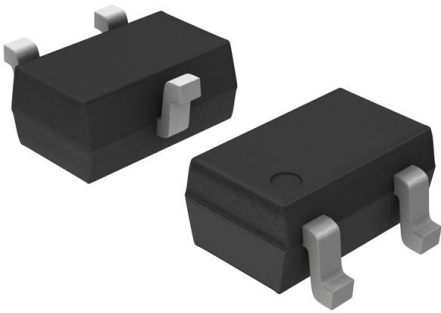


# 3LP01M-TL-E Datasheet

[www.digi-electronics.com](http://www.digi-electronics.com)



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	3LP01M-TL-E-DG
Manufacturer	<a href="#">onsemi</a>
Manufacturer Product Number	3LP01M-TL-E
Description	MOSFET P-CH 30V 100MA 3MCP
Detailed Description	P-Channel 30 V 100mA (Ta) 150mW (Ta) Surface Mount MCP



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

3LP01M-TL-E

Series:

-

FET Type:

P-Channel

Drain to Source Voltage (Vdss):

30 V

Drive Voltage (Max Rds On, Min Rds On):

1.5V, 4V

Vgs(th) (Max) @ Id:

-

Vgs (Max):

±10V

FET Feature:

-

Operating Temperature:

150°C (TJ)

Supplier Device Package:

MCP

Base Product Number:

3LP01

Manufacturer:

onsemi

Product Status:

Obsolete

Technology:

MOSFET (Metal Oxide)

Current - Continuous Drain (Id) @ 25°C:

100mA (Ta)

Rds On (Max) @ Id, Vgs:

10.40hm @ 50mA, 4V

Gate Charge (Qg) (Max) @ Vgs:

1.43 nC @ 10 V

Input Capacitance (Ciss) (Max) @ Vds:

7.5 pF @ 10 V

Power Dissipation (Max):

150mW (Ta)

Mounting Type:

Surface Mount

Package / Case:

SC-70, SOT-323

## Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

Ordering number : EN6139D



# 3LP01M

## P-Channel Small Signal MOSFET -30V, -0.1A, 10.4Ω, Single MCP

ON Semiconductor®

<http://onsemi.com>

### Features

- Low ON-resistance
- High-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>		-30	V
Gate to Source Voltage	V <sub>GSS</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>		0.15	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.

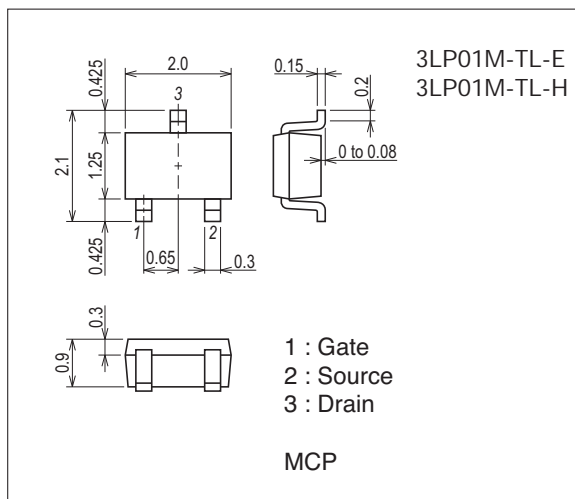
\* Machine Model

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)

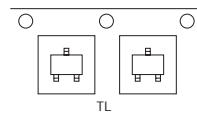
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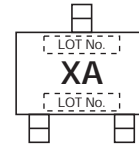
### Ordering & Package Information

Device	Package	Shipping	memo
3LP01M-TL-E	MCP SC-70,TO-323	3,000 pcs./reel	Pb-Free
3LP01M-TL-H	MCP SC-70,TO-323	3,000 pcs./reel	Pb-Free and Halogen Free

