

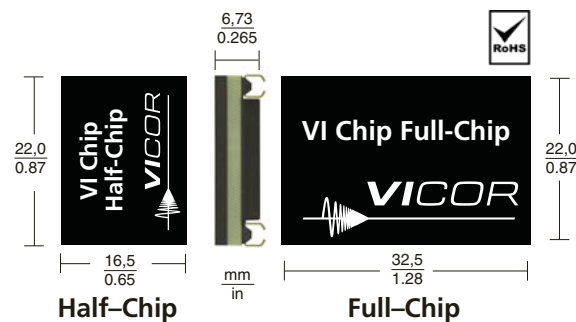
VI Chip® PRM® Regulator and VTM® Current Multiplier

Product Description

The PRM regulator is a very efficient non-isolated regulator capable of both boosting and bucking a wide range input voltage and providing a regulated, adjustable output voltage or “Factorized Bus”. PRM regulators can be used stand-alone as non-isolated voltage regulators or combined with VTM current multipliers for a complete isolated, DC-DC solution with high efficiency and power density. The VTM module provides point-of-load, fixed ratio voltage transformation with extremely fast transient response and isolation to 2,250 Vdc.

Features

- Sine Amplitude Converter (VTM)
- ZVS buck-boost regulator (PRM)
- Regulation 0.2% (Remote Sense)
- Small footprint: 1.1 in² or 0.56 in²
- High efficiency up to 97%
- Low profile 0.265”
- Power Density up to 1700 W/in³



PRM Model Number*	Input Voltage		Output Voltage Range (V)	Output Power Max. (W)	Output Current Max. (A)	Temp. Grade	Package
	Nom. (V)	Range (V)					
P024F048T12AL	24	18 - 36	26 - 55	120	2.5	T	Full
P036F048T12AL	36	18 - 60	26 - 55	120	2.5	T	Full
P045F048T17AL	45	38 - 55	26 - 55	170	3.5	T	Full
P045F048T32AL	45	38 - 55	26 - 55	320	6.67	T	Full
P048F048T12AL	48	36 - 75	26 - 55	120	2.5	T	Full
✕ PRM48AH480T200A00	48	36 - 75	20 - 55	200	4.16	T	Half
P048F048T24AL	48	36 - 75	26 - 55	240	5.0	T	Full
✕ PRM48AF480T400A00	48	36 - 75	20 - 55	400	8.33	T	Full
PRM48BH480T200A00	48	38 - 55	5 - 55	200	4.17	T	Half
✕ PRM48BH480T250A00	48	38 - 55	20 - 55	250	5.20	T	Half
PRM48BF480T400A00	48	38 - 55	5 - 55	400	8.33	T	Full
✕ PRM48BF480T500A00	48	38 - 55	20 - 55	500	10.41	T	Full

VTM Model Number*	Input Voltage Range (V)	Output Voltage Range (V)	Output Current Max. (A)	Temp. Grade	Package
VTM48EF015T115A00	26 - 55	0.81 - 1.71	115	T	Full
VTM48EH015T050A00	26 - 55	0.81 - 1.72	50	T	Half
VTM48EF020T080A00	26 - 55	1.08 - 2.29	80	T	Full
VTM48EH020T040A00	26 - 55	1.08 - 2.29	40	T	Half
VTM48EF030T070A00	26 - 55	1.63 - 3.44	70	T	Full
VTM48EF040T050A00	26 - 55	2.17 - 4.58	50	T	Full
VTM48EH040T025A00	26 - 55	2.17 - 4.58	25	T	Half
V048F060T040	26 - 55	3.25 - 6.88	40	T	Full
VTM48FH060T020A00	26 - 48	3.25 - 6.00	20	T	Half
V048F080T030	26 - 55	4.33 - 9.17	30	T	Full
V048F096T025	32 - 55	6.40 - 11.00	25	T	Full
VTM48EF120T025A00	26 - 55	6.50 - 13.75	25	T	Full
VTM48EH120T010A00	26 - 55	6.50 - 13.75	10	T	Half
V048F160T015	26 - 55	8.67 - 18.33	15	T	Full
V048F240T012	26 - 53	14.00 - 26.50	12	T	Full
V048F320T009	26 - 55	17.33 - 36.67	9	T	Full
V048F480T006	26 - 55	26.00 - 55.00	6	T	Full

