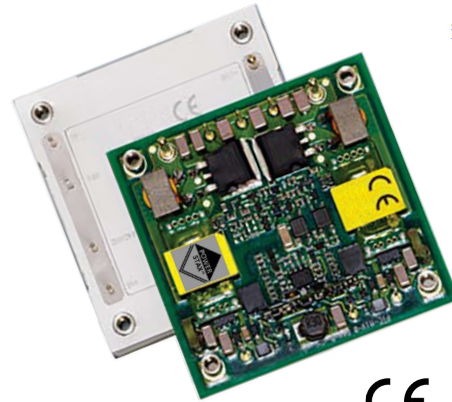




- STANDARD “HALF BRICK” PACKAGE
- POWER DENSITY UP TO 10.3W/CM³ (169W/IN³)
- EFFICIENCIES FROM 88-90%
- 24VDC OR 48VDC INPUT
- 2:1 INPUT VOLTAGE RANGE
- REMOTE ON/OFF
- OPEN-FRAME & ENCLOSED OPTIONS



POWER SUPPLY DESIGN EXCELLENCE

The H0331 series provides up to 336W/21A outputs in an industry standard half brick package which is available in both Open-Frame and Fully Enclosed formats.

A non-SR technology is combined with an ultra low leakage inductance magnetic design to provide “SR-like” efficiency levels.

The multi-layer single side circuit board design with sink-plate technology enhances the thermal performance and improves reliability.

H0331 series is designed for Industrial, Telecom, Servers, Networking and other applications that use a 24V or 48V input bus.

STANDARD MODEL ¹	INPUT VOLTAGE (RANGE)	INPUT CURRENT ²	OUTPUT VOLTAGE	OUTPUT CURRENT	OUTPUT POWER	TYPICAL EFFICIENCY
H0331-024-0120-c-xy	24V (18-36V)	15.6A	12.0V	21.0A	252W	90%
H0331-024-0240-c-xy		18.0A	24.0V	12.0A	288W	89%
H0331-024-0280-c-xy		19.0A	28.0V	11.0A	308W	90%
H0331-024-0480-c-xy		21.2A	48.0V	7.0A	336W	88%
H0331-048-0120-c-xy	48V (36-75V)	7.8A	12.0V	21.0A	252W	90%
H0331-048-0240-c-xy		9.0A	24.0V	12.0A	288W	89%
H0331-048-0280-c-xy		9.5A	28.0V	11.0A	308W	90%
H0331-048-0480-c-xy		10.5A	48.0V	7.0A	336W	89%

Notes:

1. See ‘model number configuration guide’ to specify parameters c, x & y.
2. Based on typical efficiency at minimum input voltage.

OTHER HIGH DENSITY DC-DC
Full Brick to 850W
Quarter Brick to 300W
Eighth Brick to 132W
Sixteenth Brick to 50W

H0331 SERIES-DC/DC



INPUT SPECIFICATIONS	24V Input	48V Input
Input Voltage & Current	see model table	
Input Voltage Limit	-0.5V to +40V	-0.5V to +80V
Input Current (standby)	off: <6mA, latched: <8mA	
Vin (on) (input rising)	17-18V	34-36V
Vin (off) (input falling)	15.6V-16.6V	31.2-33.2V
Surge Withstand (100mS)	50V	100V
Reflected Ripple Current	30mA rms/100mA pk-pk (L _{EXT} = 10μH)	
Input Capacitance	42.0uF Max.	15.0uF Max.