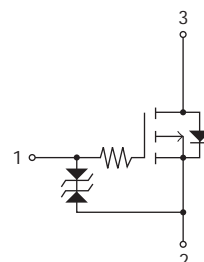
### Packing Type: TL



### Marking



### Electrical Connection

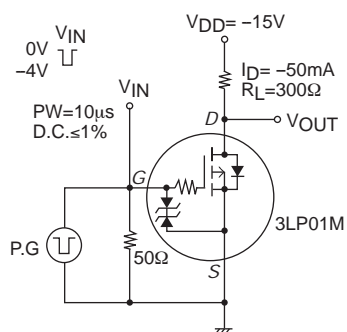


## 3LP01M

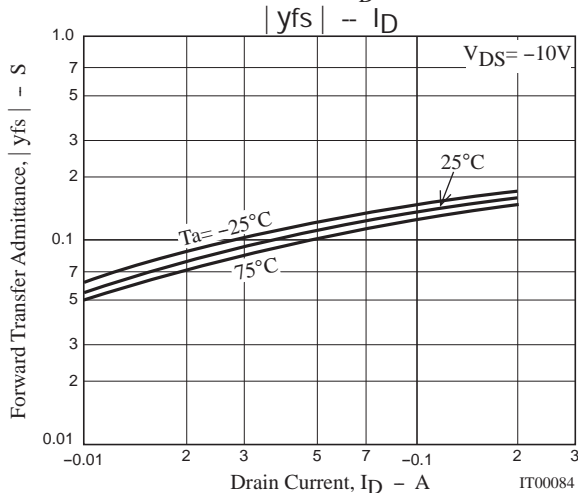
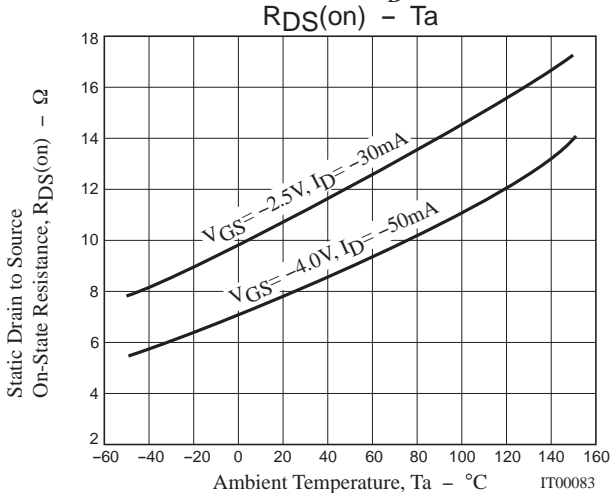
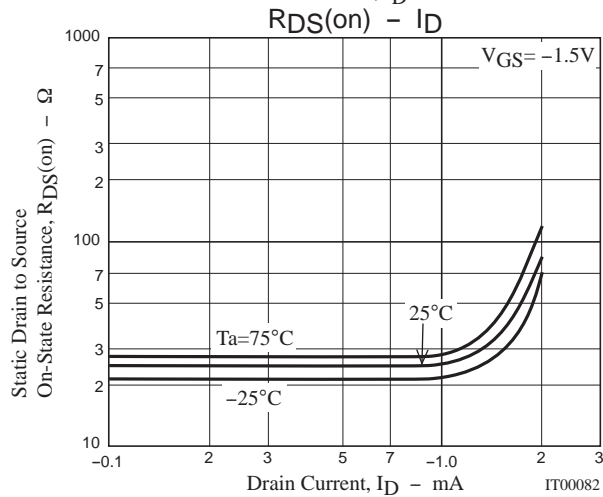
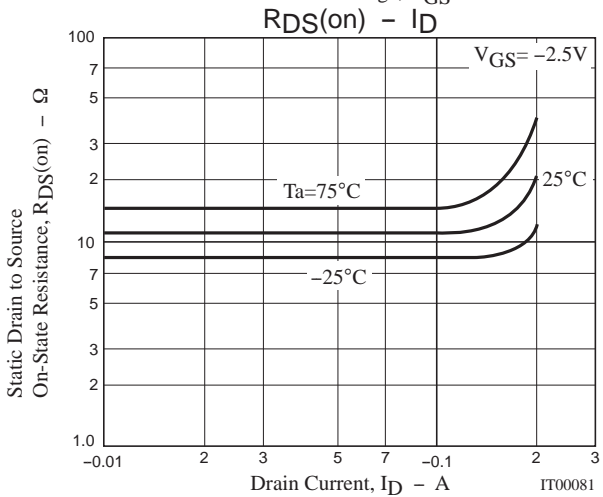
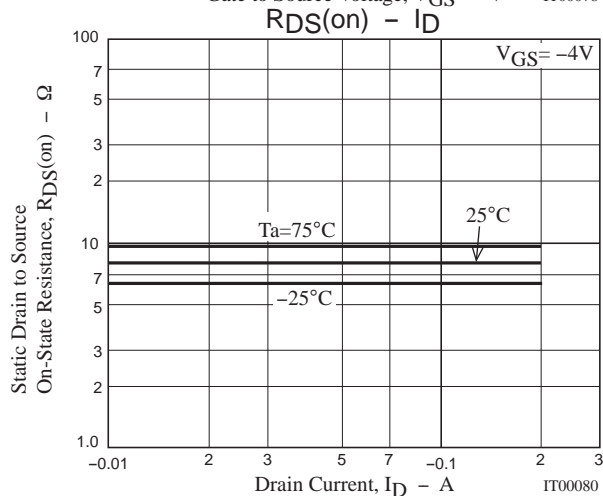
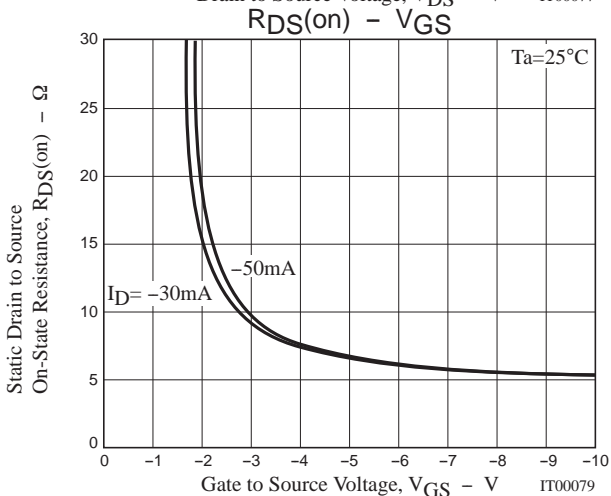
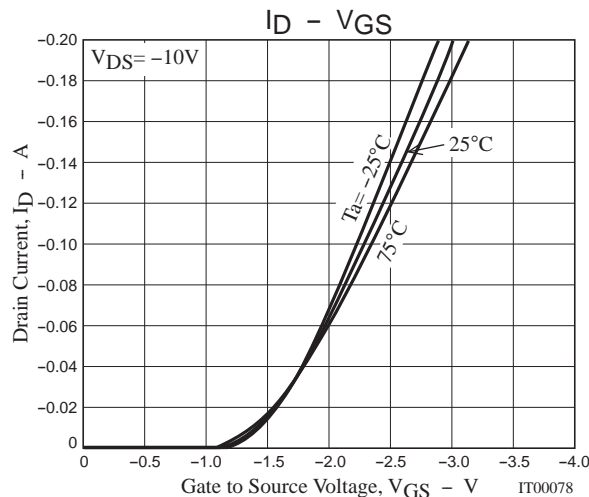
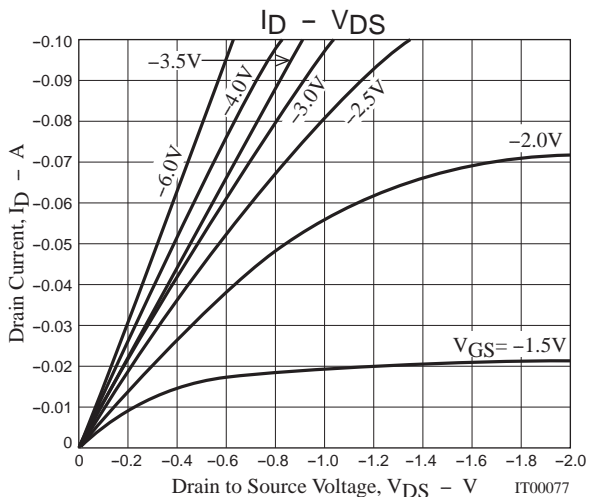
Electrical Characteristics at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1\text{mA}$ , $V_{GS} = 0\text{V}$	-30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -30\text{V}$ , $V_{GS} = 0\text{V}$			-1	$\mu\text{A}$
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8\text{V}$ , $V_{DS} = 0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$ , $I_D = -100\mu\text{A}$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$ , $I_D = -50\text{mA}$	80	110		mS
