

# DIO8650

## Single Stage Flyback & PFC Controller With Primary Side Control For LED Lighting

### Features

- Primary side control eliminates the opto-coupler
- Valley turn-on of the primary MOSFET to achieve lower switching losses
- Power factor >0.95 @230VAC
- THD < 10% @230VAC
- Reliable short LED and Open LED protection
- Quick start up:<500ms
- Low start up current:15μA typical
- Package: SOT23-6, SOIC-8

### Descriptions

The DIO8650 is a single stage Flyback and PFC controller targeting at LED lighting applications.

The DIO8650 is a primary side controller without applying any secondary feedback circuit for low cost, and drives the Flyback converter in the quasi-resonant mode to achieve higher efficiency.

The DIO8650 keeps the Flyback converter in constant on time operation to achieve high power factor.

This chip adopts special design to achieve quick start up and reliable protection for safety requirement.

### Applications

- LED Lighting

### Block Diagram

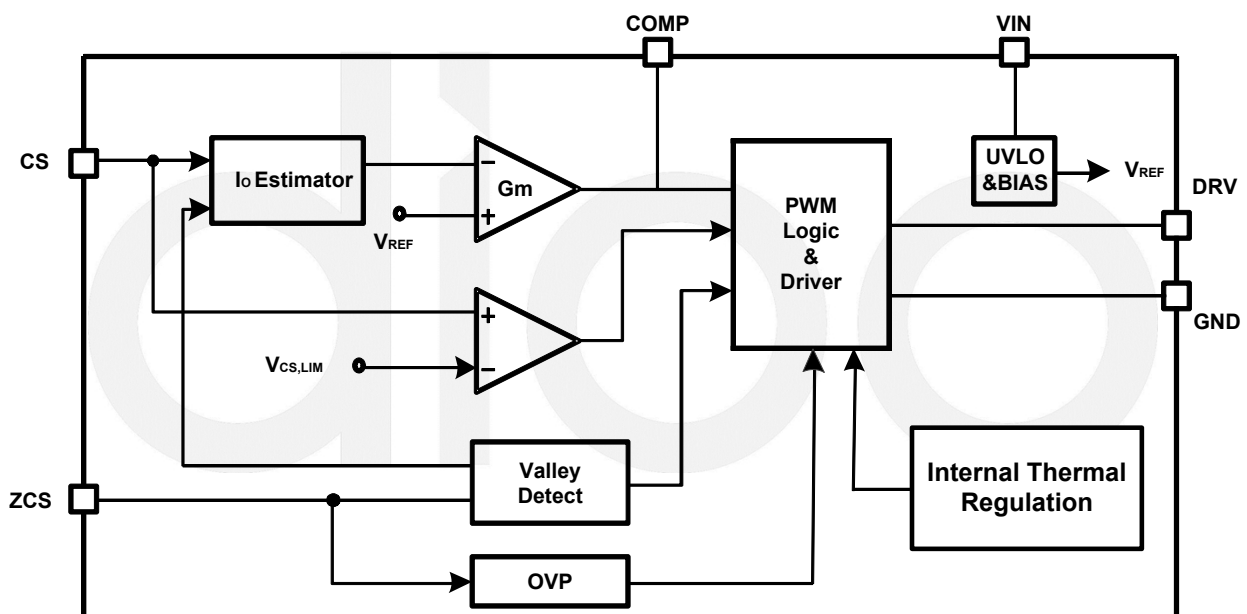


Figure1 Block Diagram



# DIO8650

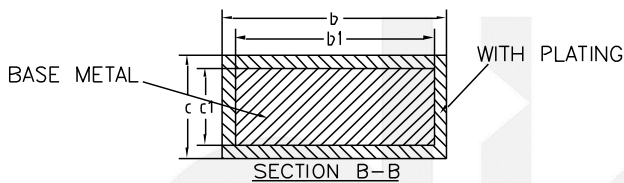
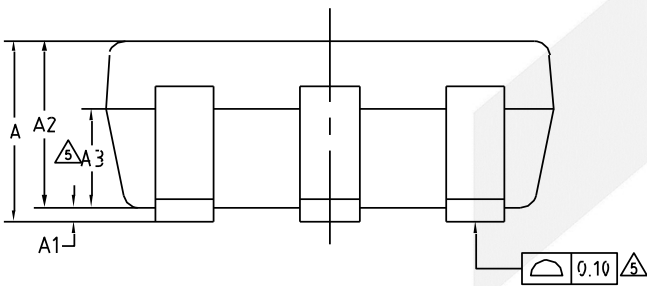
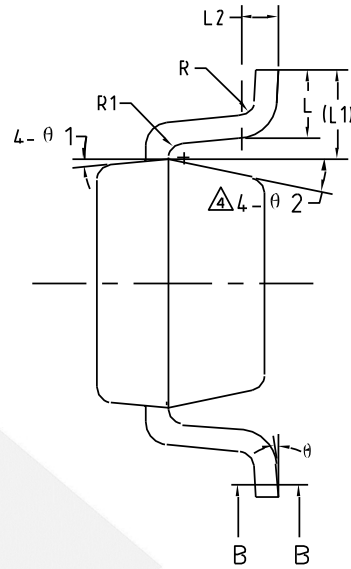
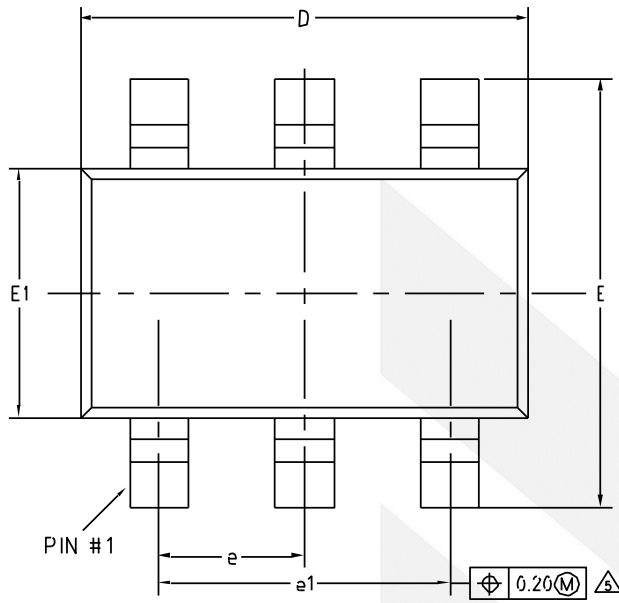
## Ordering Information

