

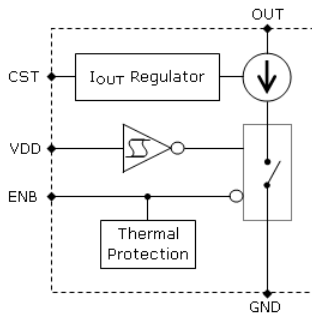
Features

- Input voltage range: 5V to 50V
- Output driving voltage: 50V(maximum)
- Output current : 1000mA(maximum)
- Output dropout voltage 0.5V at 1000mA
- Adjustable output current
- Enable output control response time: 3 μ S
- RoHS and green compliant packages

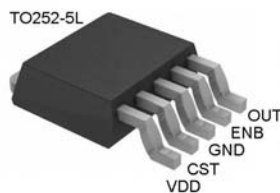
Applications

- High power LED driver
- LED table lamp
- Display backlight

Equivalent Block Diagram



Package Pin Out



General Description

The LD7621 is a linear regulator optimized with low dropout voltage. It regulates to supply a constant current up to 1000mA at input voltage of 5V ~ 50Vdc. The output current can be adjusted by an external resistor. It also provides an enable control for the output.

The typical application of LD7621 is to drive a high power LED with a constant current 1000mA. Built-in thermal protection to prevent the chip from over-heating damage.

Ordering Information

Part No.	Package	Packing Options	
		Tube(TU)	Tape & Reel(TR)
LD7621	TO-252-5L	LD7621T7-TU	LD7621T7-TR

- Package material default is "Green" package.

Product Marking

LD8888	◇ Line 1 – "LD" is a fixed character
SSSSS...	8888: product name
●	◇ Line 2 – SSSSS...: lot number

Thermal Characteristics

Package	Power Dissipation PD @T _A =25°C	Thermal Resistance θ_{JA}
TO252-5L	1.2W	80 °C/W

Absolute Maximum Ratings

Parameter	Maximum	Units
VDD, OUT	50	V
ENB	12	V
Operating Junction Temperature	-40 to +150	°C
Storage Temperature	-55 to +150	°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

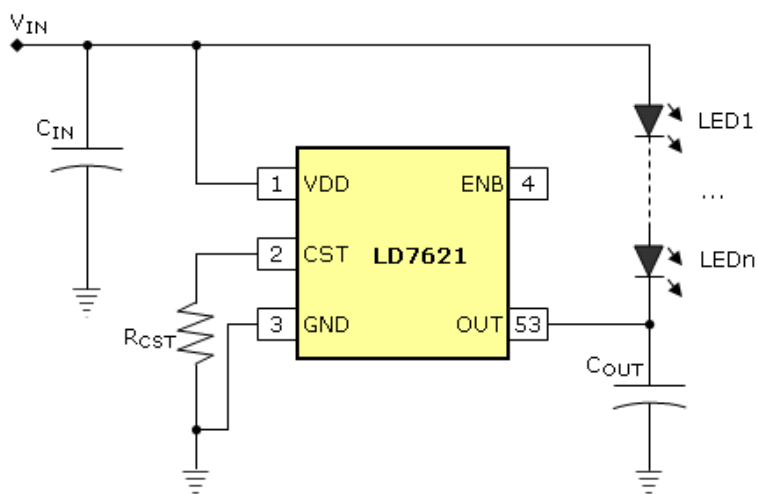
$V_{DD}=24V$, $T_A=25^{\circ}C$ unless specified; or minimum and maximum values are guaranteed by production testing requirements.

