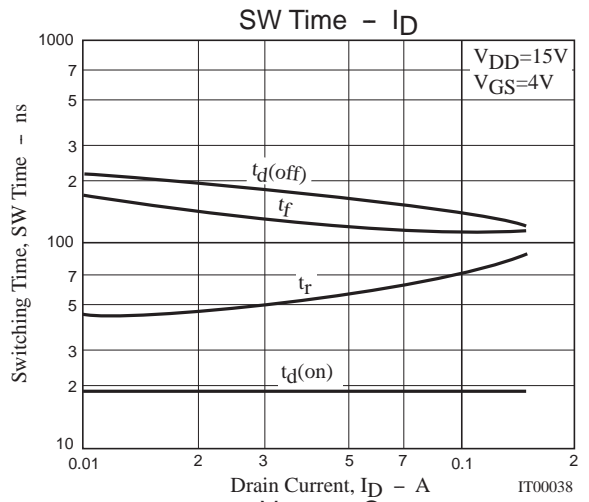
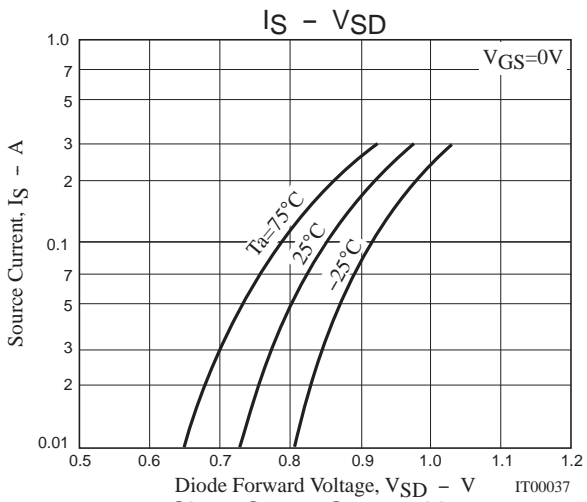
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
3LN01S-TL-E	SMCP	3,000pcs./reel	Pb Free





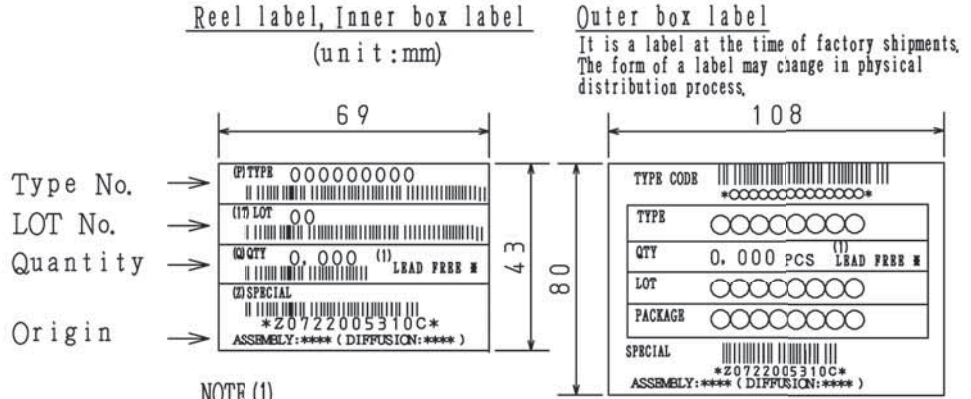
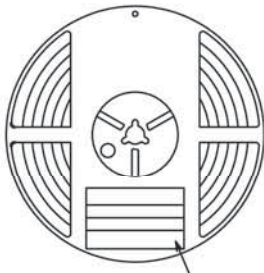
Embossed Taping Specification

3LN01S-TL-E

1. Packing Format

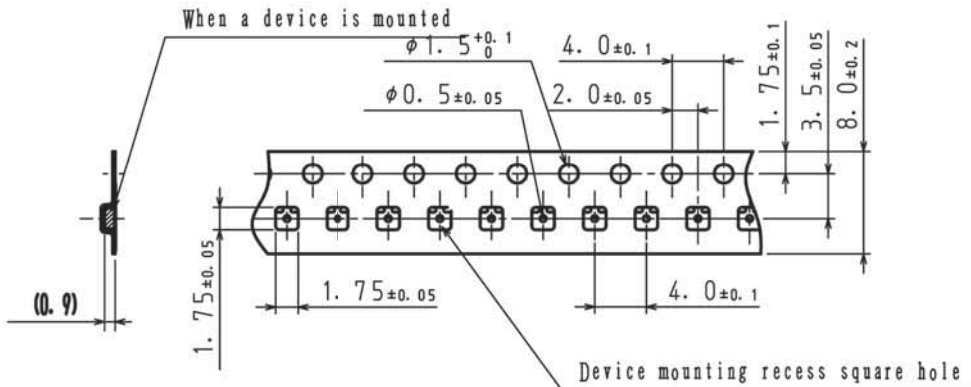
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SMCP	SMCP	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method