*Full-chip models also available in through hole and M grade. ✕ Configurable at vicorpower.com

Typical Applications

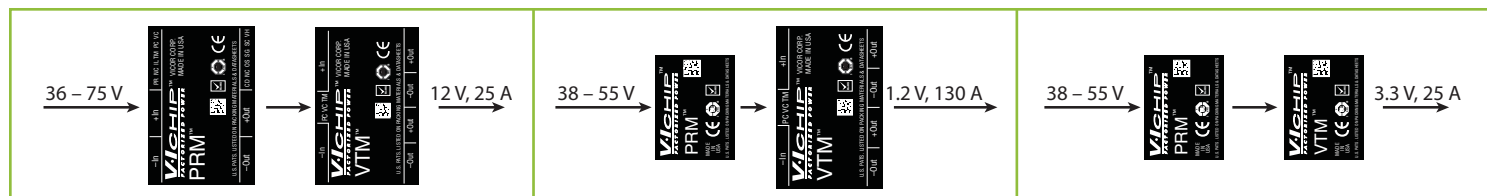
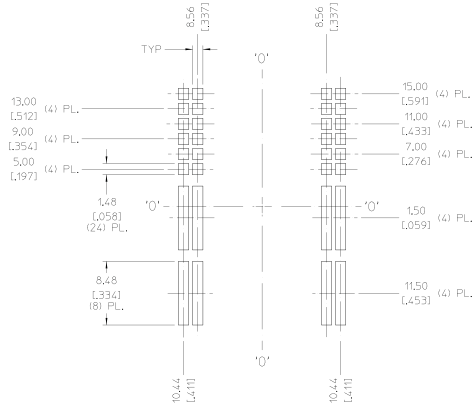
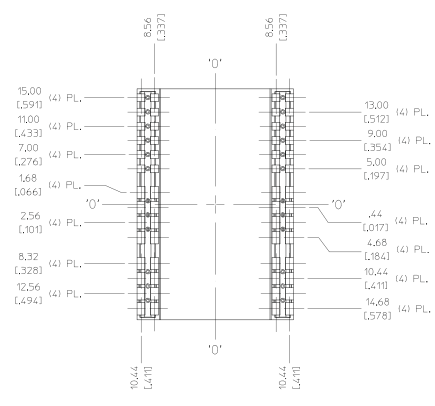


Figure 1 — Typical applications

Full-Chip PRM® Module Mechanical Outline Drawing



RECOMMENDED LAND PATTERN
(COMPONENT SIDE SHOWN)