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D = -50\text{mA}$ , $V_{GS} = -4\text{V}$		8	10.4	$\Omega$
	$R_{DS(on)2}$	$I_D = -30\text{mA}$ , $V_{GS} = -2.5\text{V}$		11	15.4	$\Omega$
	$R_{DS(on)3}$	$I_D = -1\text{mA}$ , $V_{GS} = -1.5\text{V}$		27	54	$\Omega$
Input Capacitance	$C_{iss}$			7.5		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10\text{V}$ , $f = 1\text{MHz}$		5.7		pF
Reverse Transfer Capacitance	$C_{rss}$			1.8		pF
Turn-ON Delay Time	$t_{d(on)}$		See specified Test Circuit.		24	
Rise Time	$t_r$			55		ns
Turn-OFF Delay Time	$t_{d(off)}$			120		ns
Fall Time	$t_f$			130		ns
Total Gate Charge	$Q_g$	$V_{DS} = -10\text{V}$ , $V_{GS} = -10\text{V}$ , $I_D = -100\text{mA}$			1.43	
Gate to Source Charge	$Q_{gs}$			0.18		nC
Gate to Drain "Miller" Charge	$Q_{gd}$			0.25		nC
Diode Forward Voltage	$V_{SD}$	$I_S = -100\text{mA}$ , $V_{GS} = 0\text{V}$		-0.83	-1.2	V

