

DIO5151

700mA/1A Buck/Boost Charge Pump LED Driver

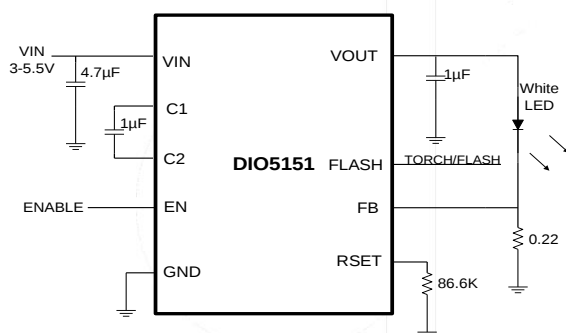
Features

- Output Current :
DIO5151ED8: 700mA
DIO5151CD10: 1A
- Up to 90% Efficiency in Torch Mode
- Adjustable FLASH Mode Current
- 1× and 2× Automatic Modes for High Efficiency
- Input Voltage Range: 3V to 5.5V
- Minimum External Components: No Inductors
- High Frequency Operation: 2MHz
- Low 47mV Reference for Low Loss Sensing
- $I_q < 1\mu A$ in Shutdown
- Built-In Soft Start Limits Inrush Current
- Low Input and Output Ripple and Low EMI
- Output Over Voltage Protection
- Output Open and Output Short Protection
- Over-current and Over-temperature Protection
- Package: DFN2*2.2-8, DFN3*3-10

Applications

- Cellular Telephones
- Digital Still Cameras
- Mobile Internet Device
- USB Bus-Powered Chargers

Block Diagram



Descriptions

The DIO5151 is a current-regulated charge pump ideal for powering high brightness LEDs for camera flash applications. The charge pump can be set to regulate two current levels for FLASH and TORCH modes.

The DIO5151 automatically switches modes between step-up and step-down ensuring that LED current does not depend on the forward voltage. It switches at 2MHz, allowing the use of tiny components. The supply voltage ranges from 3V to 5.5V and is ideally suited for all applications powered by a single LI-Ion battery cell or three to four NiCd, NiMH, or Alkaline battery cells.

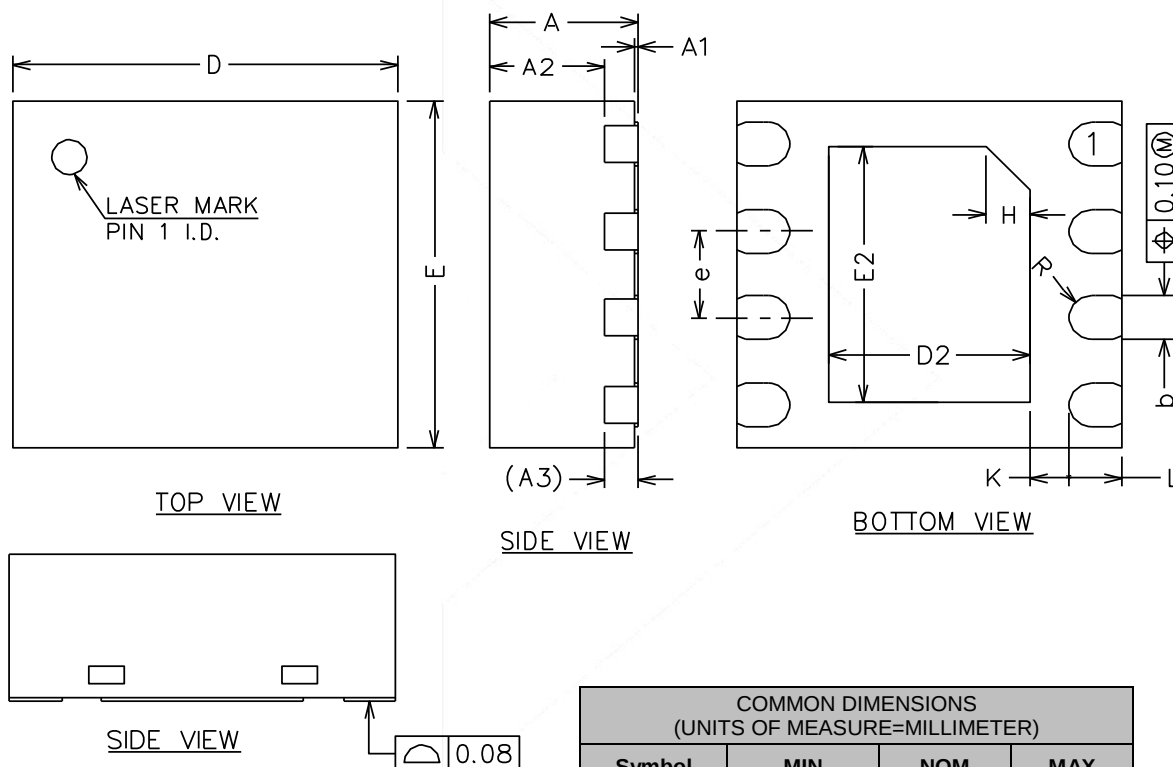
The DIO5151 also features a very low shutdown current, an automatic soft-start mode to limit inrush current, as well as over current, over voltage and over thermal shutdown control. A low current sense reference voltage (47mV) allows the use of small 0603 current sensing resistors.

