3LP01S

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



http://onsemi.com

Features

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

Specifications

Absolute Maximum Ratings at Ta=25°C

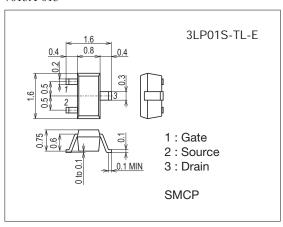
Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	VDSS		-30	V
Gate to Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	ID		-0.1	Α
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	-0.4	А
Allowable Power Dissipation	PD		0.15	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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

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

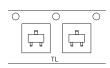
unit : mm (typ) 7013A-013



Ordering & Package Information

Device	Package	Shipping	memo	
3LP01S-TL-E	SMCP SC-75,SOT-416	3,000 pcs./reel	Pb-Free	

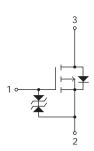
Packing Type: TL



Marking



Electrical Connection



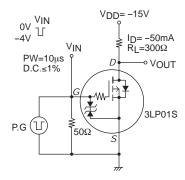
^{*} Machine Model

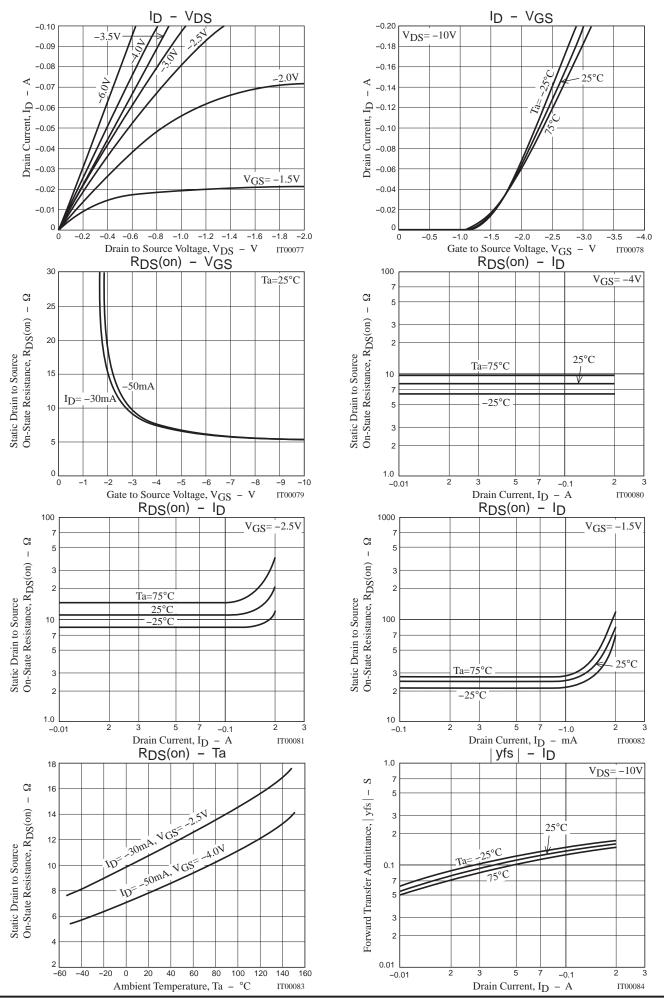
3LP01S

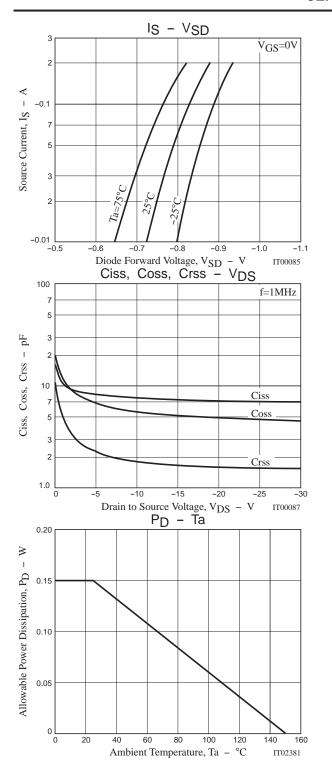
Electrical Characteristics at Ta=25°C

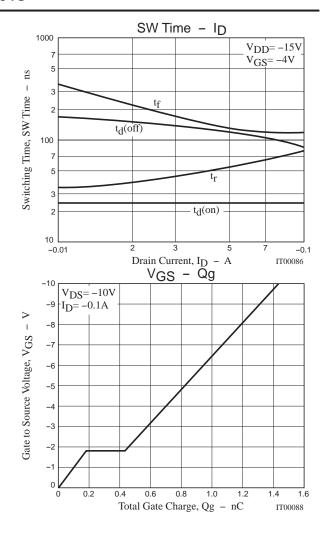
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Drain to Source Breakdown Voltage	V(BR)DSS	ID= -1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} = -30V, V _{GS} =0V			-1	μΑ
Gate to Source Leakage Current	IGSS	V _{GS} =±8V, V _{DS} =0V			±10	μΑ
Cutoff Voltage	V _{GS} (off)	V _{DS} = -10V, I _D = -100μA	-0.4		-1.4	V
Forward Transfer Admittance	yfs	V _{DS} = -10V, I _D = -50mA	80	110		mS
Static Drain to Source On-State Resistance	R _{DS} (on)1	I _D = -50mA, V _G S= -4V		8	10.4	Ω
	R _{DS} (on)2	I _D = -30mA, V _G S= -2.5V		11	15.4	Ω
	R _{DS} (on)3	I _D = -1mA, V _{GS} = -1.5V		27	54	Ω
Input Capacitance	Ciss	V _{DS} = -10V, f=1MHz		7.5		pF
Output Capacitance	Coss			5.7		pF
Reverse Transfer Capacitance	Crss			1.8		pF
Turn-ON Delay Time	t _d (on)	See specified Test Circuit.		24		ns
Rise Time	t _r			55		ns
Turn-OFF Delay Time	t _d (off)			120		ns
Fall Time	tf			130		ns
Total Gate Charge	Qg	V _{DS} = -10V, V _{GS} = -10V, I _D = -100mA		1.43		nC
Gate to Source Charge	Qgs			0.18		nC
Gate to Drain "Miller" Charge	Qgd			0.25		nC
Diode Forward Voltage	V _{SD}	I _S = -100mA, V _G S=0V		-0.83	-1.2	V

Switching Time Test Circuit







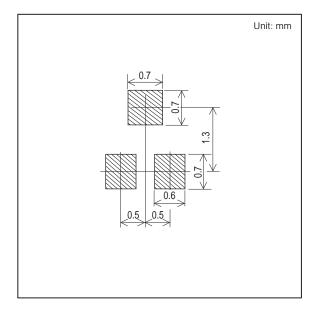


Outline Drawing

3LP01S-TL-E

| Mass (g) | Unit | 0.003 | For reference | mm | 1.5 at 1 | 1.5 at

Land Pattern Example



Note on usage: Since the 3LP01S is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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