

80W, 20A Non-Isolated SMT Point-Of-Load

<https://product.tdk.com/en/power/iBH>
www.emea.lambda.tdk.com/iBH



Industrial



Test



COMM



Broadcast

The iBH series of non-isolated Point-Of-Load (POL) converters provide localized voltage conversion from either a 5V or 12V bus. With its wide input and wide output voltage adjustment range, this compact-size and surface-mountable DC-DC module can deliver up to 80W making it a versatile solution for various board mount power requirements.

Features	Benefits
• DOSA Compatible Footprint	• Established Industry Footprint / Multisource
• Surface Mountable and Reflow Solder Compatible	• Ease of Manufacturing and Assembly
• Constant Switching Frequency	• Predictable EMI
• No External Loop Tuning Components Needed	• Simplifies Deployment and Saves Board Space
• Excellent Transient Response	• Stable / Reliable Output During Dynamic Load

Model Selector

Model	Input Voltage (V)	Output Voltage (V)	Max Current (A)	Max Power (W)	On/Off Polarity	Efficiency Full Load (typ)
iBH12020A007V-006-R	3.5 - 14	0.7 - 5.5	20	80	Pos	96%
iBH12020A007V-007-R	3.5 - 14	0.7 - 5.5	20	80	Neg	96%

Preferred Model

Related Products

Type	Part Number	Description
Isolated DC-DC Converter	iQL	300W, Input 36-75V or 18-36V, Isolated Quarter Brick
Isolated DC-DC Converter	iQG	300W~504W, Input 36-75V, Isolated Quarter Brick
Isolated DC-DC Converter	iEH	300W, Input 36-75V, Isolated Eighth Brick
Isolated DC-DC Converter	GQA	120W Industrial, Input 9-36V, Isolated Quarter Brick
Non-Isolated DC-DC Converter	iAH	150W/40A, 3.5-17Vin, 0.7 - 5.0Vout, DOSA Compatible
Non-Isolated DC-DC Converter	iCH	85W/12A, 4.5-14Vin, 0.7 - 8.5Vout, DOSA Compatible
Input Filter	iDQ	75V / 10A Filter

Specification		
Model		iBH
Input		
Input Voltage Range	Vdc	3.5 - 14
Input Current (max)	A	20
Turn-On Input Voltage (typ)	Vdc	2.7
Turn-Off Input Voltage (typ)	Vdc	2.5
Efficiency (typical)	%	85.5 - 96
Safety Certifications and Markings	-	IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark and UKCA Mark
Output		
Output Voltage Initial Setpoint	%	± 2
Output Voltage Tolerance	%	± 3
Line Regulation (typ)	mV	4
Load Regulation (typ)	mV	7
Output Current (max)	A	20 ⁽¹⁾
Output Power (max)	W	80
External Load Capacitance	uF	200 - 2000
Ripple & Noise (typ)	mVpp	20
Transient Response	-	250 mV, 50 µs (25% to 75% step Load; 1A/µs, Vo = 1.8V)
Switching Frequency (fixed)	kHz	600
Overcurrent Protection Threshold (Hiccup)	A	35
Environmental		
Operating Temperature (Tc)	°C	-40 to 115
Storage Temperature	°C	-55 to 125
Humidity (non condensing)	%RH	10 - 95
Cooling	-	Convection or forced air (See product specifications for derating)
Isolation Voltage (Input to Output)	Vdc	NA
Isolation Resistance	MΩ	NA
Shock	-	MIL-STD-202G, Method 213B, Test Condition I
Vibration	-	MIL-STD-202G, Method 201A
Other		
Weight (max)	g	6
Size (LxWxH)	inch	0.8 x 0.45 x 0.39
	mm	20.3 x 11.4 x 9.9
Moisture Sensitivity Level	-	MSL 2
MTBF - Telcordia SR-332 (100% Load, 40°C)	MHrs	> 12
Warranty	yrs	3

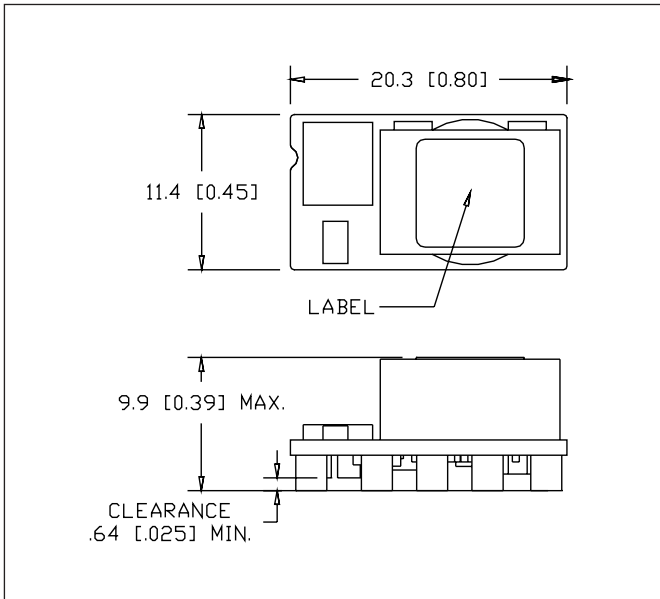
Notes

(1) Observe maximum power limit.

