DCM™ Family

Isolated, Regulated DC-DC Converter Modules

For use in: Industrial and Process Control, Distributed Power, ATE, Communications, Defense/Aerospace, Semiconductor Manufacturing Equipment (SME), Transportation.

Features and Benefits

- **Up to 600 W, 43.5 A continuous**
- **93% peak efficiency**
- **Up to 1,244 W/in^3 power density**
- **Up to 4,242 Vdc isolation**
- **ZVS high frequency switching**
- **Fully operational current limit**
- **OV, OC, UV, short circuit and thermal protection**
- **Integrated filtering, remote or local sense, enhanced thermal management, and tight output voltage regulation over all lines and load conditions for DCM VIA applications**

VIA Package

ChiP Package

Product Description

The DCM is an isolated, highly efficient, regulated DC-DC converter utilizing high frequency zero voltage switching (ZVS) topology, operating from an unregulated, wide range input to generate an isolated output. Modular DCM converters and downstream DC-DC products support efficient power distribution, providing superior power system performance and connectivity from a variety of unregulated power sources to the point of load. Leveraging the thermal and density benefits of Vicor's ChiP packaging technology, the DCM ChiP module offers flexible thermal management options with very low top and bottom side thermal impedances while the DCM VIA module additionally provides integrated EMI filtering, tight output voltage regulation, and a secondary-referenced control interface while retaining the fundamental design benefits of the conventional brick architecture.

Family of DCM Products

■ = Also Available in VIA package

Vin (V)	Package Size	Power (W) by Nominal Output Voltage (V)								
		3.3	5	12	13.8	15	24	28	36	48
300 (180 - 420)	4623 ChiP or 3714 VIA			**400**			**600**	500		**500**
48 (36 - 75)	3623		160	320		320		320	320	320
24 (18 - 36)	3623		180	320		320	320	320	320	320
290 (160 - 420)	4623				600					
270 (160 - 420)	4623 or 3714 VIA	150	250	**500**		500	500	**500**		
28 (16 - 50)	3623 or 3414 VIA		**180**	**320**		**320**	**320**	**320**		320
30 (9 - 40/50)	3623			160						160

DCM in ChiP Package Part Numbering

Device	Vin	Package Type	Output Voltage x10	Temperature Grade	Output Power	Rev	Package Size	Version
DCM	**290**	**P**	**138**	**T**	**600**	**A**	**4**	**0**
DCM	**48** (36 – 75) **24** (18 – 36) **290** (160 – 420) **300** (180 – 420)	**P** = ChiP Through-Hole	**033** = 3.3 V **050** = 5 V **120** = 12 V **138** = 13.8 V **150** = 15 V **240** = 24 V **280** = 28 V **360** = 36 V **480** = 48 V	**T** = -40 to 125°C **M** = -55 to 125°C	**150** = 150 W **160** = 160 W **180** = 180 W **320** = 320 W **400** = 400 W **500** = 500 W **600** = 600 W	**A**	**4** = 4623 **5** = 3623	**0** = Analog
MDCM = (MIL-COTS)	**270** (160 – 420) **28** (16 – 50) **30** (9 – 40/50)							

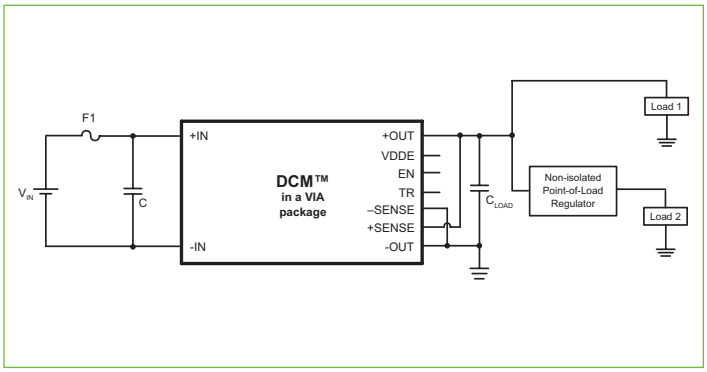
DCM in VIA Package Part Numbering

Product Function			Package Length	Package Width	Package Type	Internal Reference				Product Grade (Case Temperature)	Option Field	
D	**C**	**M**	**37**	**14**	**x**	**D2**	**H**	**26**	**D7**	**y**	**z**	**z**
DCM = DC-DC Converter			Inches x 10	Inches x 10	**B** = Board VIA **V** = Chassis VIA	Internal Reference				**C** = -20 to 100°C [a] **T** = -40 to 100°C [a]	**01** = Chassis/Analog **05** = Short Pin/Analog **09** = Long Pin/Analog	

[a] High temperature power derating may apply.

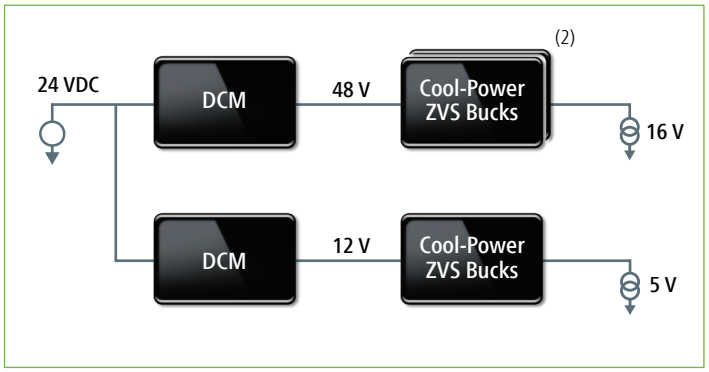
Typical Application

Single DCM3714xD2H26D7yzz in Local Sense Operation, to a non-isolated regulator, and direct to load



