



# 5LN01C

## N-Channel Small Signal MOSFET 50V, 0.1A, 7.8Ω, Single CP

ON Semiconductor®

<http://onsemi.com>

### 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 <sub>DSS</sub>		50	V
Gate to Source Voltage	V <sub>GS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		0.1	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	0.4	A
Allowable Power Dissipation	P <sub>D</sub>		0.25	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

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

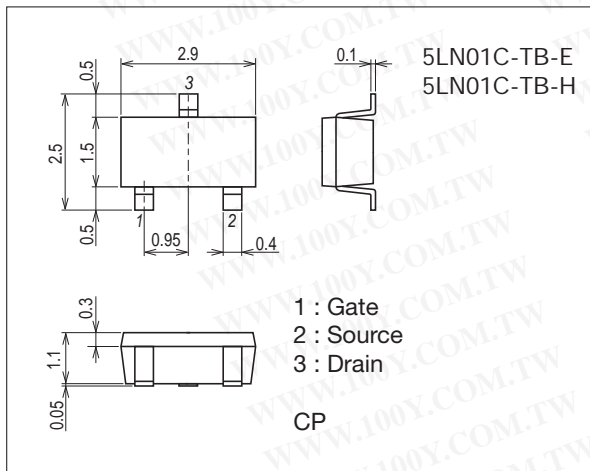
\* Machine Model

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

7013A-013

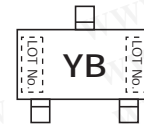
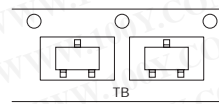


### Ordering & Package Information

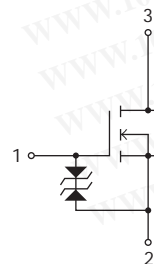
Device	Package	Shipping	memo
5LN01C-TB-E	CP SC-59, TO-236, SOT-23, TO-236AB	3,000pcs./ reel	Pb-Free
5LN01C-TB-H	CP SC-59, TO-236, SOT-23, TO-236AB	3,000pcs./ reel	Pb-Free and Halogen Free

### Packing Type: TB

### Marking



### Electrical Connection



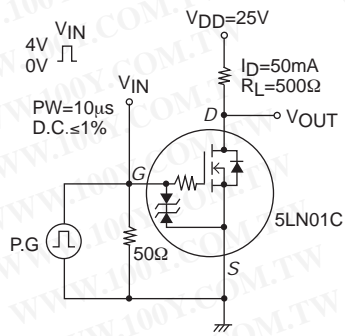
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

