



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

5LN01SS — 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}		50	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		0.1	A
Drain Current (Pulse)	I _{DP}	PW _≤ 10μs, duty cycle _≤ 1%	0.4	A
Allowable Power Dissipation	P _D		0.15	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

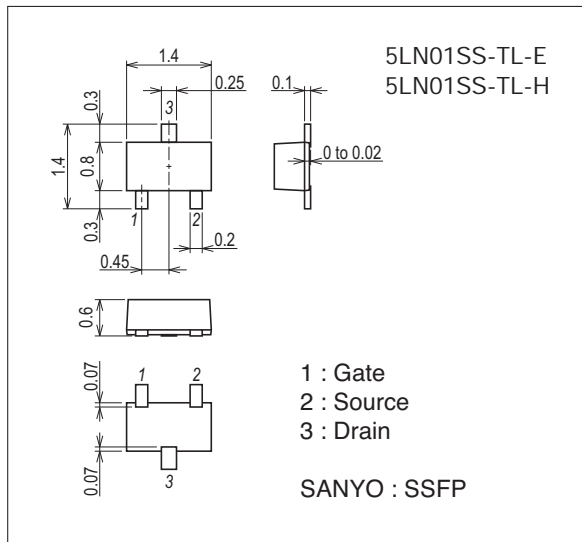
This product is designed to "ESD immunity < 200V**", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

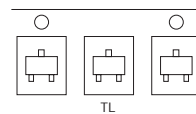
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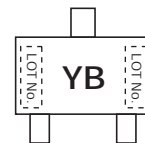
Product & Package Information

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

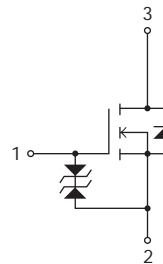
Packing Type: TL



Marking



Electrical Connection

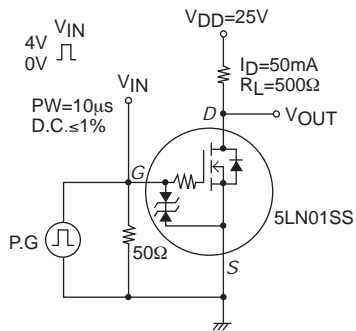


5LN01SS

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	50			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =50V, 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 =50mA	0.13	0.18		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =50mA, V _{GS} =4V		6	7.8	Ω
	R _{DS(on)2}	I _D =30mA, V _{GS} =2.5V		7.1	9.9	Ω
	R _{DS(on)3}	I _D =10mA, V _{GS} =1.5V		10	20	Ω
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		6.6		pF
Output Capacitance	C _{oss}			4.7		pF
Reverse Transfer Capacitance	C _{rss}			1.7		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		18	
Rise Time	t _r			42		ns
Turn-OFF Delay Time	t _{d(off)}			190		ns
Fall Time	t _f			105		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =100mA			1.57	
Gate-to-Source Charge	Q _{gs}			0.20		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			0.32		nC
Diode Forward Voltage	V _{SD}	I _S =100mA, V _{GS} =0V		0.85	1.2	V

