



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

3LN01SS — 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

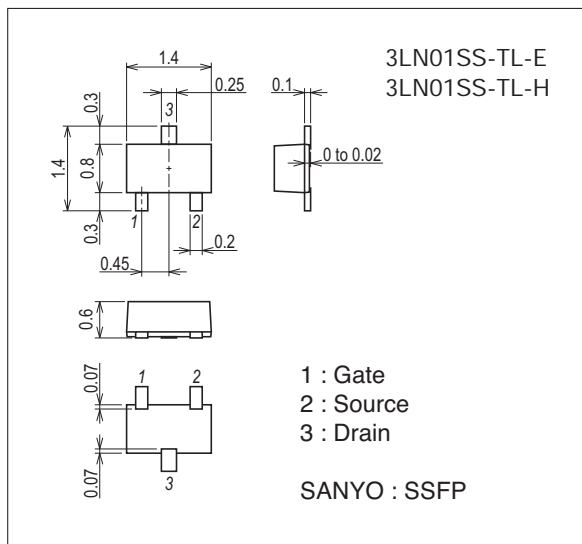
This product is designed to "ESD immunity < 200V**", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

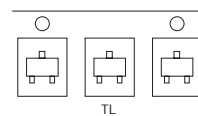
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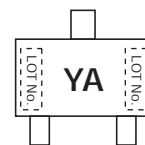
Product & Package Information

- Package : SSFP
- JEITA, JEDEC : SC-81
- Minimum Packing Quantity : 8,000 pcs./reel

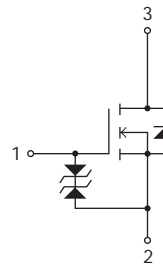
Packing Type: TL



Marking



Electrical Connection

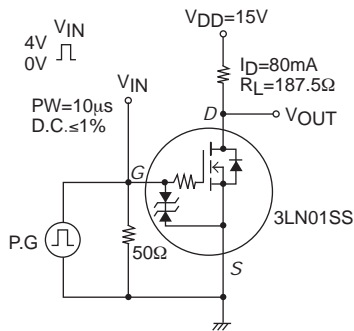


3LN01SS

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=100μA	0.4		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=80mA	0.15	0.22		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=80mA, VGS=4V		2.9	3.7	Ω
	RDS(on)2	ID=40mA, VGS=2.5V		3.7	5.2	Ω
	RDS(on)3	ID=10mA, VGS=1.5V		6.4	12.8	Ω
Input Capacitance	Ciss	VDS=10V, f=1MHz		7.0		pF
Output Capacitance	Coss			5.9		pF
Reverse Transfer Capacitance	Crss			2.3		pF
Turn-ON Delay Time	td(on)				19	ns
Rise Time	tr	See specified Test Circuit.			65	ns
Turn-OFF Delay Time	td(off)				155	ns
Fall Time	tf				120	ns
Total Gate Charge	Qg				1.58	nC
Gate-to-Source Charge	Qgs	VDS=10V, VGS=10V, ID=150mA			0.26	nC
Gate-to-Drain "Miller" Charge	Qgd				0.31	nC
Diode Forward Voltage	VSD		IS=150mA, VGS=0V		0.87	1.2