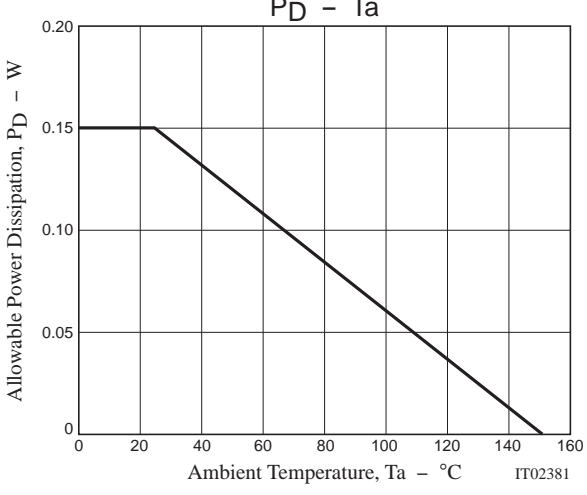
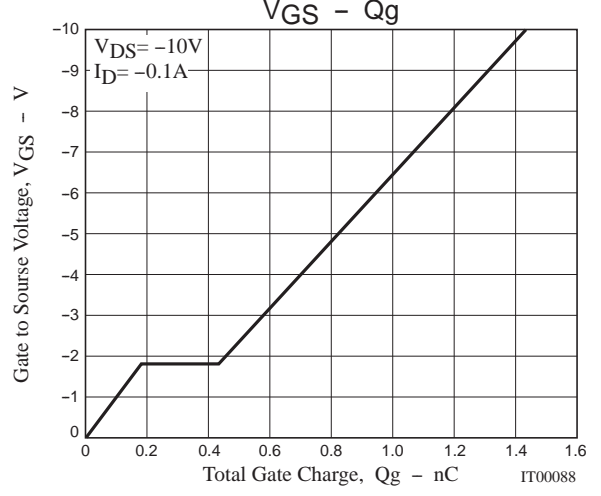
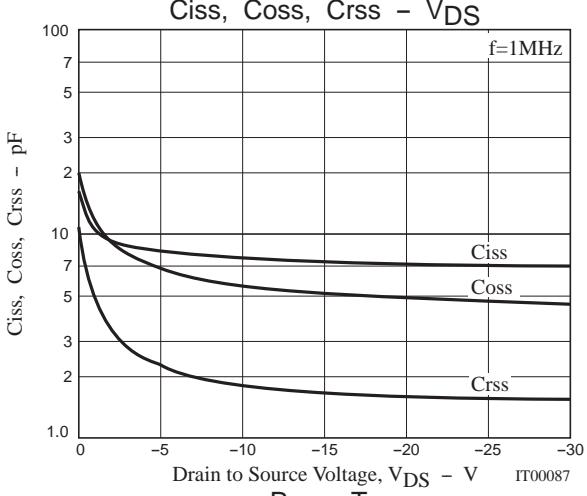
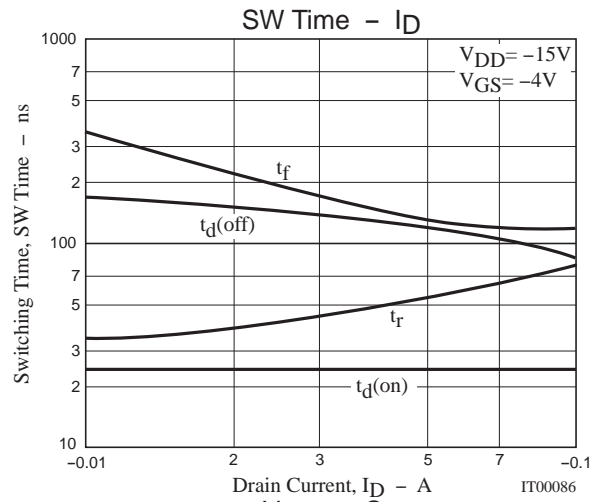
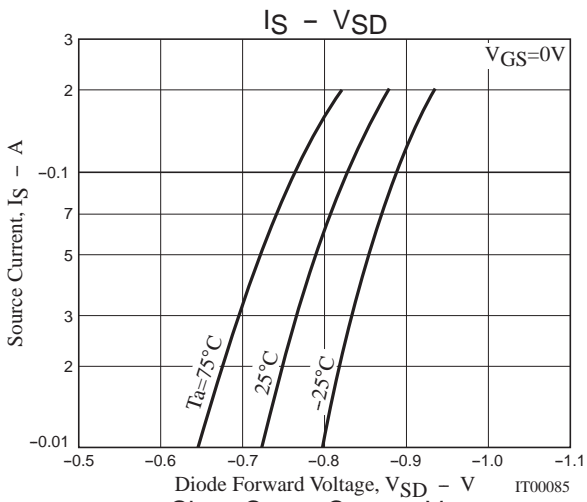
## Switching Time Test Circuit



### 3LP01M



### 3LP01M





## 3LP01M

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Note on usage : Since the 3LP01M is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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