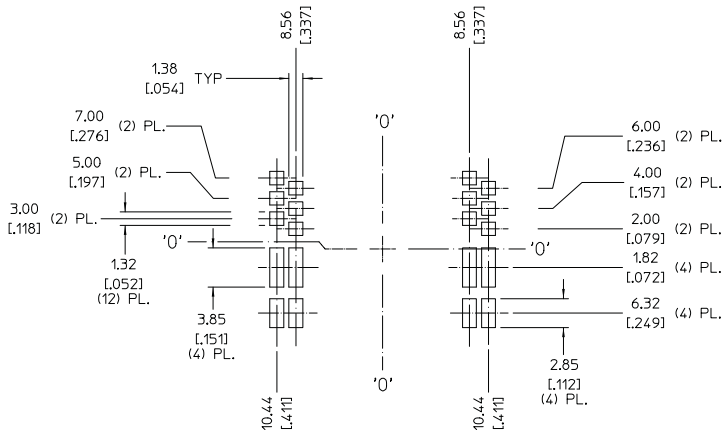


BOTTOM VIEW

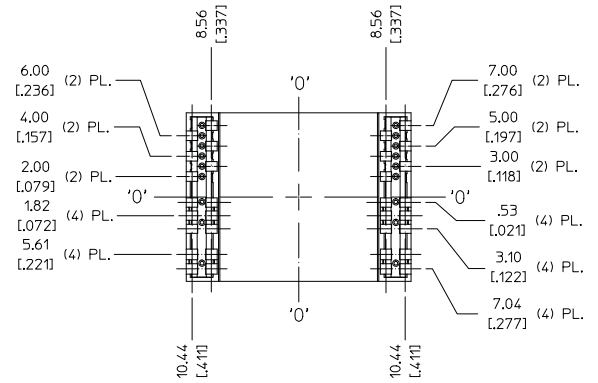
- NOTES:
1. DIMENSIONS ARE $\frac{\text{mm}}{\text{inch}}$.
 2. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE:
 $.X / [.XX] = \pm 0.25 / [.01]$; $.XX / [.XXX] = \pm 0.13 / [.005]$
 3. PRODUCT MARKING ON TOP SURFACE

DXF and PDF files are available on vicorpower.com

Half-Chip PRM® Module Mechanical Outline Drawing

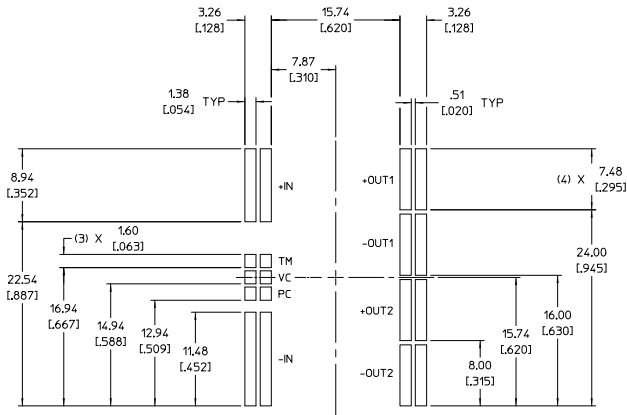


RECOMMENDED LAND PATTERN
(COMPONENT SIDE SHOWN)

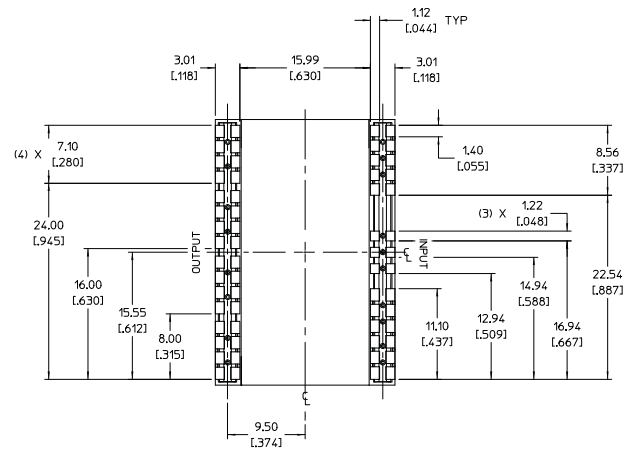


BOTTOM VIEW

Full-Chip VTM® Module Mechanical Outline Drawing



RECOMMENDED LAND PATTERN
(COMPONENT SIDE SHOWN)