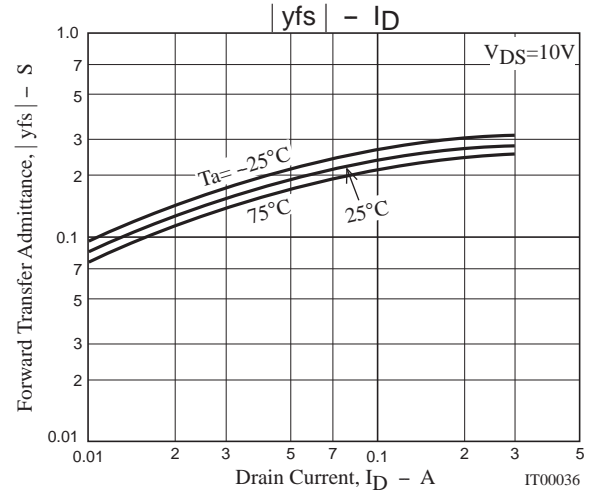
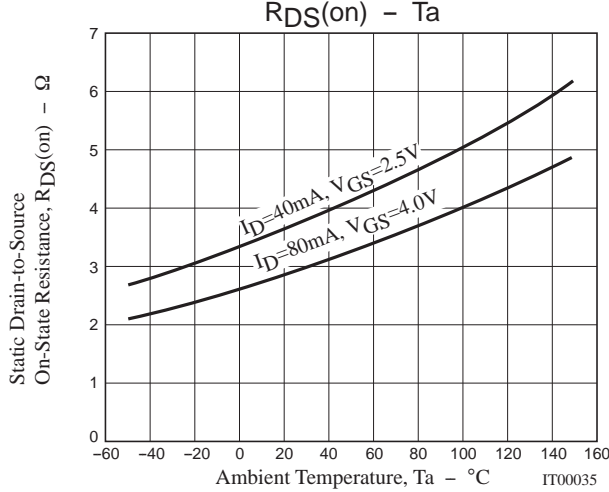
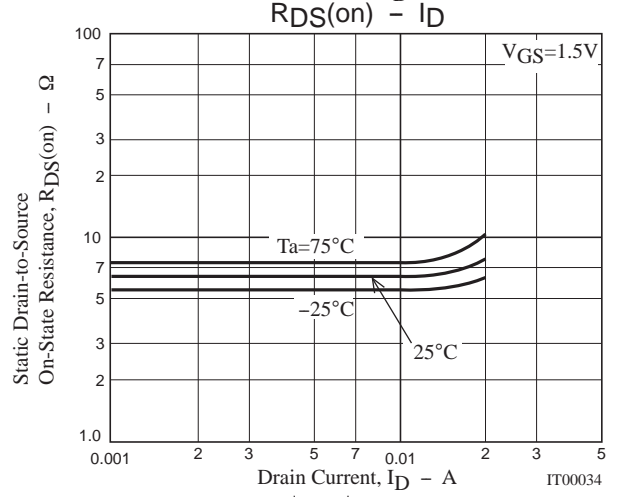
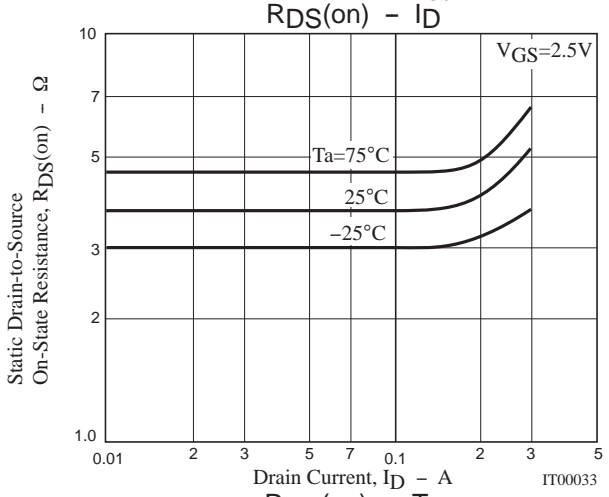