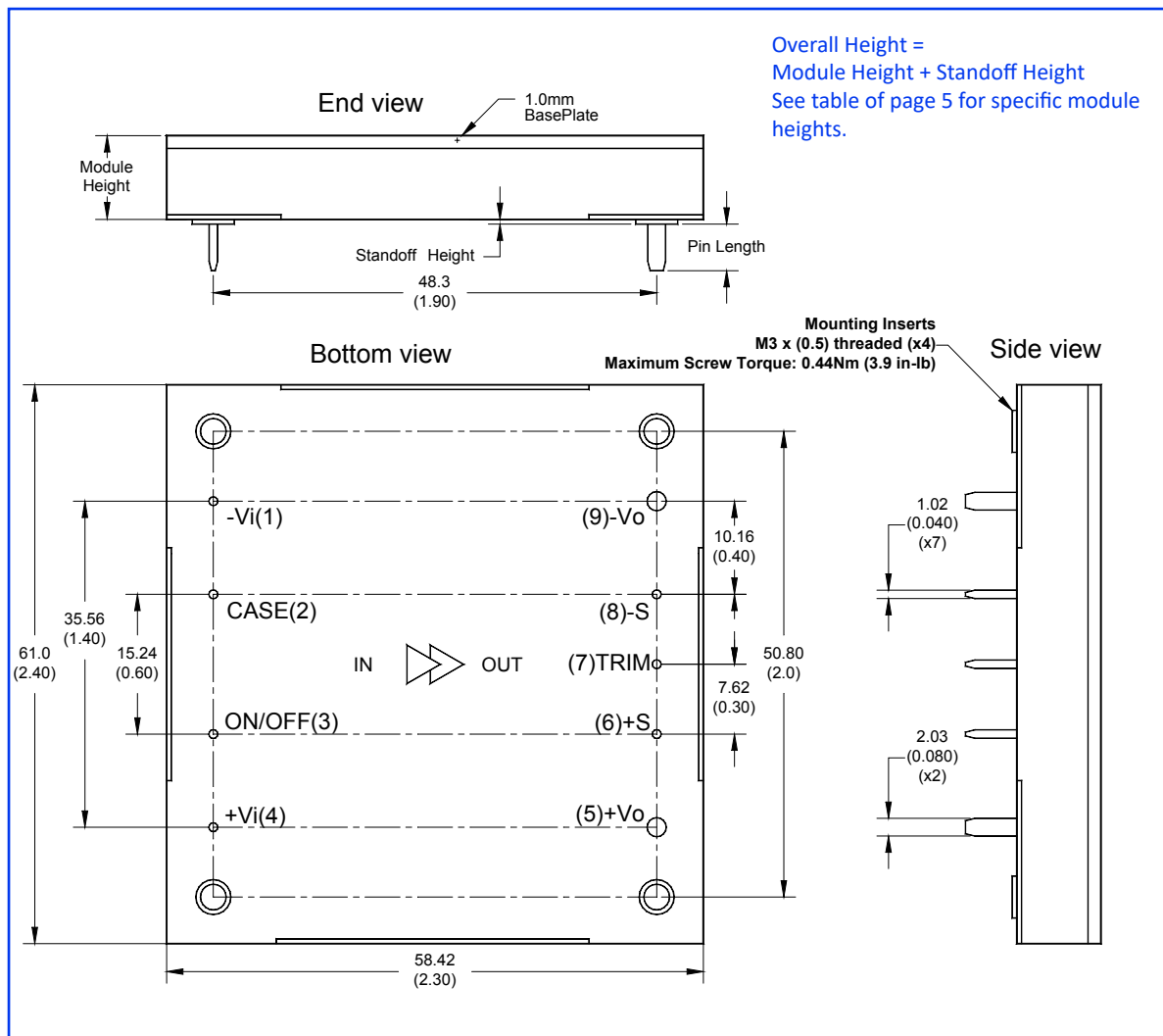
OUTPUT SPECIFICATIONS	
Voltage Set-point (typical)	±1.0% Vout nom. (at full load)
Voltage Tolerance Band	±4.0% Vout nom. (all line, load & temperature conditions)
Line Regulation	>0.3% Vout nom. (Vin minimum to Vin maximum)
Load Regulation	>0.3% Vout nom. (2% to 100% load)
Efficiency	see model table
Temperature Coefficient	±0.03%/°C (-40°C to 100°C)
Transient Response	±6.0% Vout/500μA (50-75% load step at 2.5A/μS)
Start-Up Delay Time	20mS-250mS (Full Load)
Input Ripple Rejection	-50dB (<1KHz)
Current Limit	108-125%
Ripple & Noise (20MHz)	3% pk-pk, 1% rms
Overvoltage Protection	115-130% Vout
Trim Range	±10% Vout nom. (10% Full Load)