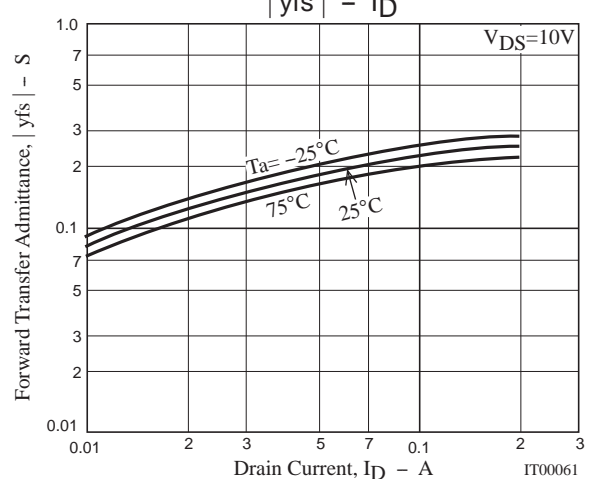
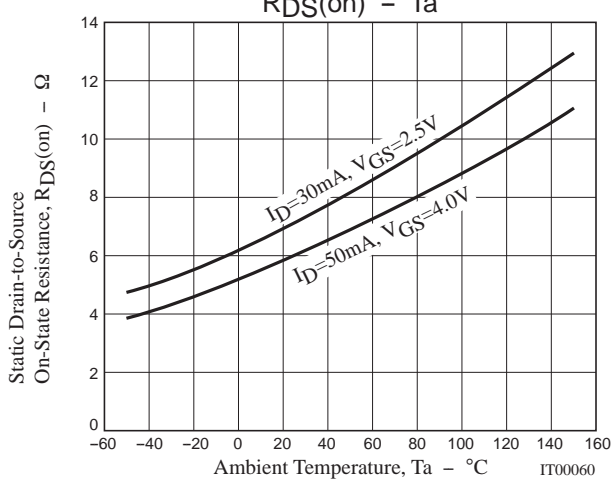
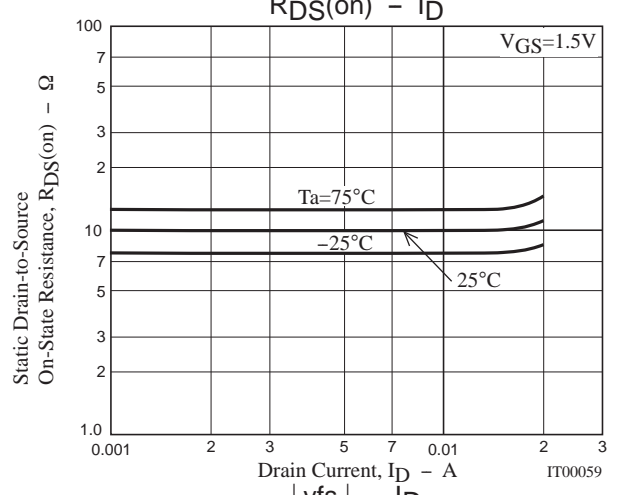
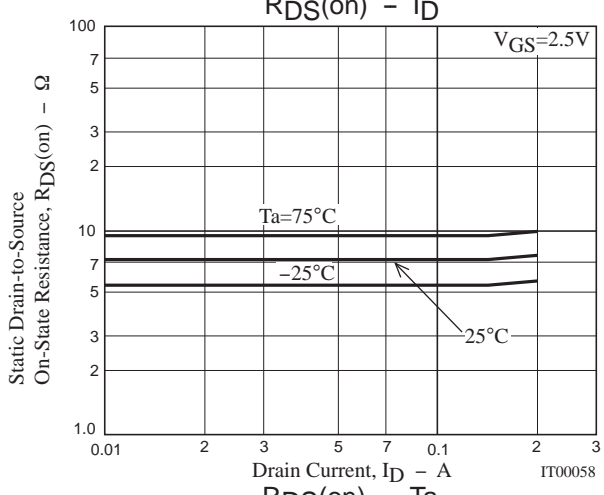