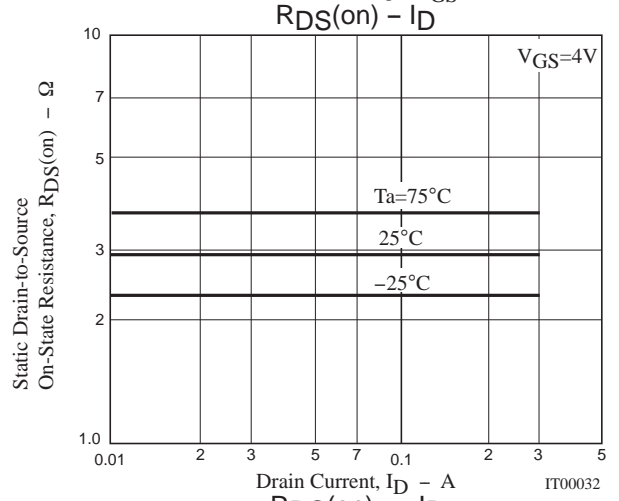
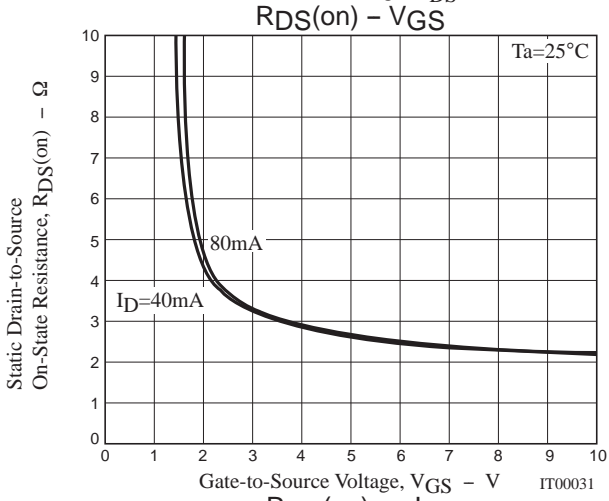
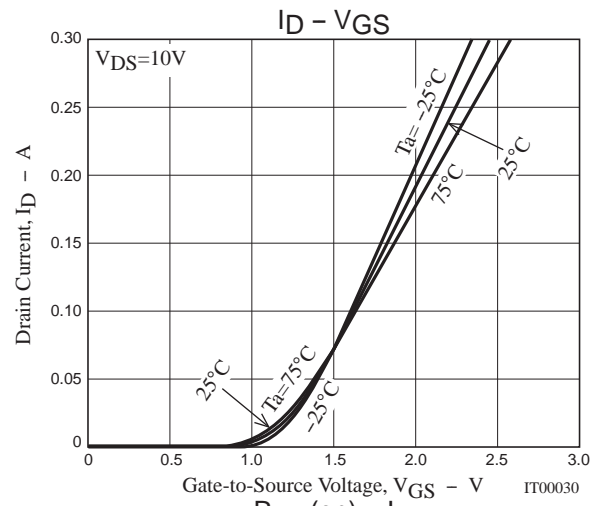
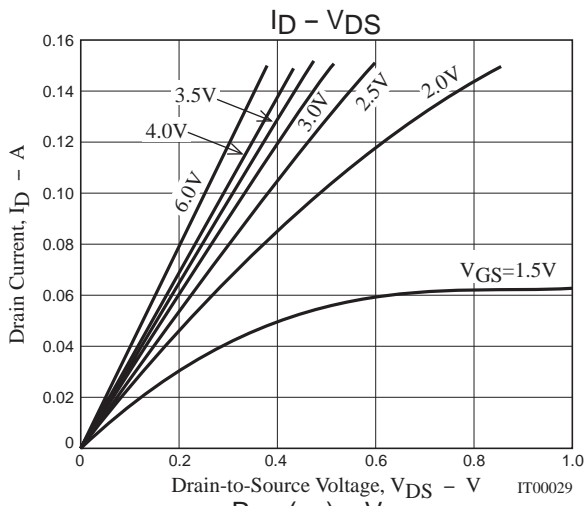
Switching Time Test Circuit