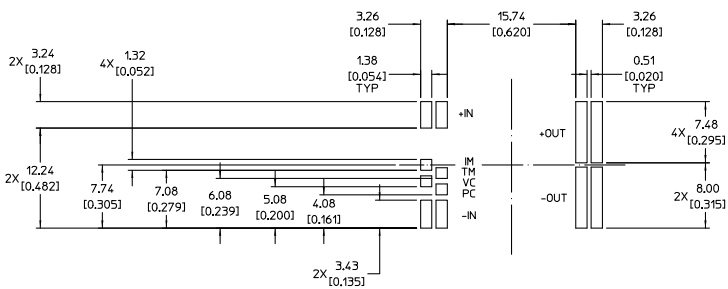


BOTTOM VIEW

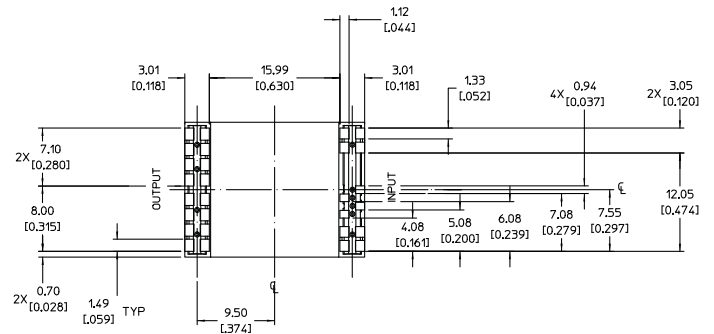
- NOTES:
1. DIMENSIONS ARE $\frac{\text{mm}}{\text{inch}}$.
 2. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE:
X / [XX] = ± 0.25 / [01]; .XX / [XXX] = ± 0.13 / [005]
 3. PRODUCT MARKING ON TOP SURFACE

DXF and PDF files are available on vicorpower.com

Half-Chip VTM® Module Mechanical Outline Drawing

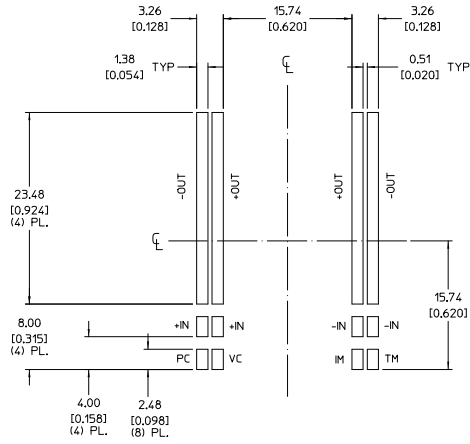


RECOMMENDED LAND PATTERN
(COMPONENT SIDE SHOWN)

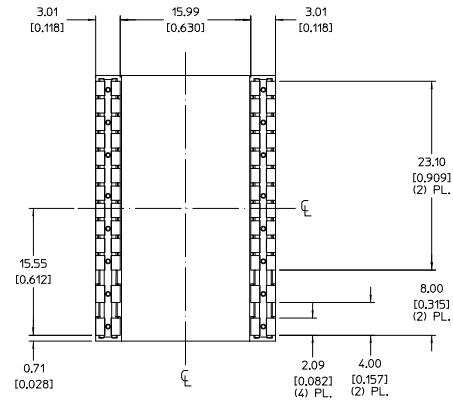


BOTTOM VIEW

High Current VTM™ Module Mechanical Outline Drawing



RECOMMENDED LAND PATTERN
(COMPONENT SIDE SHOWN)



BOTTOM VIEW

NOTE:

1. RoHS COMPLIANT PER CST-0001 LATEST REVISION.

The products described on this document are protected by the following U.S. Patents Numbers: PRMs: 5,945,130; 6,403,009; 6,710,257; 6,788,033; 6,940,013; 6,969,909; 7,038,917; 7,154,250; 7,166,898; 7,187,263; 7,202,646; 7,361,844; 7,368,957; RE40,072; D496,906; D506,438; D509,472; and for use under 6,975,098 and 6,984,965 VTMs: 5,945,130; 6,403,009; 6,710,257; 6,911,848; 6,930,893; 6,934,166; 6,940,013; 6,969,909; 7,038,917; 7,145,186; 7,166,898; 7,187,263; 7,202,646; 7,361,844; D496,906; D505,114; D506,438; D509,472; and for use under 6,975,098 and 6,984,965