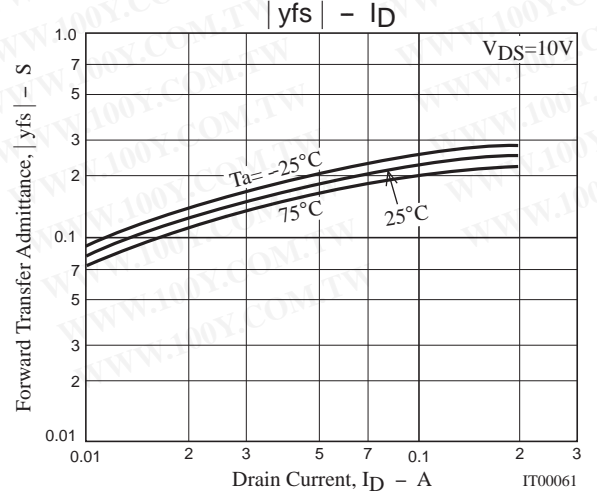
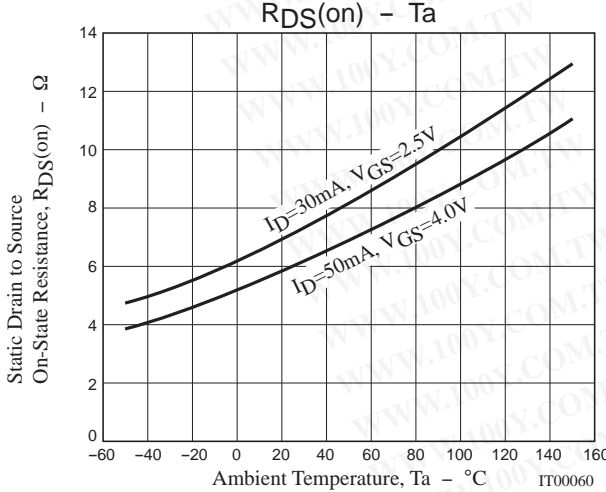
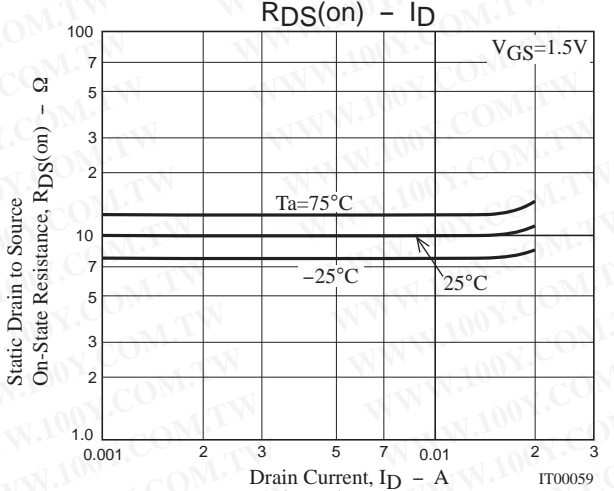
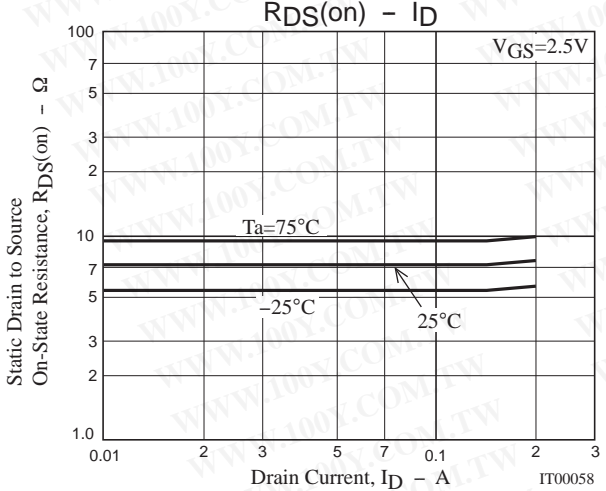
