

**iWatt**  
Power Management Simplified Digitally

# iW3626 Product Brief

## Off-Line Digital Power Controller for LED Driver with High Power-Factor and Low-Ripple Current

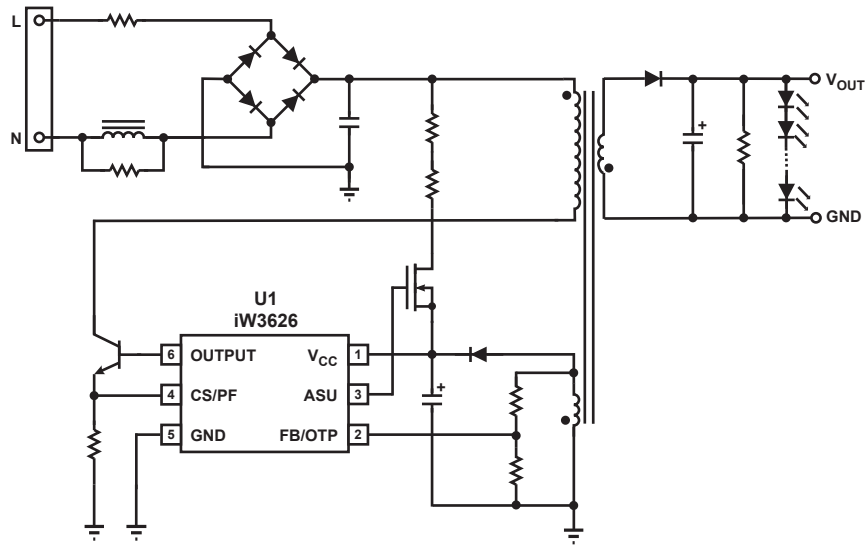


Figure 3.2: iW3626 Typical Application Circuit (Isolated Application)

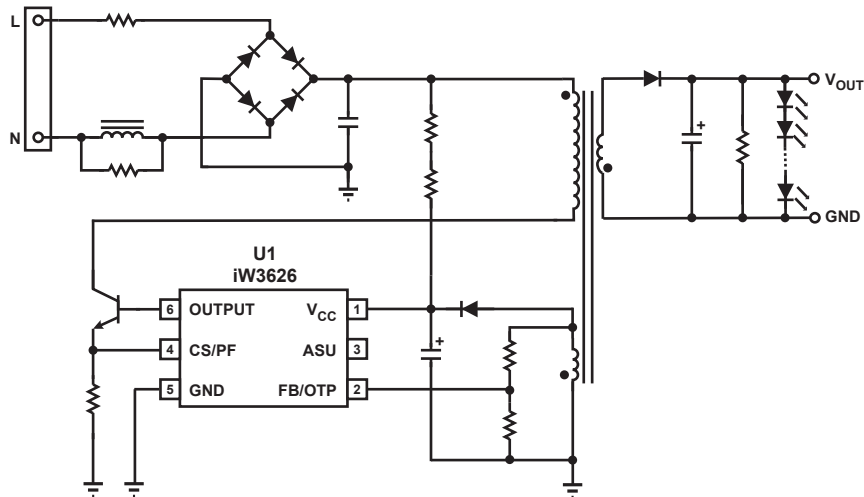


Figure 3.3: iW3626 Typical Application Circuit (Isolated Application without Using Active Start-up Device)

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### 4.0 Pinout Description

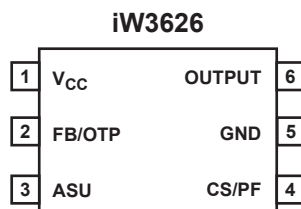


Figure 4.1: 6-Lead SOT-23 Package

Pin #	Name	Type	Pin Description
1	V <sub>CC</sub>	Power Input	Power supply for control logic.
2	FB/OTP	Analog Input	Multi-function pin. Used to configure over-temperature protection (OTP) derating selection at the beginning of start-up and provide auxiliary voltage sense for primary regulation during normal operation.
3	ASU	Output	Control signal for active start-up device (BJT or depletion mode N-FET).
4	CS/PF	Analog Input	Multi-function pin. Used to configure PF selection at the beginning of start-up and provide primary current sense for cycle-by-cycle peak current control and limit during normal operation.
5	GND	GROUND	GROUND.
6	OUTPUT	Output	Base drive for BJT.

### 5.0 Absolute Maximum Ratings

Absolute maximum ratings are the parameter values or ranges which can cause permanent damage if exceeded.

