

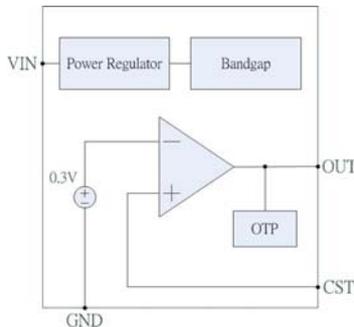
Features

- Input voltage range: 5V to 30V
- Adjustable output current via external MOSFET
- RoHS and green compliant packages

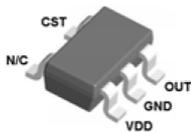
Applications

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

Equivalent Block Diagram



Package Pin Out



General Description

The LD7635 is a continuation of Lighting Device's successful and most widely adopted linear regulator for high input voltage. The new chip provides a further overall cost reduction alternative to the existing LED power design. It features as the previous regulator with high integration of the Lighting Device perfection technology that has proven to be high-quality and most reliable.

The output current is programmable by adding an external resistor.

The typical application of LD7635 is to drive a high power LED with a MOSFET. The Built-in thermal protection is made to prevent the chip from over-heating damage.

Ordering Information

Part No.	Package	Packing Options	
		Tube(TU)	Tape & Reel(TR)
LD7635	SOT23-5L	-	LD7635L2-TRX

- Package material default is "Green" package.

Product Marking

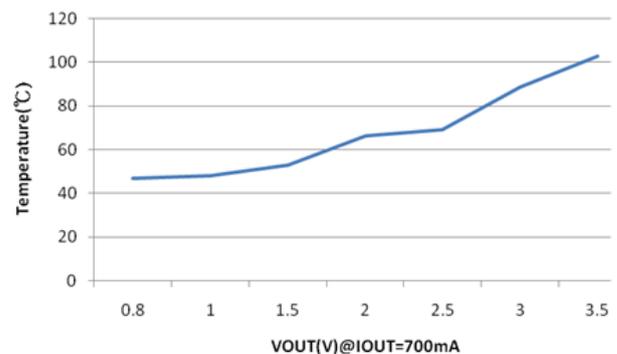
LD8888	◇ Line 1 – "LD" is a fixed character
SSSSS...	8888: product name
●	◇ Line 2 – SSSSS...: lot number

Thermal Characteristics

Package	Power Dissipation PD @T _A =25°C	Thermal Resistance θ _{JA}
SOT23-5L	1.2W	80 °C/W

Note: Temperature vs. Current Chart is shown on the right. Please apply the V_{OUT} under 70 °C to prevent over heating.

Temperature vs. V_{OUT} Chart



Absolute Maximum Ratings

Parameter	Maximum	Units
VDD	30	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.

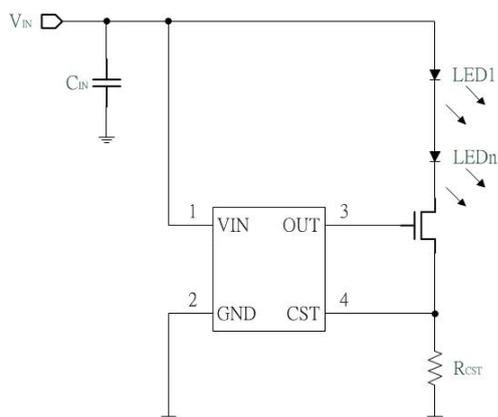
Parameter	Symbol	Condition	Minimum	Typical	Maximum	Units
Power Supply Range	V_{IN}		5		30	V
Output Source Current	I_{source}	$V_{OUT}=14V$, $V_{DD}=15V$	–	4	–	mA
Output Sink Current	I_{sink}	$V_{OUT}=1V$, $V_{DD}=15V$, $V_{CST}=0.5V$	–	1	–	mA
CST Voltage Range	V_{CST}		–	300	–	mV
Power On Delay Time*	t_{DR}	V_{DD} on to V_{OUT} on	–	20	–	μS
Power Off Delay Time*	t_{DF}	V_{DD} off to V_{OUT} off	–	30	–	μS
Thermal Shutdown Temperature*	T_{STDN}	Hysteresis $20^{\circ}C$	–	160	–	°C

Note: * guaranteed by design, no production tested

Pin Description

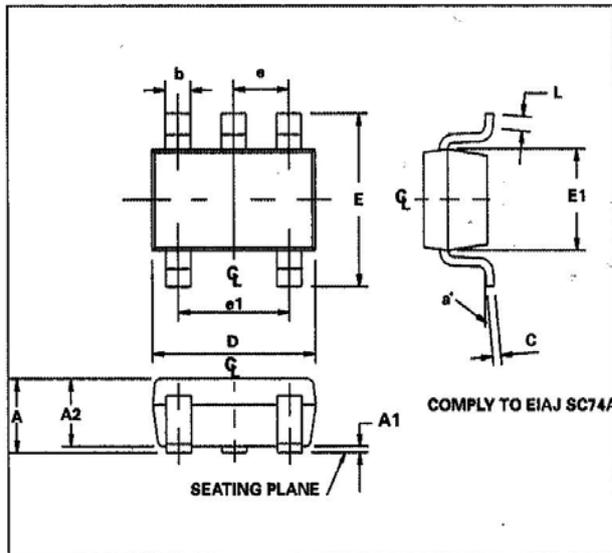
Pin #	Name	Description
1	VDD	Power supply to device
2	GND	Device ground
3	OUT	Output pin. Sink current is adjusted by the MOSFET current on R_{CST} , $I_{OUT} = V_{CST}/R_{CST}$
4	CST	Output current setting input. R_{CST} from CST to GND to set bias current, $I_{CST} = V_{CST}/R_{CST}$

Typical Application Circuit



Package Outline

SOT23-5 PACKAGE INFORMATION



CONTROLLING DIMENSIONS IN MILLIMETRES
APPROX CONVERTED DIMENSIONS IN INCHES

DIM	MILLIMETRES		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.45	0.0354	0.0570
A1	0.00	0.15	0.00	0.0059
A2	0.90	1.3	0.0354	0.0511
b	0.20	0.50	0.0078	0.0196
C	0.09	0.26	0.0035	0.0102
D	2.70	3.10	0.1062	0.1220
E	2.20	3.20	0.0866	0.1181
E1	1.30	1.80	0.0511	0.0708
e	0.95 REF		0.0374 REF	
e1	1.90 REF		0.0748 REF	
L	0.10	0.60	0.0039	0.0236
a°	0	30	0	30

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