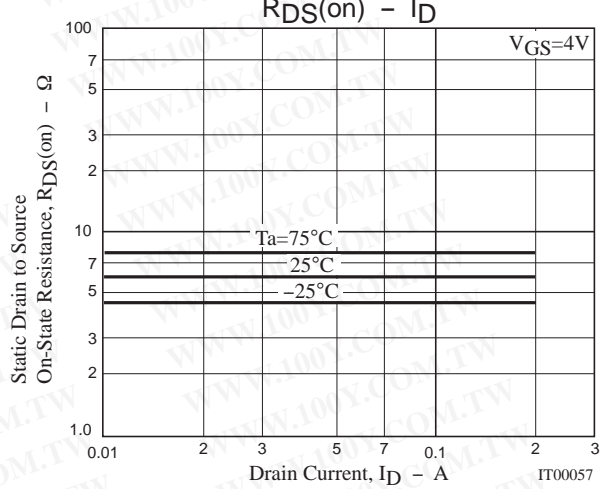
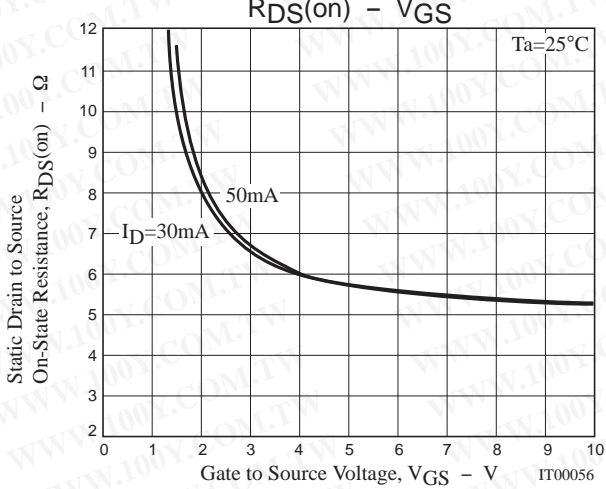
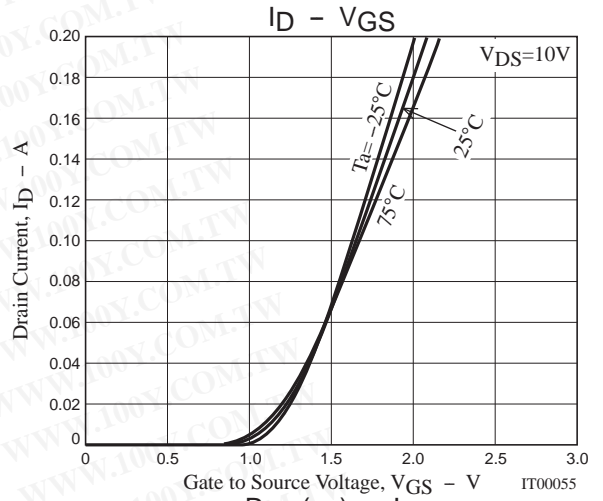
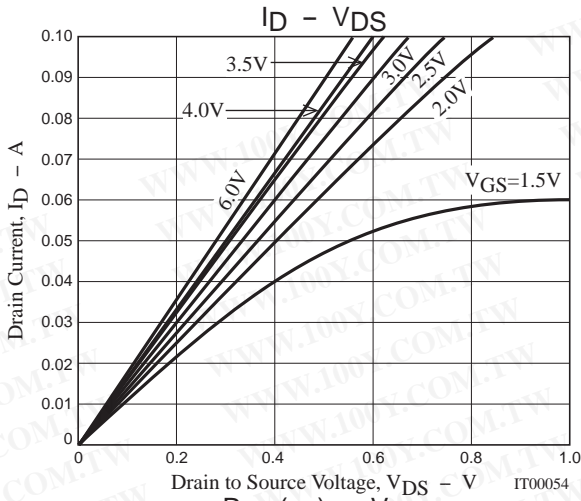
# 5LN01C

