VI Brick® IBC Modules
IB0xxxxxxxxxxx-xx Family

BRICK

Overview

- **Isolated, Fixed-Ratio Bus Converters**
- **Best-in-Class Efficiency**
- **Best-in-Class Output Power**
- **A Superior Drop-in Replacement**
- **Industry Standard Form Factors and Pinouts**
- **IPC-9592 Compliant**

Features

- **Best-in-Class Performance**
  Quarter-Brick Output to 80 A / 850 W
  Eighth-Brick Output to 48 A / 500 W
  Eighth-Brick & Quarter-Brick Density >600 W/in³
  Peak Efficiency to >98%
  Low Noise ZVC / ZCS Topology

- **Industry Standard Packages**
  Eighth-Brick & Quarter-Brick Formats
  Multiple I/O Pin Lengths
  Baseplate Option for Quarter-Brick Model
  Low Profile (0.42")

- **Flexible Electrical Characteristics**
  Input Range: 36 to 60 Vdc (48 V nom.)
  75 V Surge Capability
  9.6 Vdc (nom.) Output (5:1 transfer ratio) or
  12.0 Vdc (nom.) Output (4:1 transfer ratio)
  Positive or Negative Logic Enable
  2,250 Vdc Isolation
  -40°C Operation

Description

Vicor's dynamic Sine Amplitude Converter™ (SAC™) topology is at the heart of each fixed-ratio Intermediate Bus Converter (IBC) module. Benefits realized from this patented technology are: superior efficiency, exceptional power density, very fast response to load transients, extremely low output impedance and a low electrical noise profile. These IBC modules are well suited to power system applications in enterprise and optical access networks.

Offered from 300 W to 850 W, these IBCs conform to industry-standard eighth and quarter-brick footprints and feature input/output isolation and an array of protection functions. Their low cross section profile facilitates unimpeded airflow — above and below the thin body — to minimize the temperature rise of downstream components.

Part Number	Package	Power
9.6 Vdc Output (5:1)		
IB048E096T40xx-xx[a]	Eighth Brick	300 W
IB050E096T40xx-xx[b]	Eighth Brick	300 W
IB054E096T40xx-xx[c]	Eighth Brick	300 W
IB048E096T48xx-xx[a]	Eighth Brick	500 W
IB050E096T48xx-xx[b]	Eighth Brick	500 W
IB054E096T48xx-xx[c]	Eighth Brick	500 W
IB048Q096T64xx-xx[a]	Quarter Brick	650 W
IB050Q096T64xx-xx[b]	Quarter Brick	650 W
IB054Q096T64xx-xx[c]	Quarter Brick	650 W
IB048Q096T70xx-xx[a]	Quarter Brick	750 W
IB050Q096T70xx-xx[b]	Quarter Brick	750 W
IB054Q096T70xx-xx[c]	Quarter Brick	750 W
IB048Q096T80xx-xx[a]	Quarter Brick	850 W
IB050Q096T80xx-xx[b]	Quarter Brick	850 W
IB050Q096T80xx-xx[c]	Quarter Brick	850 W

Part Number	Package	Power
12.0 Vdc Output (4:1)		
IB048E120T32xx-xx[a]	Eighth Brick	300 W
IB050E120T32xx-xx[b]	Eighth Brick	300 W
IB054E120T32xx-xx[c]	Eighth Brick	300 W
IB048E120T40xx-xx[a]	Eighth Brick	500 W
IB050E120T40xx-xx[b]	Eighth Brick	500 W
IB054E120T40xx-xx[c]	Eighth Brick	500 W
IB048Q120T53xx-xx[a]	Quarter Brick	650 W
IB050Q120T53xx-xx[b]	Quarter Brick	650 W
IB054Q120T53xx-xx[c]	Quarter Brick	650 W
IB048Q120T60xx-xx[a]	Quarter Brick	750 W
IB050Q120T60xx-xx[b]	Quarter Brick	750 W
IB054Q120T60xx-xx[c]	Quarter Brick	750 W

[a] 38 – 55 Vin, 1,500 Vdc isolation
[b] 36 – 60 Vin, 2,250 Vdc isolation
[c] 36 – 60 Vin, 2,250 Vdc isolation with 75 V transient ride-through

Replace the "–xx" suffix in the part number with "–CB" to order an evaluation board.