The DIO5151 is available in Green DFN2*2.2-8, DFN3*3-10 package and is specified over an ambient temperature range of -40°C to +85°C.

Ordering Information

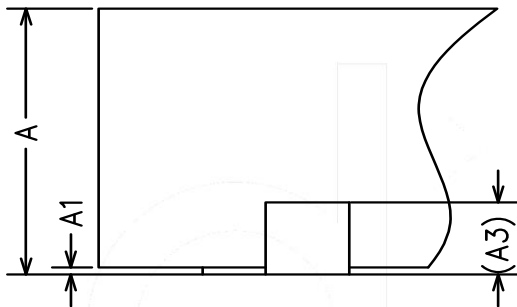
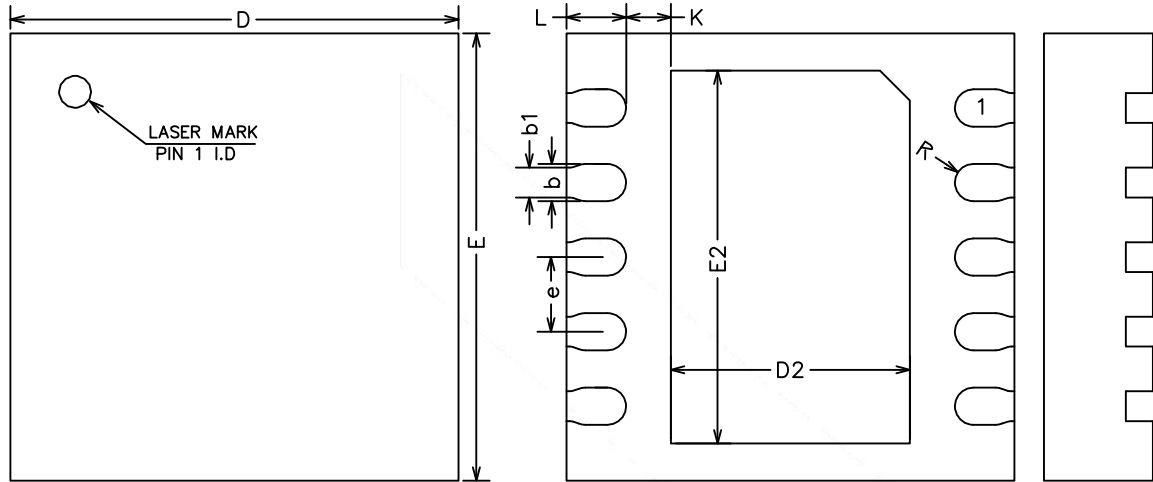
Order Part Number	Top Marking		T _A	Package	
DIO5151ED8	51	Green	-40 to +85°C	DFN2*2.2-8	Tape & Reel, 3000
DIO5151CD10	D51	Green	-40 to +85°C	DFN3*3-10	Tape & Reel, 5000

Physical Dimensions: DFN2*2.2-8



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	0.8	0.85	0.90
A1	0	0.02	0.05
A2	0.6	0.65	0.70
A3	0.20REF		
b	0.2	0.25	0.3
D	2.10	2.20	2.30
E	1.90	2.00	2.10
D2	1.05	1.15	1.25
E2	1.38	1.48	1.58
e	0.40	0.50	0.60
H	0.25REF		
K	0.125	0.225	0.325
L	0.25	0.30	0.35
R	0.11	-	-

Physical Dimensions: DFN3*3-10



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	0	0.02	0.05
A3	0.20REF		
b	0.20	0.25	0.30
b1	0.20REF		
D	2.90	3.00	3.10
E	2.90	3.00	3.10
D2	1.50	1.60	1.70
E2	2.40	2.50	2.60
e	0.40	0.50	0.60
K	0.20	-	-
L	0.30	0.40	0.50
R	0.13	-	-

CONTACT US

Dioo is a professional design and sales corporation for high-quality and performance analog semiconductors. The company focuses on industry markets, such as, cell phone, handheld products, laptop, and medical equipment and so on. Dioo's product families include analog signal processing and amplifying, LED drivers and charger IC. Go to <http://www.dioo.com> for a complete list of Dioo product families.

For additional product information, or full datasheet, please contact with our Sales Department or Representatives.

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DIOO:

[DIO5151ED8](#) [DIO5151CD10](#)