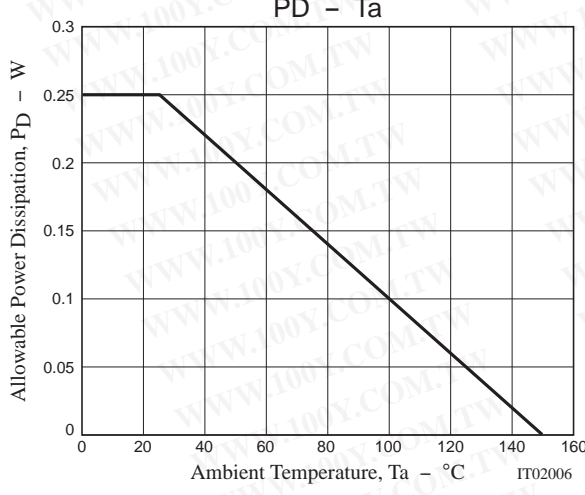
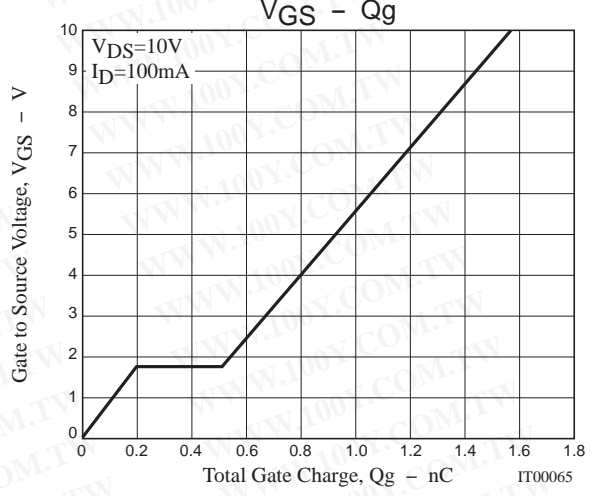
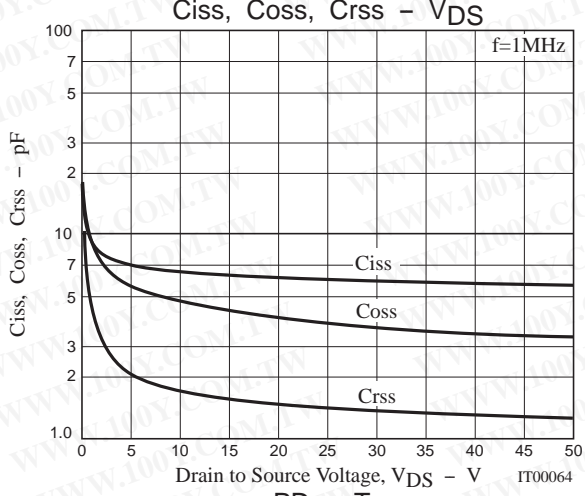
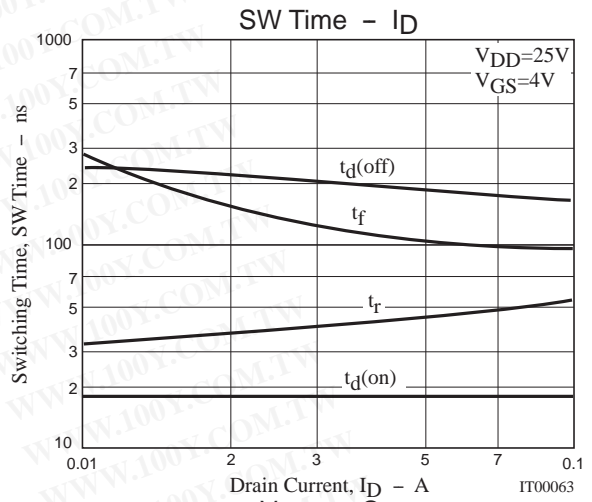
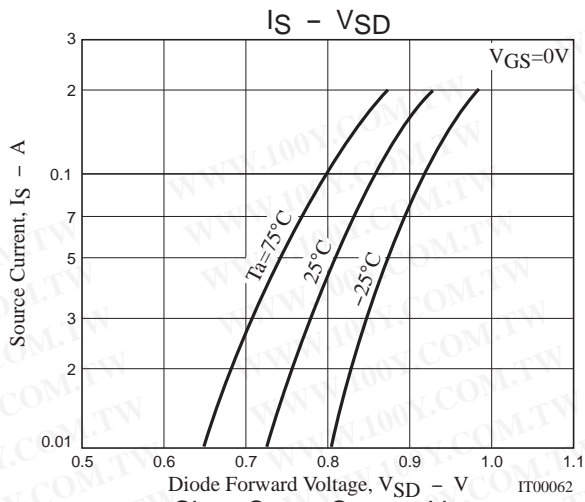
## Electrical Characteristics at Ta=25°C

