

AC/DC Digital Power Controller for Bleederless Single-Stage High Power Factor Dimmable LED Drivers

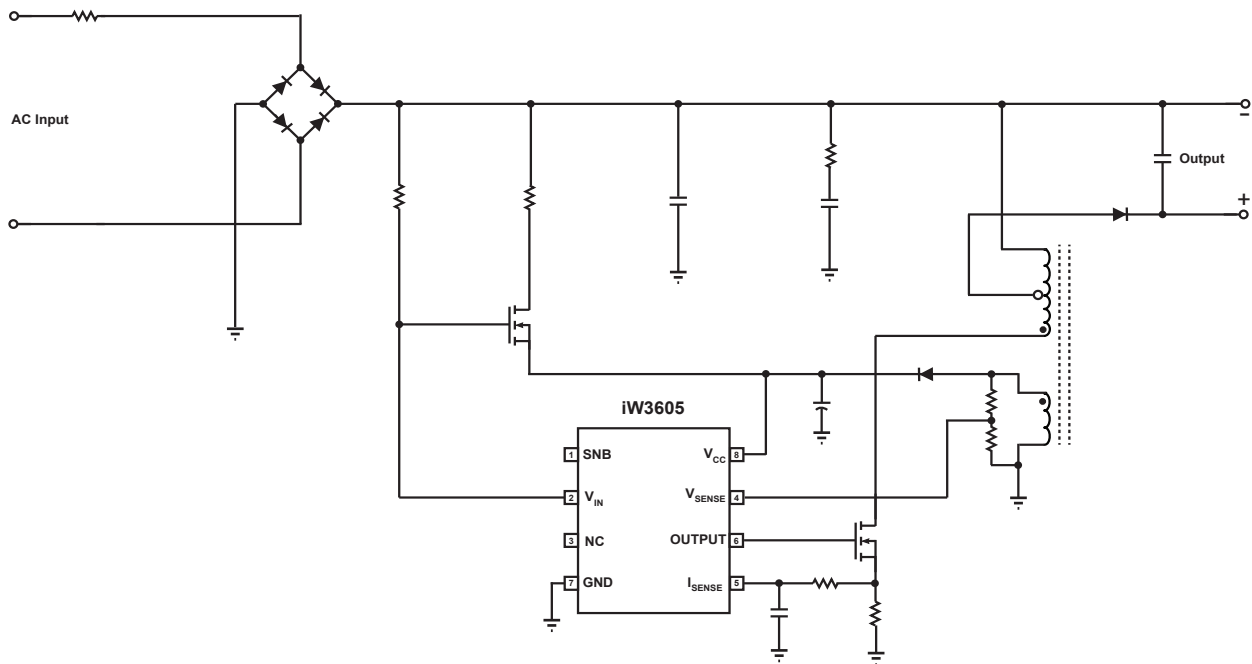


Figure 3.1 : iW3605 Simplified Application Circuit

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4 Pinout Description

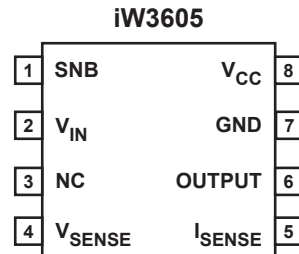


Figure 4.1 : 8-Lead SOIC Package

Pin Number	Pin Name	Type	Pin Description
1	SNB	Output	Gate drive for active snubber switch
2	V _{IN}	Analog Input	Rectified AC line voltage sense
3	NC	–	No connection
4	V _{SENSE}	Analog Input	Auxiliary winding voltage sense
5	I _{SENSE}	Analog Input	Primary side current sense
6	OUTPUT	Output	Gate drive for main MOSFET switch
7	GND	Ground	Ground
8	V _{CC}	Power	Power supply for control logic