GENERAL & ENVIRONMENTAL SPECIFICATIONS	
Temperature Range	-40°C to +110°C operating, -55°C to +125°C storage
Overtemperature Protection	110°C(Tc) ±5°C (Internal)
Cooling	Baseplate or Baseplate/Heatsink Combination
Switching Frequency	340kHz
Safety Standards	UL/EN/IEC60950-1 2nd Ed. (UL Pending)
Isolation Voltage	2000VACrms (input/output, reinforced insulation) 1000VACrms (input/baseplate, basic insulation) 1000VACrms (output/baseplate, operational insulation)
Baseplate Material	Aluminium
Weight	Open-Frame 60g with 1mm baseplate, Enclosed 85g with 1mm baseplate
MTBF	4,110,000 hours @ 25°C (Belcore TR332 issue 6)

CONTROL SPECIFICATIONS	
Remote Control Voltage	Logic HI - +3.0 to +6.5V, Logic LO - 0 to +1.0V
Remote Control Current	-0.5 to +1.5mA
Voltage Limit	-0.5 to +12V



MECHANICALS - ENCLOSED



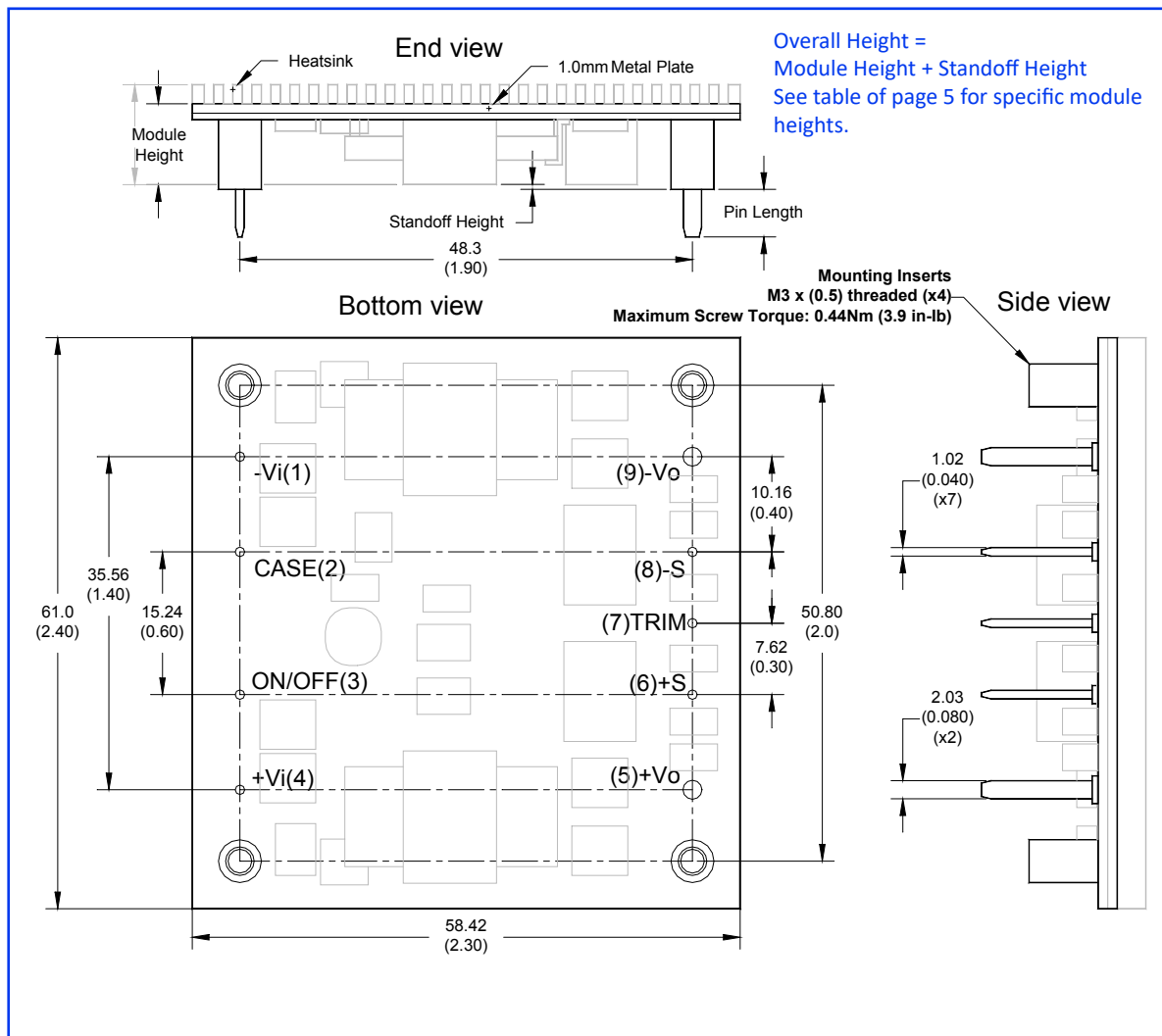
PIN DESIGNATIONS

Pin	Designation	Function
1	-IN	Input -Ve
2	CASE	Connected to Baseplate
3	ON/OFF	Remote ON/OFF
4	+IN	Input +Ve
5	+Vo	Output +Ve
6	+S	Remote Sense +Ve
7	Trim	Output Voltage Trim
8	-S	Remote Sense -Ve
9	-Vo	Output -Ve

Dimensions:	mm (inches)
Tolerances:	x.xx±0.5 (x.xx±0.02) 0.x±0.25 (x.xxx±0.01)
Weight (1mm plate):	Enclosed - 95g Open-Frame - 60g
Base plate:	Anodised Aluminium Alloy
Mounting inserts:	Stainless Steel
Maximum torque:	0.44Nm (3.9 in-lb)
Pin material:	Copper Alloy or Brass
Pin plating:	Gold over Nickel