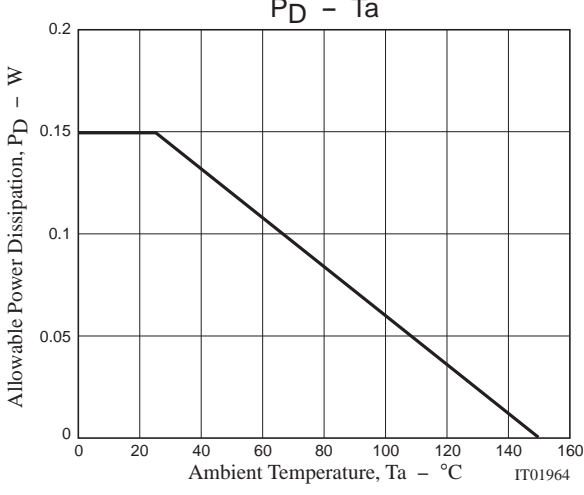
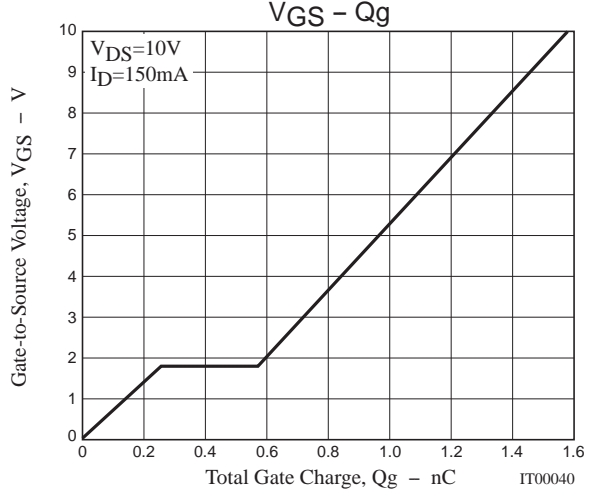
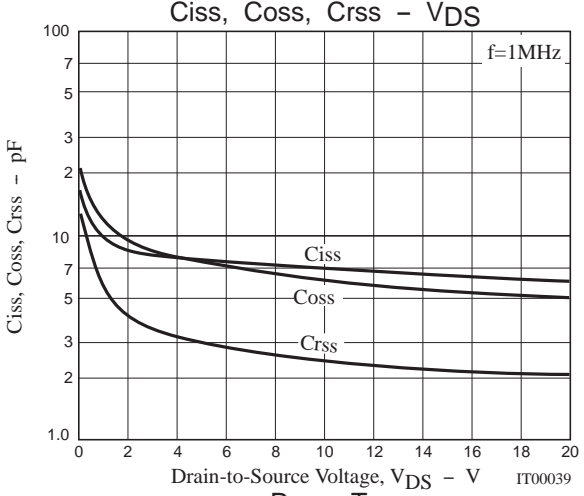
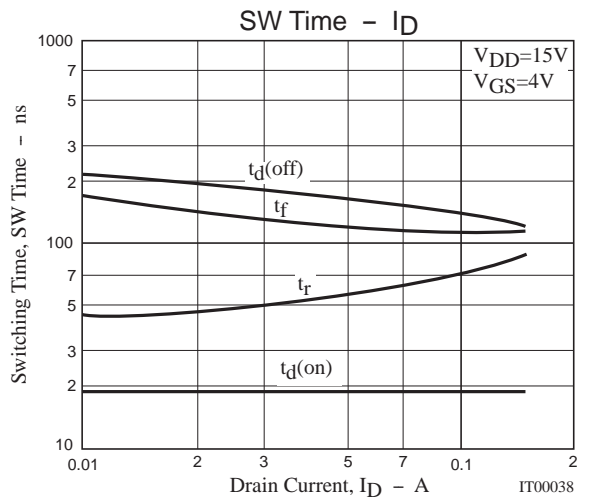
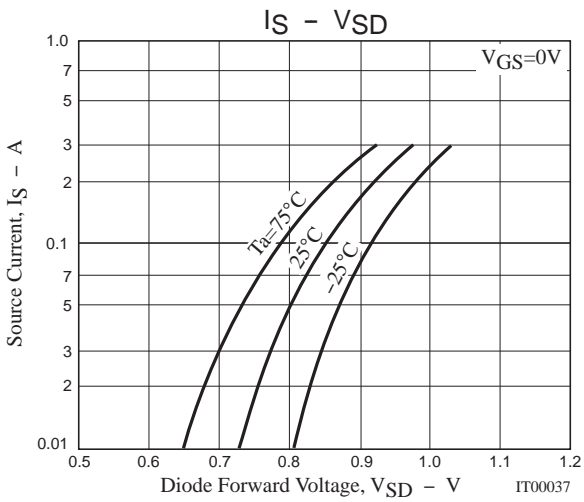
Ordering Information