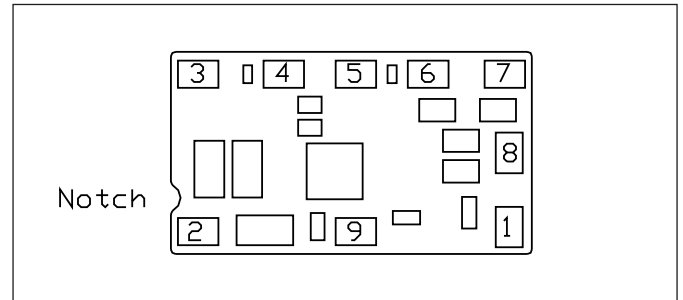
(2) See the website for detailed product [specifications](#).

Mechanical Specification

Outline Drawing



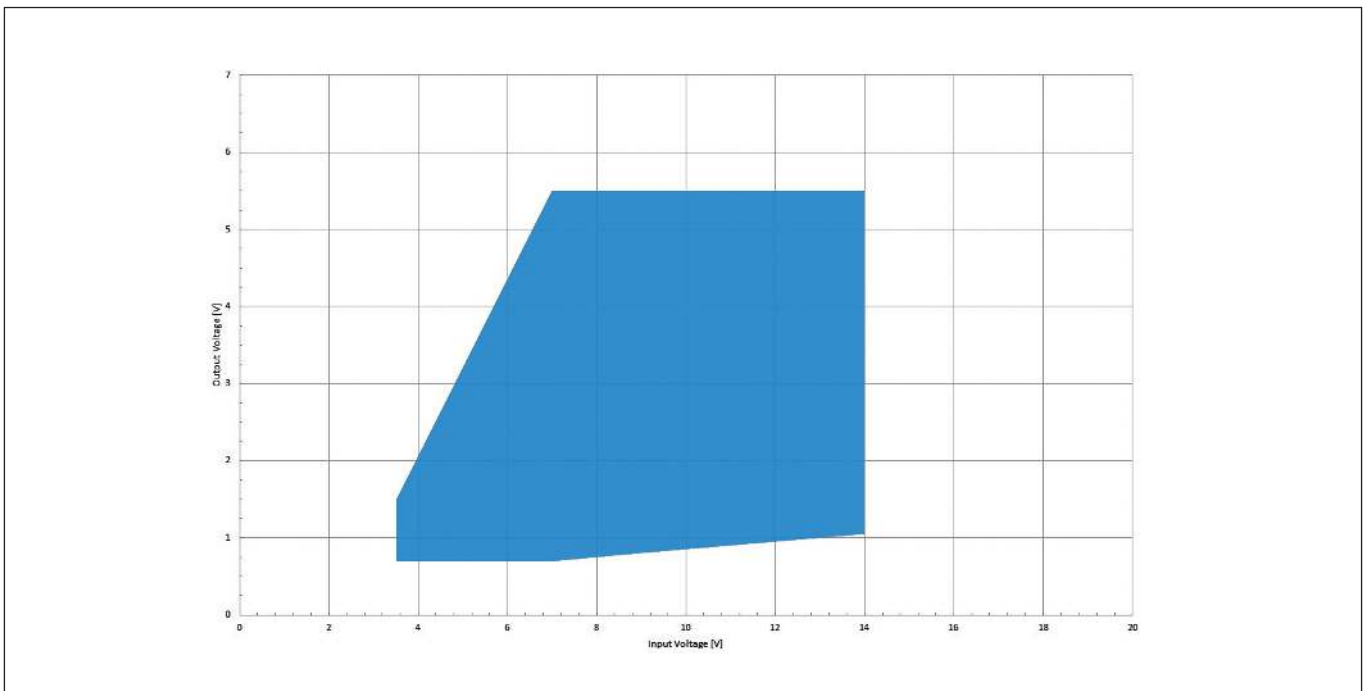
Recommended PCB Hole Pattern



Pinout

PIN	Function	PIN	Function
1	ON / OFF	6	VOUT
2	VIN	7	SENSE (+)
3	Sequencing	8	Reserved
4	GND	0	PWR GOOD
5	TRIM		

Output vs. Input Voltage Operating Range





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