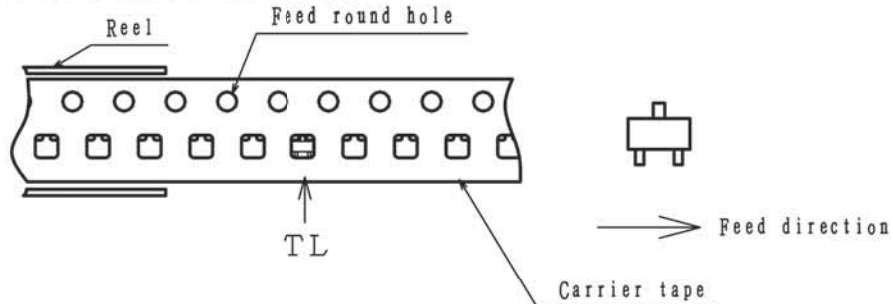


2. Taping configuration

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



2-2. Device placement direction

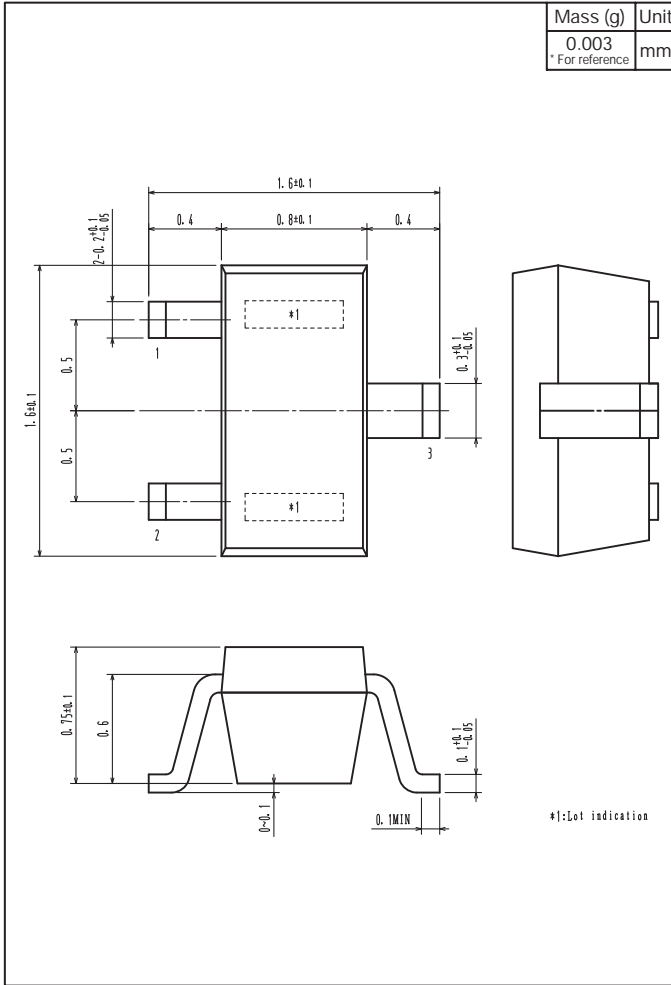


Those with one electrode terminal on the feed hole side.....TL

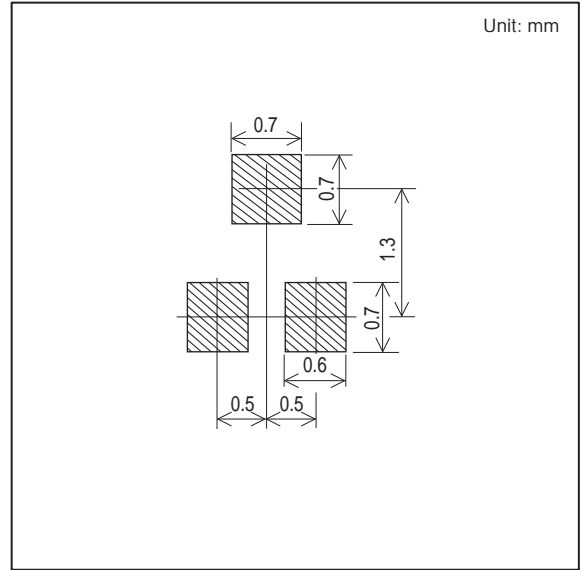
3LN01S

Outline Drawing

3LN01S-TL-E



Land Pattern Example



Note on usage : Since the 3LN01S is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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