Order Part Number	Top Marking		T <sub>A</sub>	Package	
DIO8650CST6	YW65	Green	-40 to +85°C	SOT23-6	Tape & Reel, 3000
DIO8650CS8	DIO8650	Green	-40 to +85°C	SOIC-8	Tape & Reel, 2500

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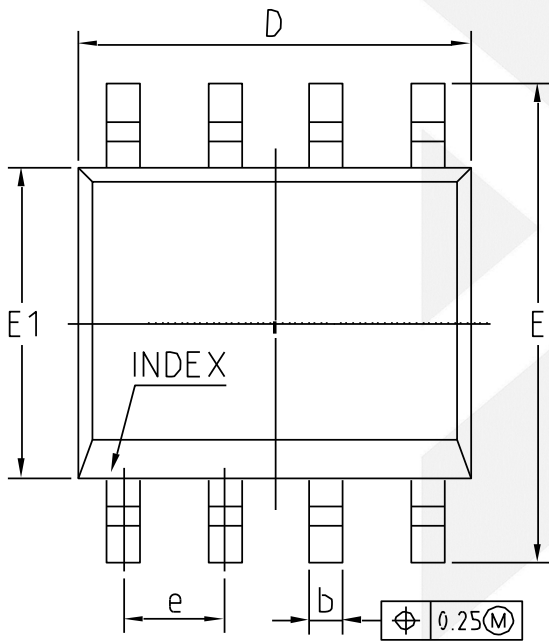
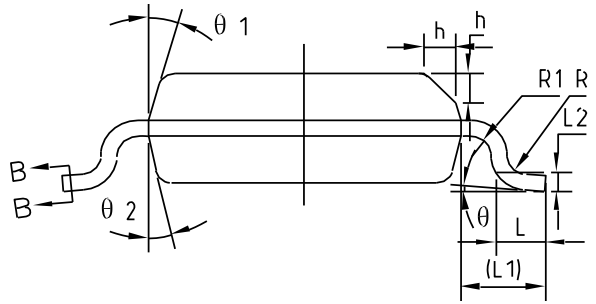
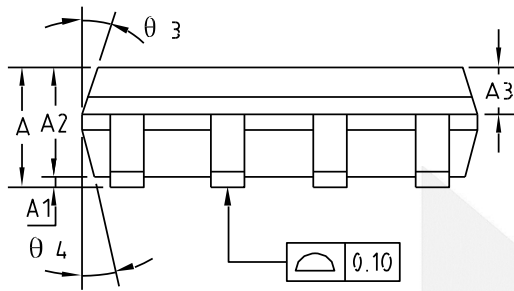


Physical Dimensions: SOT-23-6

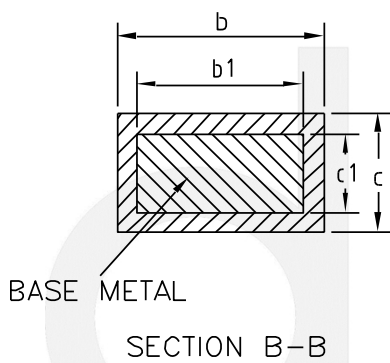


COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	-	-	1.25
A1	0	-	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	-	0.50
b1	0.36	0.38	0.45
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	-	8°
θ1	3°	5°	7°
θ2	6°	-	14°

Physical Dimensions: SOIC-8



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	1.35	1.55	1.75
A1	0.10	0.15	0.25
A2	1.25	1.40	1.65
A3	0.50	0.60	0.70
b	0.38	-	0.51
b1	0.37	0.42	0.47
c	0.17	-	0.25
c1	0.17	0.20	0.23
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.45	0.60	0.80
L1	1.04REF		
L2	0.25BSC		
R	0.07	-	-
R1	0.07	-	-
h	0.30	0.40	0.50
theta	0°	-	8°
theta 1	15°	17°	19°
theta 2	11°	13°	15°
theta 3	15°	17°	19°
theta 4	11°	13°	15°





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## 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.