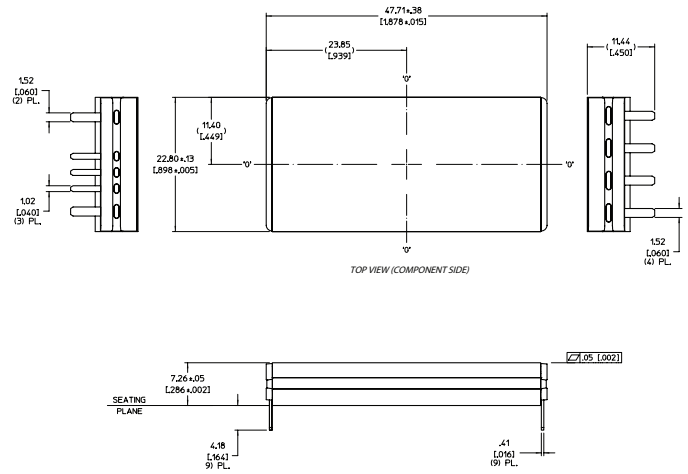
Block Diagram

Typical 24 V input to point of load.

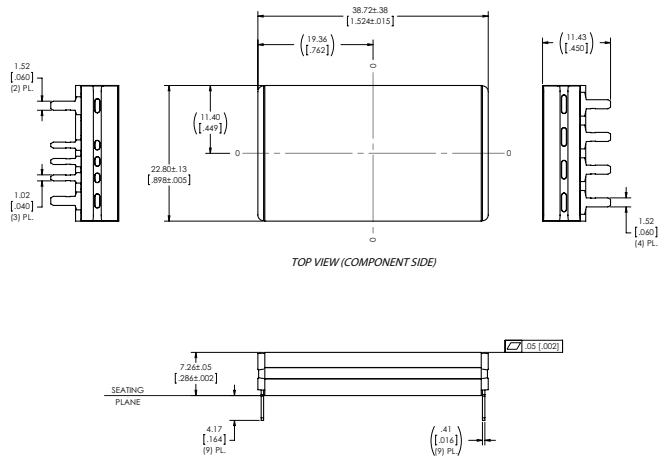


ChiP Outline Drawings

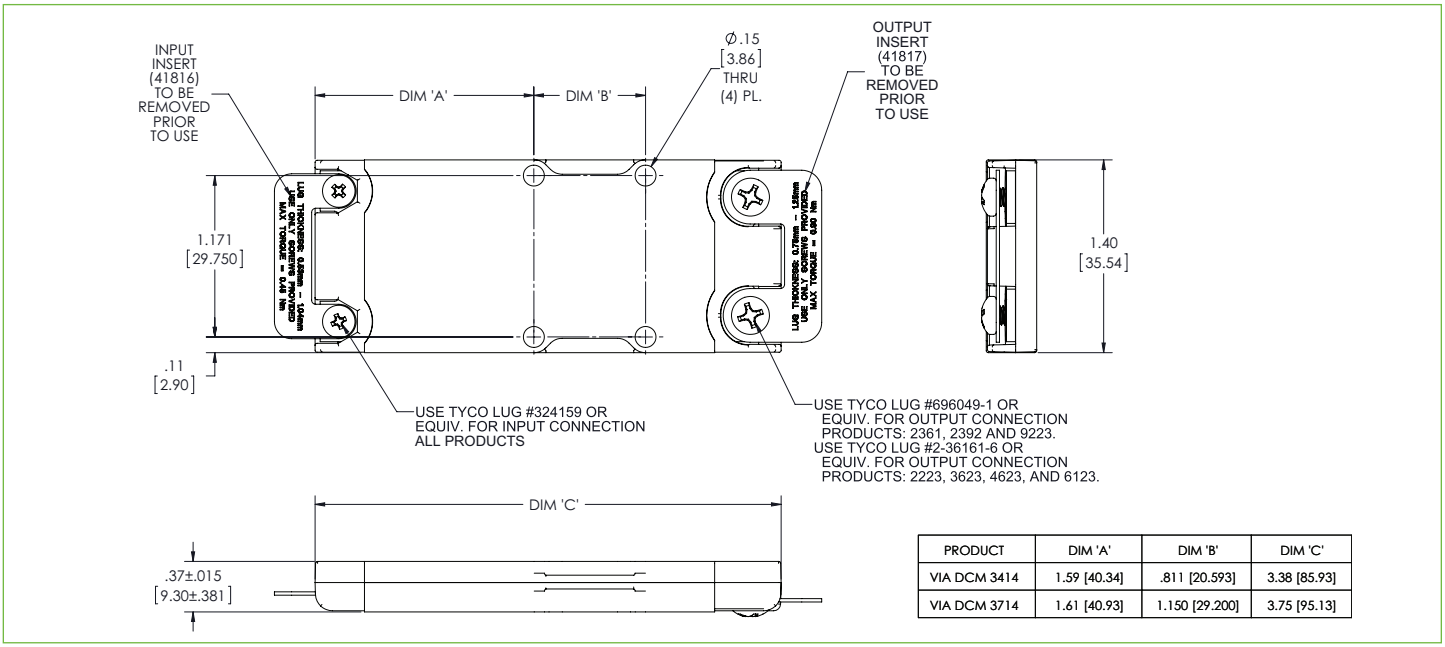
4623 ChiP Package



3623 ChiP Package



VIA Outline Drawing *Chassis mount version shown*



PRODUCT	DIM 'A'	DIM 'B'	DIM 'C'
VIA DCM 3414	1.59 [40.34]	.811 [20.593]	3.38 [85.93]
VIA DCM 3714	1.61 [40.93]	1.150 [29.200]	3.75 [95.13]