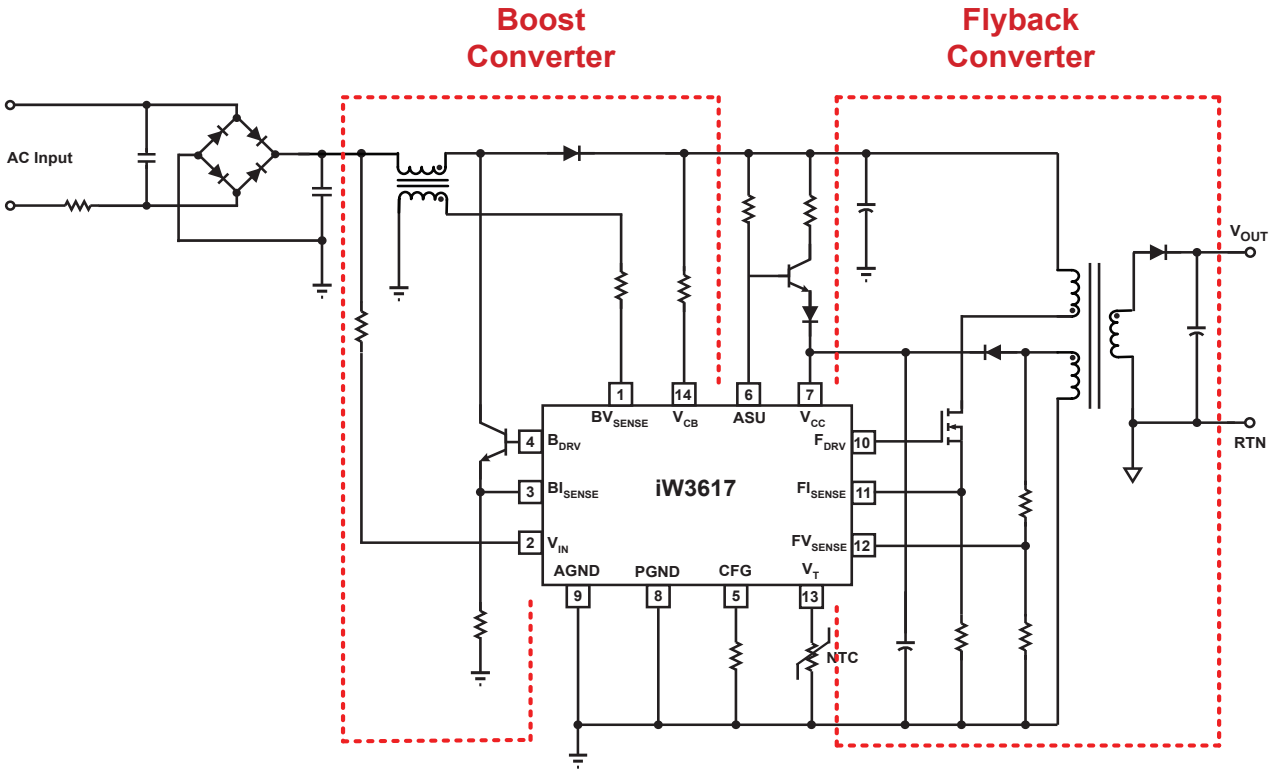


Figure 3.1 : iW3617 Simplified Schematic

4 Pinout Description

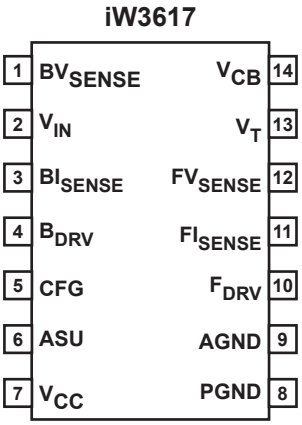


Figure 4.1 : 14-Lead SOIC Package

Pin Number	Pin Name	Type	Pin Description
1	BV_{SENSE}	Analog Input	Boost inductor voltage feedback input
2	V_{IN}	Analog Input	Rectified AC line voltage input
3	BI_{SENSE}	Analog Input	Boost current sense input
4	B_{DRV}	Output	Base drive output for boost BJT
5	CFG	Analog In/Out	Driver parameter configuration pin and auxiliary driver
6	ASU	Output	Active start-up and bleeder control
7	V_{CC}	Power	Power supply for control logic and voltage sense for power-on reset circuit. A decoupling capacitor of 0.1µF or so should be connected between the V_{CC} pin and GND.
8	PGND	Ground	Power ground
9	AGND	Ground	Signal ground. It should be connected to the power ground on PCB.
10	F_{DRV}	Output	Gate drive output for flyback MOSFET
11	FI_{SENSE}	Analog Input	Flyback current sense (used for cycle-by-cycle peak current control and limit)
12	FV_{SENSE}	Analog Input	Flyback voltage sense (used for primary-side regulation and ZVS)
13	V_T	Analog Input	External power limit shutdown control and external over-temperature power derating
14	V_{CB}	Analog Input	Boost output voltage feedback input