Device	Package	Shipping	memo
3LN01SS-TL-E	SSFP	8,000pcs./reel	Pb Free
3LN01SS-TL-H	SSFP	8,000pcs./reel	Pb Free and Halogen Free

3LN01SS



3LN01SS

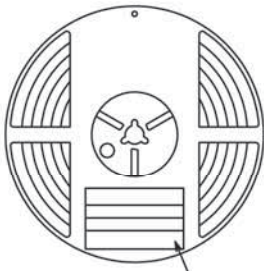


Embossed Taping Specification
3LN01SS-TL-E, 3LN01SS-TL-H

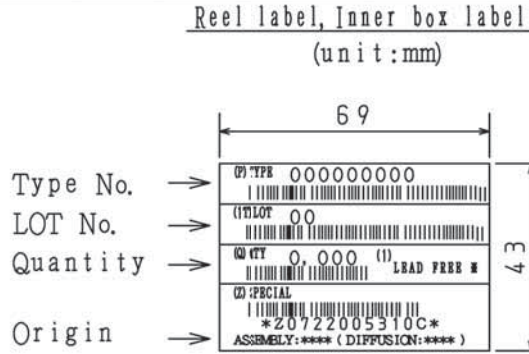
1. Packing Format

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)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimension::mm (external) 440×195×210

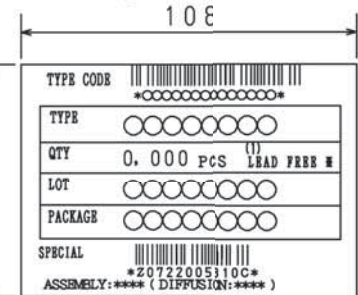
Packing method



Reel label



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



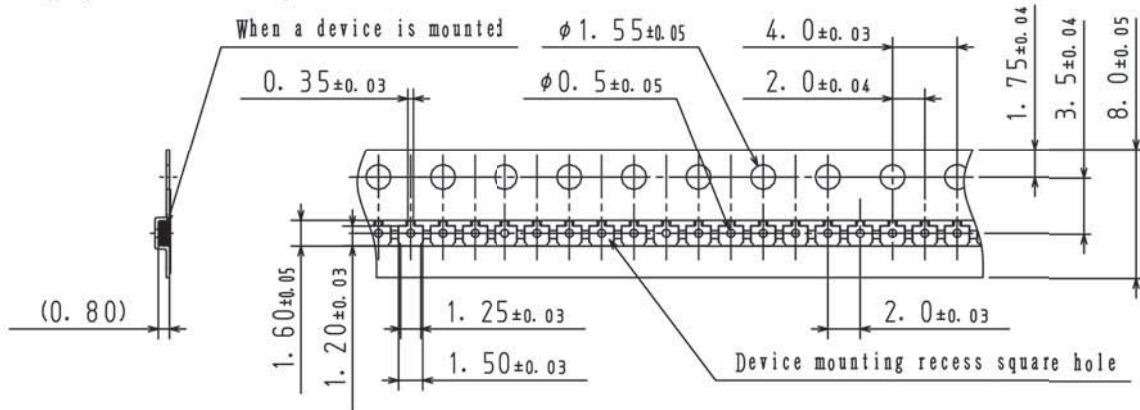
NOTE (1)

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

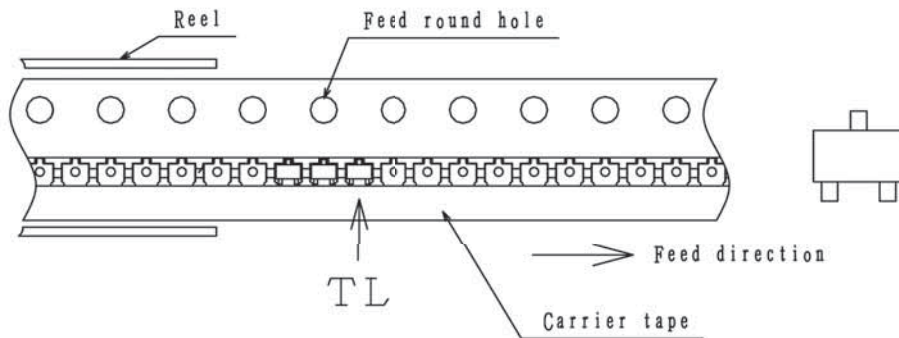
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