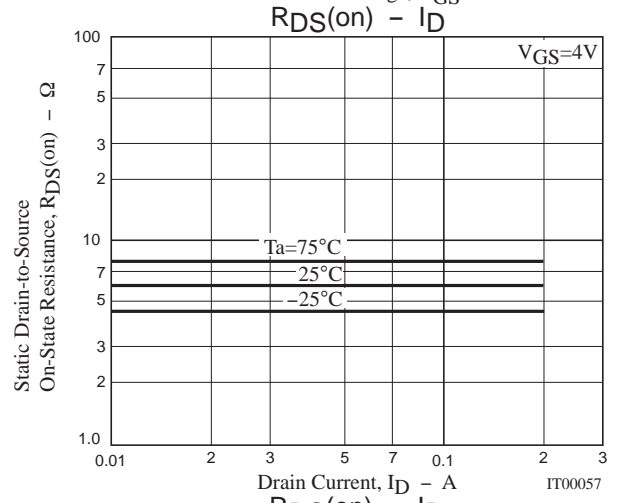
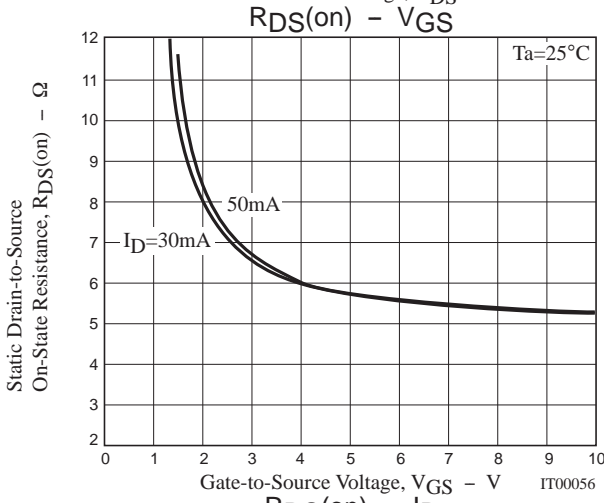
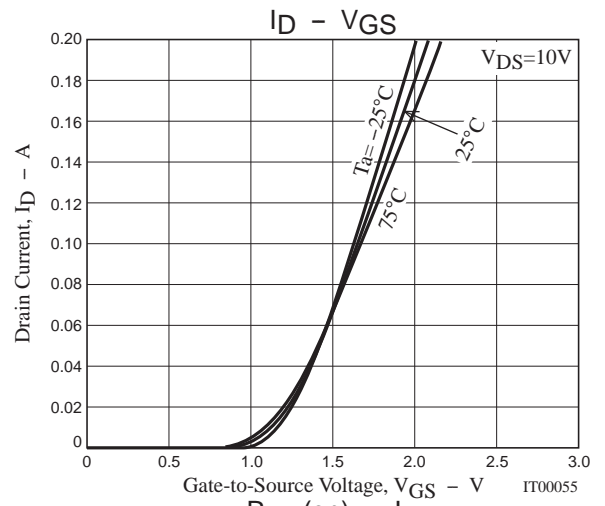
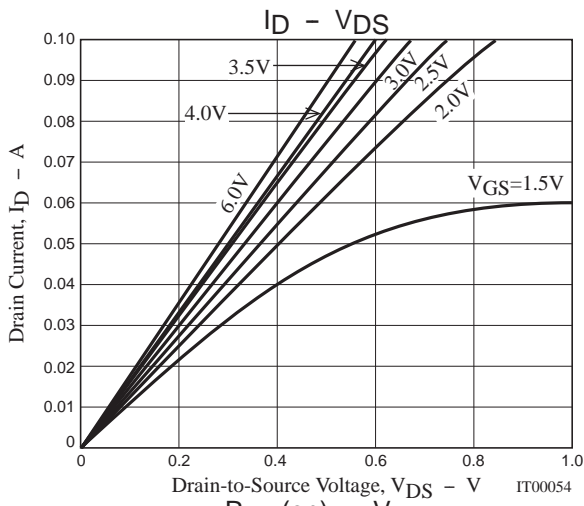
Switching Time Test Circuit