Note: This document is a product overview, for detailed information such as input range, enable logic and pin length options, go to:
http://www.vicorpower.com/dc-dc-converters-board-mount/vi-brick-intermediate-bus-conver

Performance

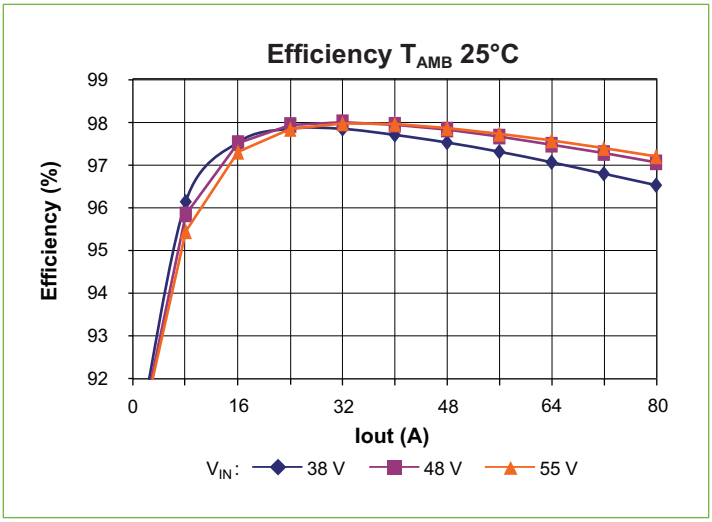


Figure 1 *– Efficiency vs. Output Current for IB050Q096T80N1-00*

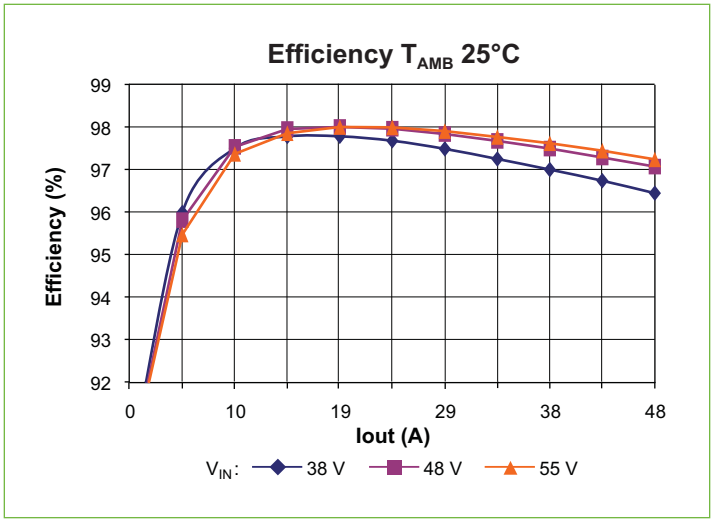


Figure 2 *– Efficiency vs. Output Current for IB050E096T48N1-00*

