

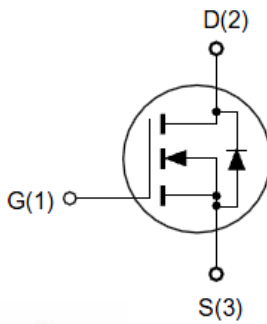
## Features

- $BV_{DSS} = 30V, I_D = 7A$
- $R_{DS(ON,MAX)} = 20m\Omega @ V_{GS}=10V$
- Ultra low ON resistance
- Low Gate Charge
- RoHS and green compliant packages
- SOT-89 package

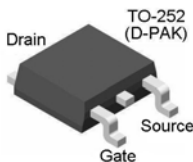
## Applications

- DC/DC converter
- High Speed Switching

## Equivalent Block Diagram



## Package Pin Out



## General Description

The LD7951 is an N-channel power MOSFET for high output current. It provides very low output ON resistance and low capacitance of gate charging.

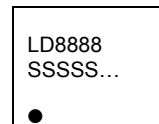
The typical application of LD7951 is used to be a low cost SMPS, standby power or charger.

## Ordering Information

Part No.	Package	Packing Options	
		Tube(TU)	Tape & Reel (TR)
LD7951	TO-252-3	LD7951T6-TU	LD7951T6-TR

- Package material default is "Green" package.

## Product Marking



- ◇ Line 1 – "LD" is a fixed character  
8888: product name
- ◇ Line 2 – SSSSS...: lot number

## Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-Case Max	NA	$^{\circ}C / W$
$R_{\theta JA}$	Thermal Resistance, Junction-Ambient	NA	$^{\circ}C / W$

**Notes:** Surface mounted on FR4 board  $t \leq 10sec$

## Absolute Maximum Ratings

Symbol	Parameter	Limit	Unit
$V_{DS}$	Drain-Source Voltage	NA	V
$V_{GS}$	Gate-Source Voltage	NA	V
$I_D$	Drain Current-Continuous	NA	A
$I_{DM}$	Drain Current-Pulsed <sup>*1</sup>	NA	A
$E_{AS}$	Single Pulse D-S Avalanche Energy <sup>*2</sup>	NA	mJ
$I_{AR}$	Avalanche Current <sup>*1</sup>	NA	A
$E_{AR}$	Repetitive Avalanche Energy <sup>*1</sup>	NA	mJ
dv/dt	Peak Diode Recovery <sup>*3</sup>	NA	V/ns
$P_D$	Maximum Power Dissipation @ $T_J = 25^\circ\text{C}$	NA	W
$T_J, T_{STG}$	Operating and Store Temperature Range	NA	$^\circ\text{C}$

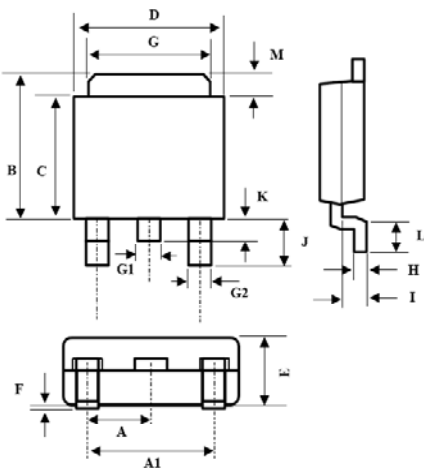
The values beyond the boundaries of absolute maximum rating may cause the damage to the device. Functional operation in this context is not implied. Continuous use of the device at the absolute rating level might influence device reliability. All voltages have their reference to device ground.

## Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless specified, otherwise minimum and maximum values are guaranteed by production testing requirements.

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	30	–	–	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30V, V_{GS} = 0V$	–	–	1.0	$\mu\text{A}$
Gate Body Leakage	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$	–	–	$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1.2	–	2.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 7A$	–	16	20	$\text{m}\Omega$
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6A$	–	20	26	$\text{m}\Omega$
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 6A$	–	0.82	1.2	V
Total Gate Charge	$Q_G$	$V_{DS} = 15V, I_D = 6A,$	–	6.0	11	nC
Gate-Drain Charge	$Q_{GD}$	$V_{GS} = 4.5V$	–	2.0	–	

## Package Outline



DIM	TO-252 DIMENSION			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.3BSC		0.09BSC	
A1	4.6BSC		0.18BSC	
B	6.80	7.20	0.268	0.283
C	5.40	5.60	0.213	0.220
D	6.40	6.65	0.252	0.262
E	2.20	2.40	0.087	0.094
F	0.00	0.20	0.000	0.008
G	5.20	5.40	0.205	0.213
G1	0.75	0.85	0.030	0.033
G2	0.55	0.65	0.022	0.026
H	0.35	0.65	0.014	0.026
I	0.90	1.50	0.035	0.059
J	2.20	2.80	0.087	0.110
K	0.50	1.10	0.020	0.043
L	0.90	1.50	0.035	0.059
M	1.30	1.70	0.051	0.67

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