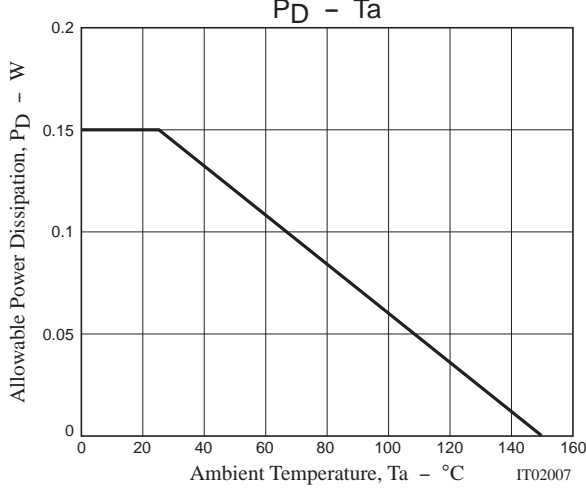
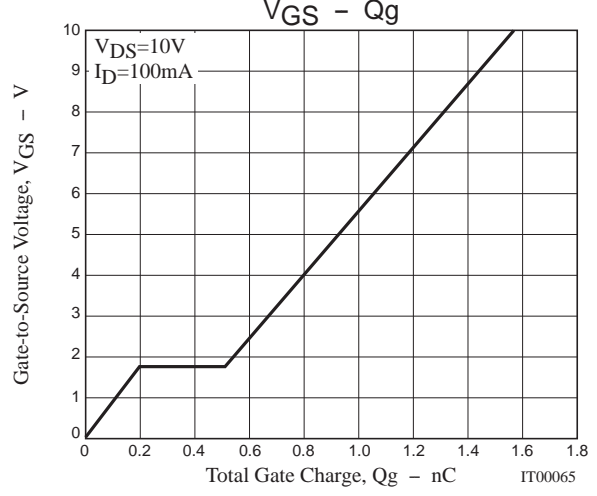
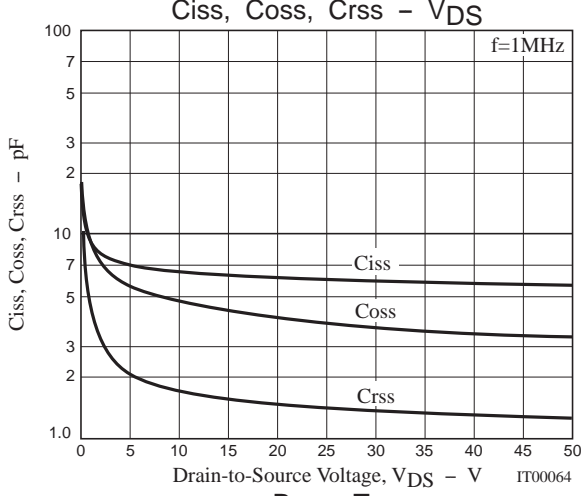
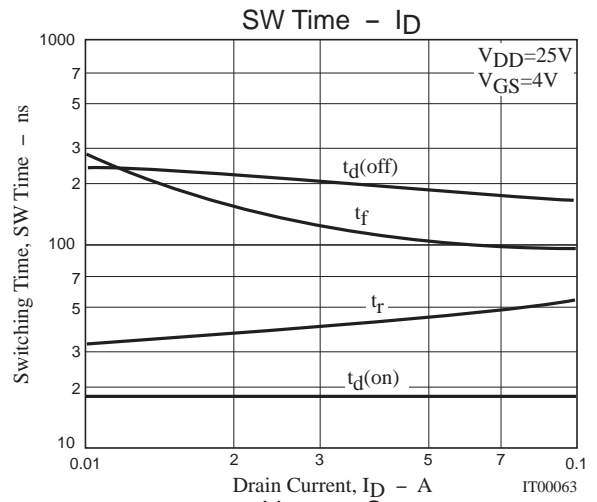
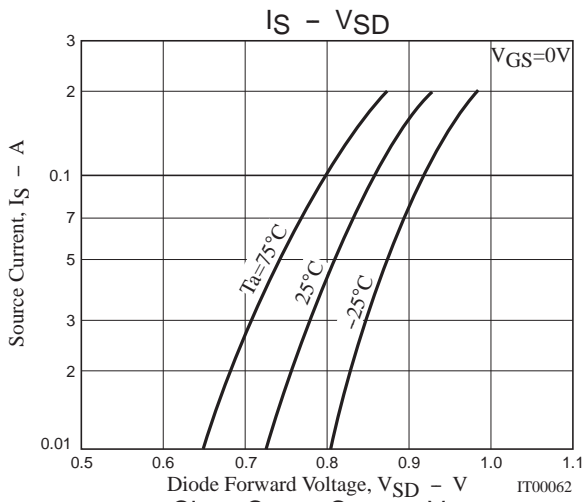
Ordering Information