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	50			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =50V, V <sub>GS</sub> =0V			1	μA
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =100μA	0.4		1.3	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =50mA	0.13	0.18		S
Static Drain to Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =50mA, V <sub>GS</sub> =4V		6	7.8	Ω
	R <sub>DS(on)2</sub>	I <sub>D</sub> =30mA, V <sub>GS</sub> =2.5V		7.1	9.9	Ω
	R <sub>DS(on)3</sub>	I <sub>D</sub> =10mA, V <sub>GS</sub> =1.5V		10	20	Ω
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, f=1MHz		6.6		pF
Output Capacitance	C <sub>oss</sub>			4.7		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			1.7		pF
Turn-ON Delay Time	t <sub>d(on)</sub>			18		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		42		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>			190		ns
Fall Time	t <sub>f</sub>		105		ns	
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V, I <sub>D</sub> =100mA		1.57		nC
Gate to Source Charge	Q <sub>gs</sub>			0.20		nC
Gate to Drain "Miller" Charge	Q <sub>gd</sub>			0.32		nC
Diode Forward Voltage	V <sub>SD</sub>		I <sub>S</sub> =100mA, V <sub>GS</sub> =0V		0.85	1.2

## Switching Time Test Circuit



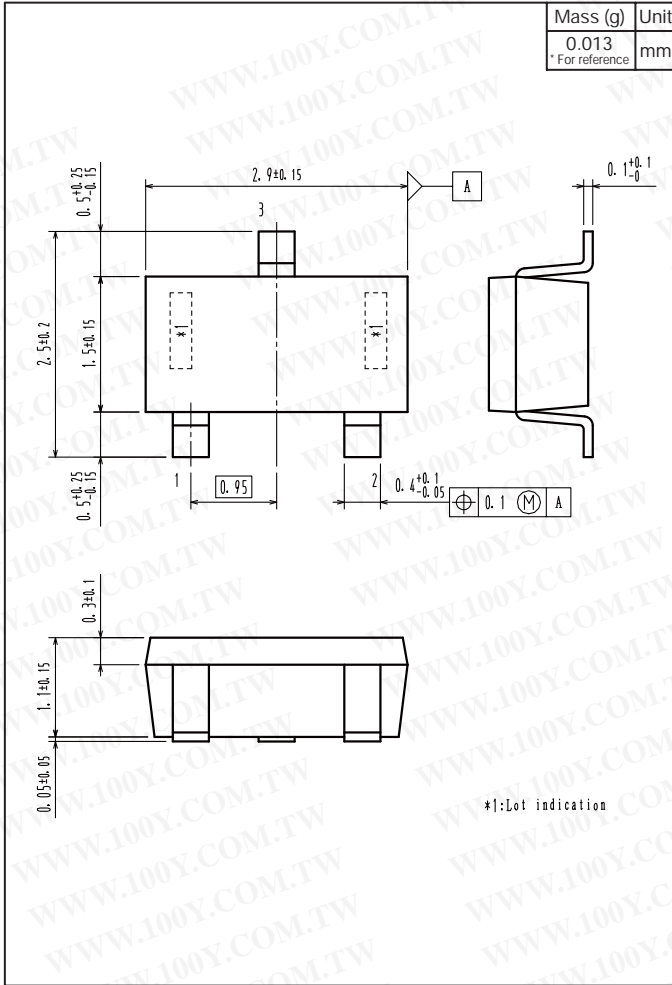




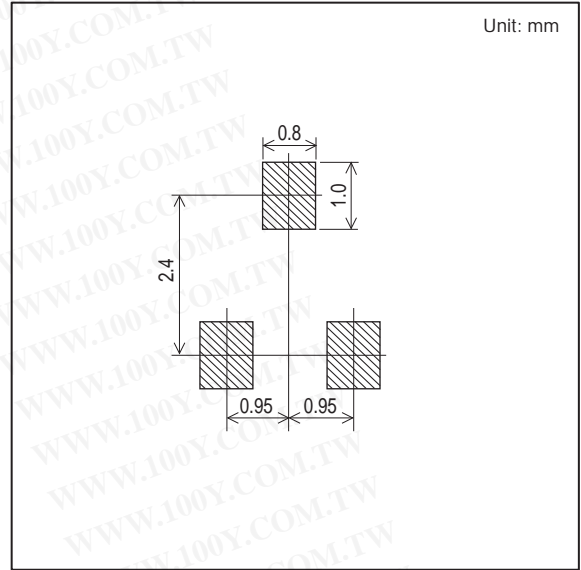
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## Outline Drawing

5LN01C-TB-E, 5LN01C-TB-H



## Land Pattern Example



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