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5 Absolute Maximum Ratings

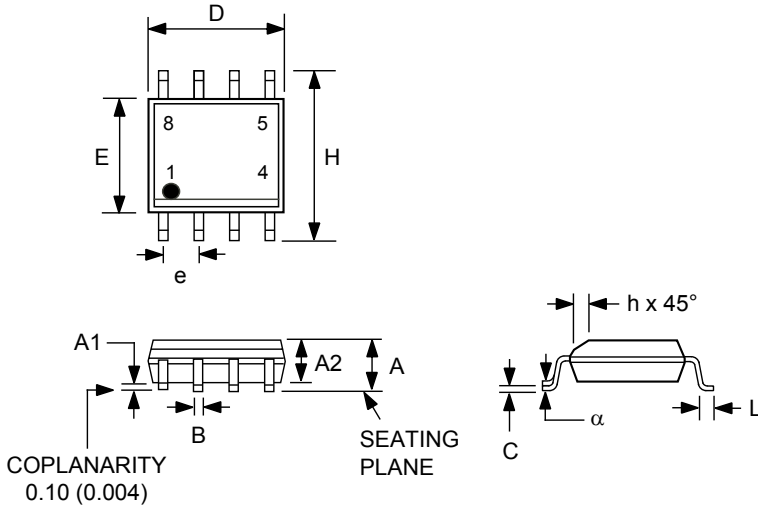
Absolute maximum ratings are the parameter values or ranges which can cause permanent damage if exceeded.

Parameter	Symbol	Value	Units
DC supply voltage range (pin 8)	V_{CC}	-0.3 to 18	V
OUTPUT (pin 6)		-0.3 to V_{CC}	V
SNB output (pin 1)		-0.3 to V_{CC}	V
V_{SENSE} input (pin 4, $I \leq 10\text{mA}$)		-0.7 to 4.0	V
V_{IN} input (pin 2)		-0.3 to 18	V
I_{SENSE} input (pin 5)		-0.3 to 4.0	V
Maximum junction temperature	T_{JMAX}	150	°C
Operating junction temperature	T_{JOPT}	-40 to 150	°C
Storage temperature	T_{STG}	-65 to 150	°C
Thermal Resistance Junction-to-Ambient [Still Air]	θ_{JA}	160	°C/W
ESD rating per JEDEC JESD22-A114		$\pm 2,000$	V
Latch-up test		100	mA

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6 Physical Dimensions

8-Lead Small Outline (SOIC) Package



Symbol	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.053	0.069	1.35	1.75
A1	0.0040	0.010	0.10	0.25
A2	0.049	0.059	1.25	1.50
B	0.014	0.019	0.35	0.49
C	0.007	0.010	0.19	0.25
D	0.189	0.197	4.80	5.00
E	0.150	0.157	3.80	4.00
e	0.050 BSC		1.27 BSC	
H	0.228	0.244	5.80	6.20
h	0.10	0.020	0.25	0.50
L	0.016	0.049	0.4	1.25
α	0°	8°		

Compliant to JEDEC Standard MS12F

Controlling dimensions are in inches; millimeter dimensions are for reference only

This product 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; package can withstand 10 s immersion < 260°C

Dimension D does not include mold flash, protrusions or gate burrs. Mold flash, protrusions or gate burrs shall not exceed 0.15 mm per end. Dimension E1 does not include interlead flash or protrusion. Interlead flash or protrusion 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, gate burrs and interlead flash, but including any mismatch between the top and bottom of the plastic body.

7 Ordering Information

Part no.	Options	Package	Description
iW3605-02 ¹ iW3605-02C	I _{SENSE} clamp to 0.3V nominal	SOIC-8	Tape & Reel ²
iW3605-05 ¹ iW3605-05C	I _{SENSE} clamp to 0.5V nominal	SOIC-8	Tape & Reel ²

Note 1: Not recommended for new designs; use the -xxC version.

Note 2: Tape and reel packing quantity is 2,500/reel. Minimum ordering quantity is 2,500.

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