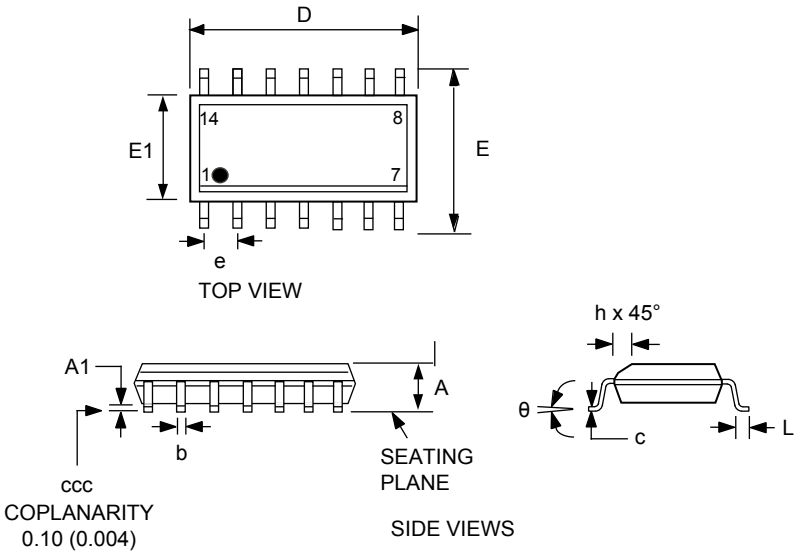
5 Absolute Maximum Ratings

Absolute maximum ratings are the parameter values or ranges which can cause permanent damage if exceeded. For maximum safe operating conditions, refer to Electrical Characteristics in Section 6.

Parameter	Symbol	Value	Units
DC supply voltage range (pin 7)	V_{CC}	-0.3 to 18	V
F_{DRV} output (pin 10)		-0.3 to 18	V
B_{DRV} output (pin 4)		-0.3 to 4.0	V
CFG input (pin 5)		-0.3 to 4.0	V
CFG output (pin 5)		-0.3 to 18	V
FV_{SENSE} input (pin 12, I ≤ 10mA)		-0.7 to 4.0	V
BV_{SENSE} input (pin 1, I ≤ 3mA)		-0.7 to 4.0	V
V_{IN} input (pin 2)		-0.3 to 18	V
V_{CB} input (pin 14)		-0.3 to 18	V
FI_{SENSE} input (pin 11)		-0.3 to 4.0	V
BI_{SENSE} input (pin 3)		-0.3 to 4.0	V
ASU output (pin 6)		-0.3 to 18	V
V_T input (pin 13)		-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-PCB Board Surface Temperature	ψ_{JB}	45	°C/W
ESD rating per JEDEC JESD22-A114		±2,000	V
Latch-up test per JESD78A		±100	mA

6 Physical Dimensions

14-Lead SOIC Package



Symbol	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.053	0.069	1.35	1.75
A1	0.004	0.010	0.10	0.25
b	0.013	0.020	0.33	0.51
c	0.007	0.010	0.19	0.25
D	0.337	0.344	8.55	8.75
E1	0.150	0.157	3.80	4.00
E	0.228	0.244	5.80	6.20
e	0.050 BSC		1.27 BSC	
L	0.016	0.050	0.40	1.27
h	0.010	0.020	0.25	0.50
θ	0°	8°	0°	8°
ccc	0.004		0.10	

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 E 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 E 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.

Figure 6.1 : 14-Lead SOIC Package

7 Ordering Information

Part no.	Options	Package	Description
iW3617-00	$120V_{AC}$ Input	SOIC-14	Tape & Reel[1]
iW3617-01	$230V_{AC}$ Input	SOIC-14	Tape & Reel[1]

Note 1: Tape & Reel packing quantity is 2,500/reel. Minimum ordering quantity is 2,500.

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