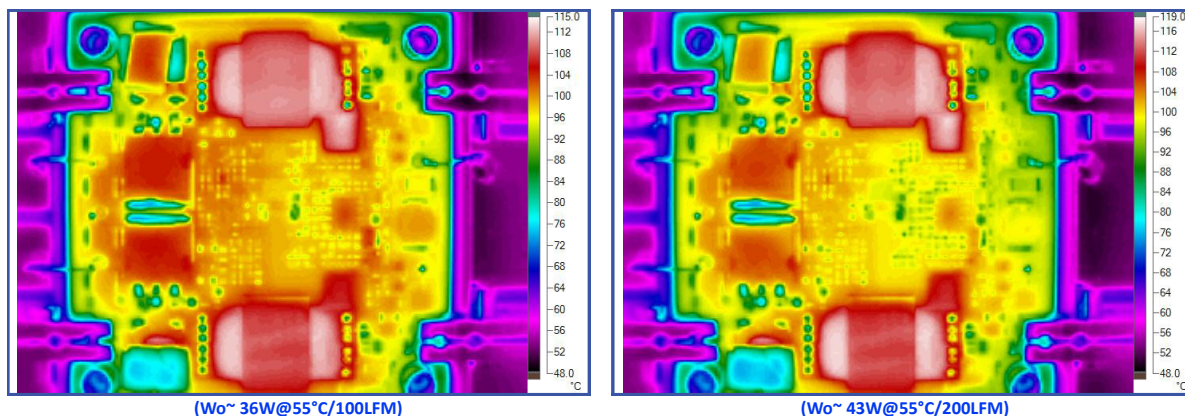
MECHANICALS - OPEN-FRAME



H0331 SERIES-DC/DC

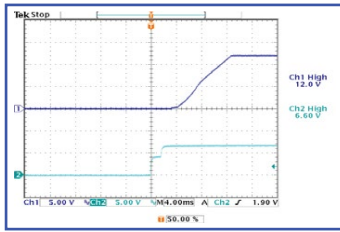
TYPICAL THERMAL PLOTS

OPEN-FRAME FORMAT

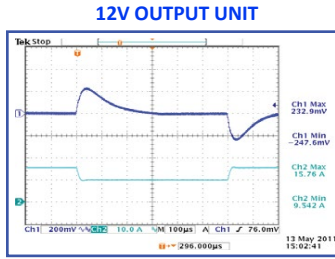




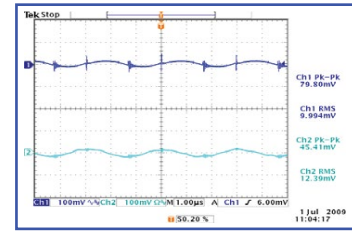
TYPICAL WAVEFORMS & CURVES



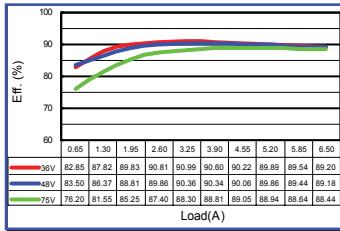
Start-up Waveform



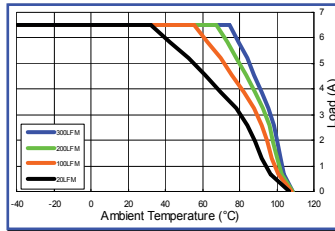
Transient Response



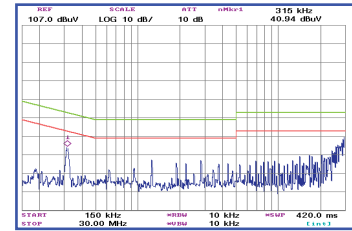
Input & Output Ripple



Efficiency



Derating



EMI

MODEL NUMBER CONFIGURATION GUIDE

H0331-iii-oooo-c-xy

Series Name (H= ½ Brick) _____ Pin/Standoff/Heatsink (see below)

Power Output (W/10) _____ Remote ON/OFF Polarity (see below)

Number of Outputs _____ Output Voltage (see model table)

_____ Input Voltage (see model table)

REMOTE ON/OFF POLARITY	
Positive	Negative
H	L

Select desired remote on/off polarity and insert in position c.

PIN LENGTH / STANDOFF HEIGHT				
	mm (inches)	Standoff Height		
		0.51 (0.02)	2.03 (0.08)	4.06 (0.16)
Pin Length	3.05 (0.12)	A	C	D
	4.06 (0.16)	E	G	H
	5.08 (0.20)	J	L	M
	6.10 (0.24)	N	Q	R

Select required Pin Length & Standoff Height combination and insert in position x.

FORMAT		MODULE HEIGHT
Open-Frame 1mm Baseplate	A	8.64 (0.34)
Open-Frame 3mm Baseplate	B	10.67 (0.42)
Open-Frame 3mm Heatsink	D	10.67 (0.42)
Open-Frame 5mm Heatsink	E	12.7 (0.50)
Enclosed 1mm Baseplate	F	9.40 (0.37)

Select desired format and insert in position y.

Example: **H0331-024-0280-H-AE** is 24Vdc input with 28Vdc output, positive polarity, remote on/off, 3.05mm pin length, 0.51mm standoff height and open-frame format with 5mm heat-sink.

All specifications are typical at nominal line input, full load and 25°C unless otherwise stated.

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