Parameter	Symbol	Condition	Minimum	Typical	Maximum	Units
Output Current	I_{OUT}	$V_{OUT}=0.5V$, $R_{CST}=4.70K\Omega$		150		mA
		$V_{OUT}=0.5V$, $R_{CST}=1.50K\Omega$		500		
		$V_{OUT}=0.5V$, $R_{CST}=0.888K\Omega$		1000		
Output Current Deviation	I_{OUTD}	$V_{OUT}=0.5V$, $R_{CST}=4.70K\Omega$			± 5	%
		$V_{OUT}=0.5V$, $R_{CST}=1.50K\Omega$			± 5	
		$V_{OUT}=0.5V$, $R_{CST}=0.888K\Omega$			± 5	
CST Current Range	I_{CST}		200		2000	μA
Maximum Output Current	I_{OUT}	$I_{CST}=2000\mu A$		1000		mA
Output Dropout Voltage	V_{DROP}	$I_{CST}=2000\mu A$		0.5		V
Supply Current	I_{DD}				6	mA
Load Regulation	REG_{LOAD}	$V_{OUT}=0.5V$ to 3V			3	mA/V
Line Regulation	REG_{LINE}	$V_{OUT}=0.5V$, $I_{OUT}=350mA$ $V_{DD}=5V$ to 50V			1	mA/V
ENB Threshold	$V_{IL_{ENB}}$		0		0.8	V
	$V_{IH_{ENB}}$		2		V_{DD}	V
ENB Leakage Current	$I_{IL_{ENB}}$		-20		+20	μA
	$I_{IH_{ENB}}$		-5		+5	μA
OUT Enable Delay Time	TD_{ENB}	ENB Low to High, $V_{OUT}=0.5V$, $I_{OUT}=350mA$, 50%		3		μS
OUT Disable Delay Time	TD_{DSB}	ENB High to Low, $V_{OUT}=0.5V$, $I_{OUT}=350mA$, 50%		3		μS
Thermal Shutdown Temperature*	T_{STDN}	Hysteresis 20°C		160		°C

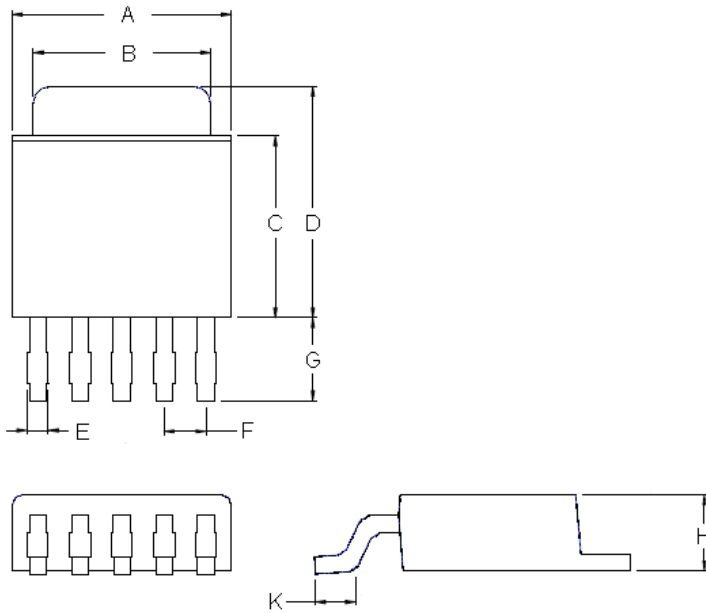
Note: guaranteed by design, no production tested

Pin Description

Pin #	Name	Description
1	VDD	Power supply to device
2	CST	Output current setting input. R_{CST} from CST to GND to set bias current, $I_{CST} = 1.24V/R_{CST}$
3	GND	Device ground
4	ENB	Output enable control active high. Leave this pin open will set output ON
5	OUT	Output pin. Sink current is adjusted by the current on R_{CST} , $I_{OUT} = (1.24V/R_{CST}) * 500$

Typical Application Circuit

Package Outline



Symbols	Dimensions in Millimeters		
	Minimum	Normal	Maximum
A	6.40	6.50	6.60
B	5.30	5.37	5.46
C	6.00	6.10	6.20
D	7.10	7.20	7.30
E	0.55	0.60	0.65
F	1.22	1.27	1.32
G	2.40	2.65	2.90
H	2.22	2.31	2.40
K	1.42	1.53	1.64

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