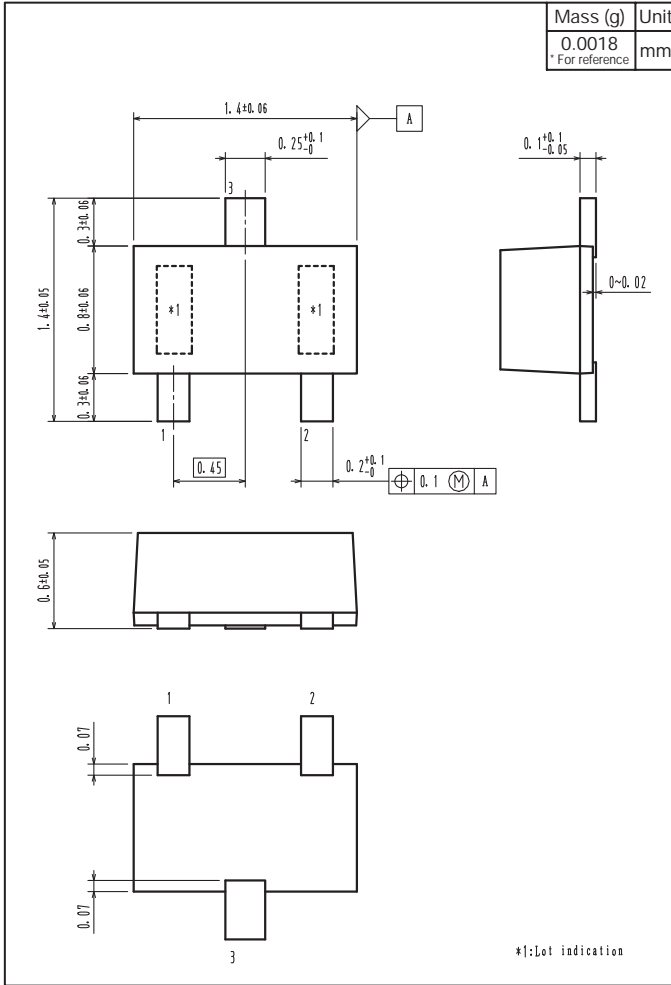


Those with pin 1 index on the feed hole side.....TL

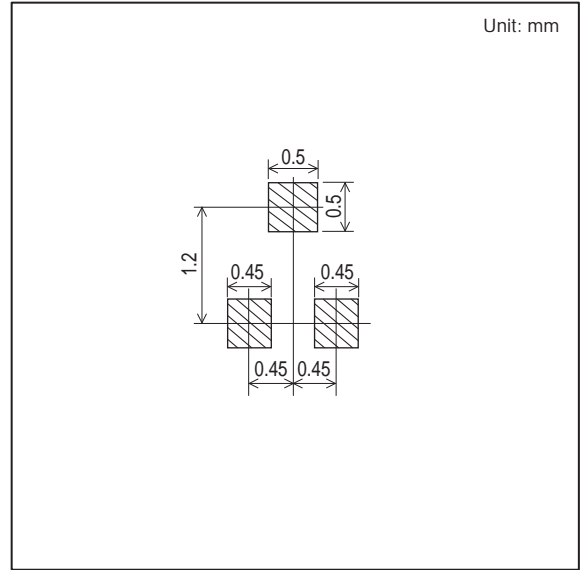
3LN01SS

Outline Drawing

3LN01SS-TL-E, 3LN01SS-TL-H



Land Pattern Example



Note on usage : Since the 3LN01SS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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