Device	Package	Shipping	memo
5LN01SS-TL-E	SSFP	8,000pcs./reel	Pb Free
5LN01SS-TL-H	SSFP	8,000pcs./reel	Pb Free and Halogen Free

5LN01SS



5LN01SS

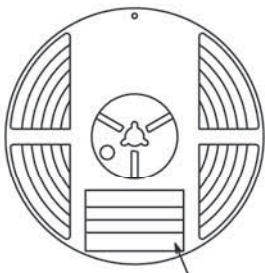


Embossed Taping Specification
5LN01SS-TL-E, 5LN01SS-TL-H

1. Packing Format

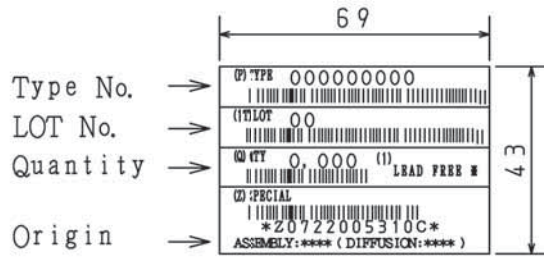
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimension::mm (external) 440×195×210

Packing method

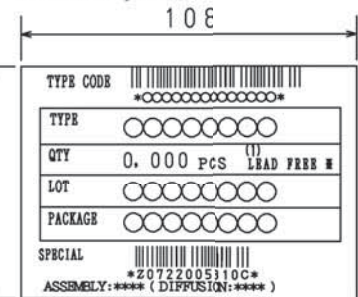


Reel label

Reel label, Inner box label
(unit:mm)



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



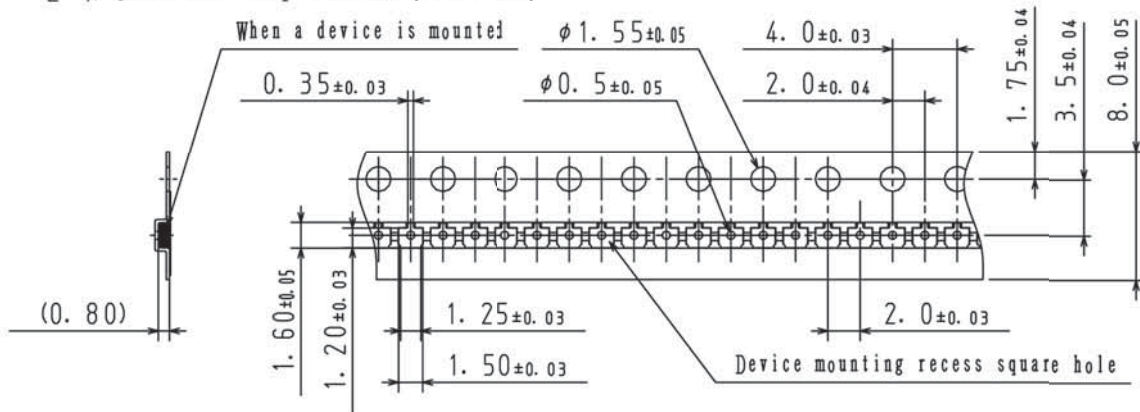
NOTE (1)

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

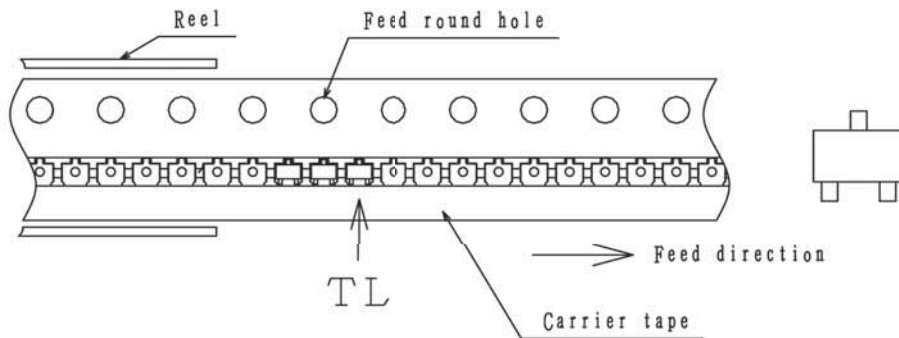
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

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

5LN01SS

Outline Drawing

5LN01SS-TL-E, 5LN01SS-TL-H



Land Pattern Example



Note on usage : Since the 5LN01SS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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