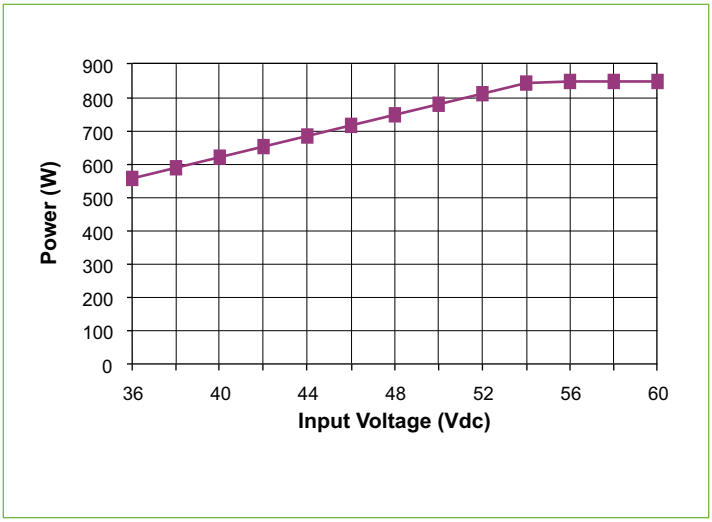


Figure 3 *– IB050Q096T80N1-00 Output Power vs. Input Voltage*

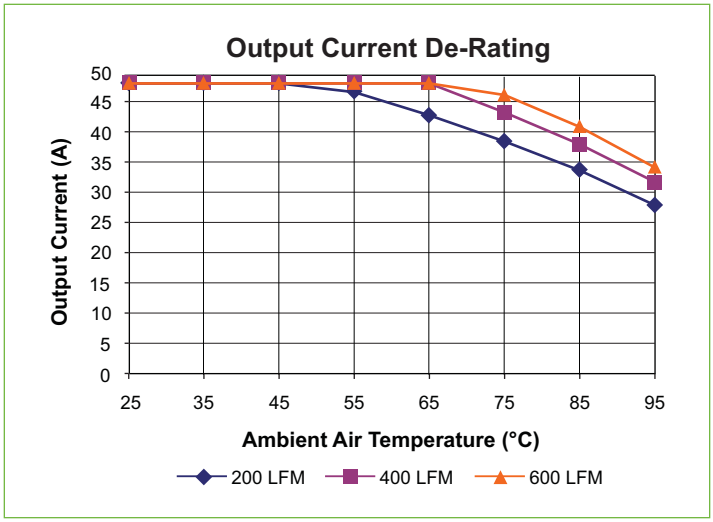
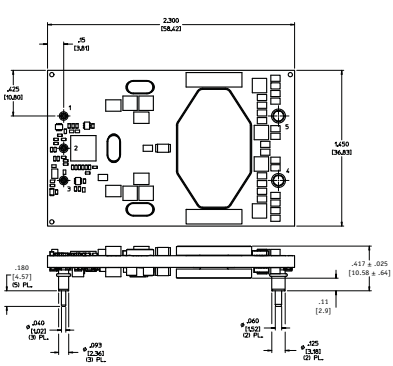
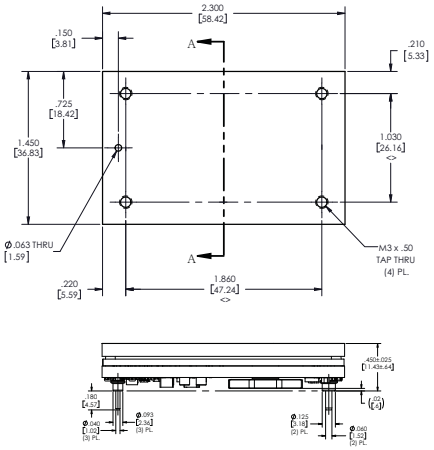


Figure 4 *– IB050E096T48N1-00 Output Curent De-rating vs. Ambient Temperature*

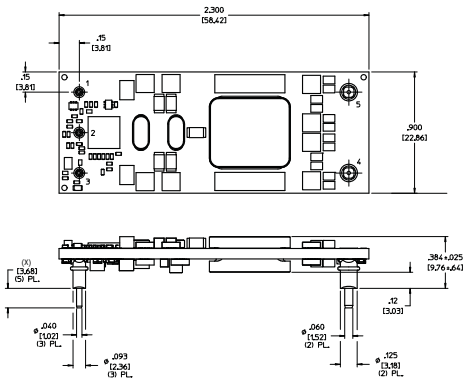
Product Dimensions



Quarter Brick



Quarter Brick with optional thermal interface surface



Eighth Brick