Parameter	Symbol	Value	Units
DC supply voltage range (pin 1, I <sub>CC</sub> = 20mA max)	V <sub>CC</sub>	-0.3 to 18.0	V
Continuous DC supply current at V <sub>CC</sub> pin (V <sub>CC</sub> = 15V)	I <sub>CC</sub>	20	mA
ASU output (pin 3)		-0.3 to 18.0	V
OUTPUT (pin 6)		-0.3 to 4.0	V
FB/OTP input (pin 2, I <sub>FB/OTP</sub> ≤ 10mA)		-0.7 to 4.0	V
CS/PF input (pin 4)		-0.3 to 4.0	V
Maximum junction temperature	T <sub>JMAX</sub>	150	°C
Operating junction temperature	T <sub>JOPT</sub>	-40 to 150	°C
Storage temperature	T <sub>STG</sub>	-65 to 150	°C
Lead temperature during IR reflow for ≤ 15 seconds	T <sub>LEAD</sub>	260	°C
Thermal resistance junction-to-ambient	θ <sub>JA</sub>	190	°C/W
ESD rating per JEDEC JESD22-A114		2,000	V
Latch-up test per JEDEC 78		±100	mA

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### 6.0 Physical Dimensions

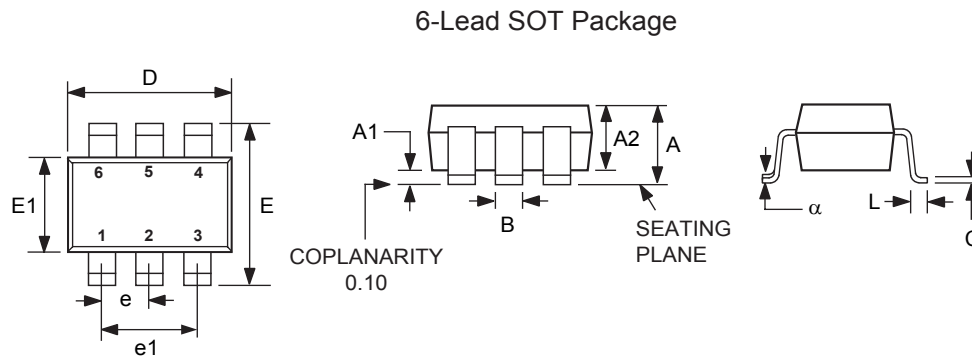
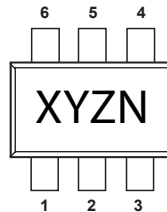


Figure 6.1 : Physical dimensions, 6-lead SOT-23 package

Symbol	Millimeters	
	MIN	MAX
A	-	1.45
A1	0.00	0.15
A2	0.90	1.30
B	0.30	0.50
C	0.08	0.22
D	2.90 BSC	
E	2.80 BSC	
E1	1.60 BSC	
e	0.95 BSC	
e1	1.90 BSC	
L	0.30	0.60
$\alpha$	0°	8°

SOT23-6 devices are marked with a 4-digit code. Orientation of Pin 1 is shown below:



Compliant to JEDEC Standard MO-178AB

Controlling dimensions are in millimeters

This package is RoHS compliant and Halide free.

Soldering Temperature Resistance:

- [a] Package is IPC/JEDEC Std 020D Moisture Sensitivity Level 1
- [b] Package exceeds JEDEC Std No. 22-A111 for Solder Immersion Resistance; packages can withstand 10 s immersion < 270°C

Dimension D does not include mold flash, protrusions or gate burrs. Mold flash, protrusions or gate burrs shall not exceed 0.25 mm per side.

The package top may be smaller than the package bottom. Dimensions D and E1 are determined at the outermost extremes of the plastic body exclusive of mold flash, tie bar burrs and interlead flash, but including any mismatch between top and bottom of the plastic body.

### 7.0 Ordering Information

Part Number	Options	Package	Description
iW3626-00	Maximum driver current = 40mA, wide $V_{OUT}$ range	SOT-23	Tape & Reel <sup>1</sup>
iW3626-01	Maximum driver current = 40mA, narrow $V_{OUT}$ range	SOT-23	Tape & Reel <sup>1</sup>
iW3626-02	Maximum driver current = 50mA, wide $V_{OUT}$ range	SOT-23	Tape & Reel <sup>1</sup>

#### Notes:

1. Tape & Reel packing quantity is 2,500 per reel. Minimum ordering quantity is 2,500.

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