

MIL-COTS PRM™ Regulator and VTM™ Current Multiplier Modules

Features

- -55°C to 100°C baseplate
- Sine Amplitude Converter (VTM)
- ZVS buck-boost regulator (PRM)
- Regulation 1% (Adaptive Loop)



- Small footprint: 1.64 and 2.08 in²
- 16 – 50 Vin
- 1 – 50 Vout
- Up to 120 W of output
- High efficiency up to 96.5%
- Low profile 0.37" flanged model
- Power density: Up to 156 W/in³
- Flexible architecture
- Low noise
- Fast transient response

Product Description

MIL-COTS VI BRICK PRM and VTM modules provide the technical advantages of Factorized Power including high density and efficiency, low noise operation, architectural flexibility, extremely fast transient response, and elimination of bulk capacitance at the point-of-load (POL). Utilizing baseplate and integrated heat sink packaging, the platform also provides improved thermal management and through-hole mounting capability in a small, robust package.

PRM Model Number	Input Voltage (V)	Output Voltage (V)	Output Power (W)	Regulation (%)		Efficiency (%)	
				Line	Load	50% Load	100% Load
MR028A036M012FP	16 - 50 ^[a]	26 - 50	120	0.10	0.10	92.5	95.0

^[a] will operate down to 13.5 V after start up ≥ 16 V

VTM Model Number	K-Factor	No Load Output Voltage (V)		Output Current (A)	Efficiency at nom Vout (%)	
		26 Vin	50 Vin		50% Load	100% Load
MT036A011M100FP	1/32	0.82	1.55	100	91.5	89.5
MT036A015M080FP	1/24	1.1	2.0	80	94.0	92.0
MT036A022M055FP	1/16	1.6	3.1	55	94.5	94.0
MT036A030M040FP	1/12	2.2	4.1	40	95.0	94.0
MT036A045M027FP	1/8	3.3	6.2	27	96.5	95.3
MT036A060M020FP	1/6	4.3	8.3	20	96.8	95.3
MT036A072M017FP ^[a]	1/5	6.4 ^[a]	10.0	16.6	96.5	96.5
MT036A090M013FP	1/4	6.5	12.5	13.3	95.5	96.3
MT036A120M010FP	1/3	8.7	16.6	10.0	95.5	95.5
MT036A180M007FP	1/2	13.0	25.0	6.7	95.2	96.0
MT036A240M005FP	2/3	17.4	33.0	5.0	95.4	95.6
MT036A360M003FP	1	26.0	50.0	3.3	96.0	96.0

^[a] Low line input voltage 32 V

Typical Application

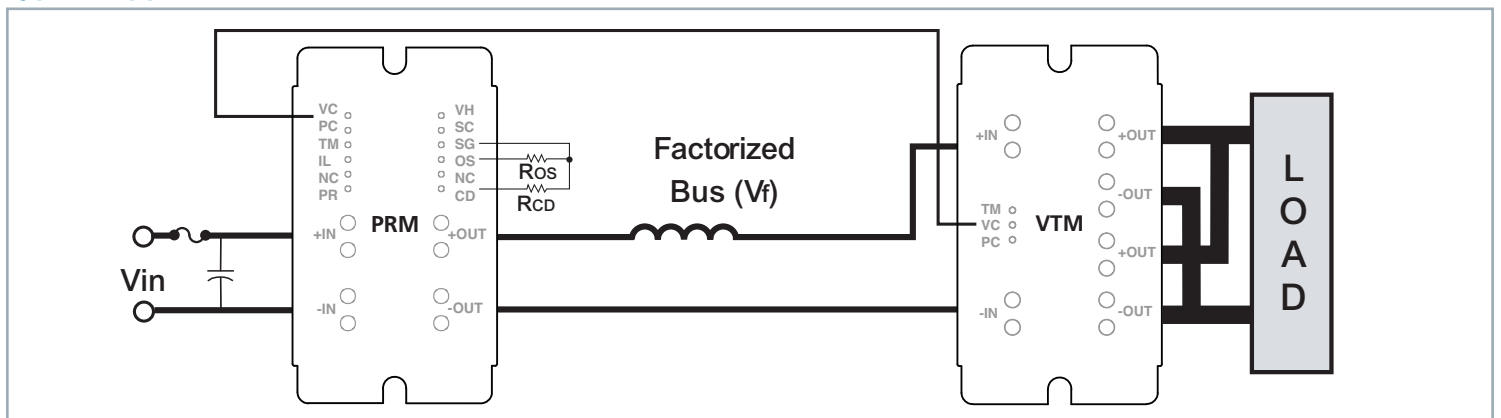
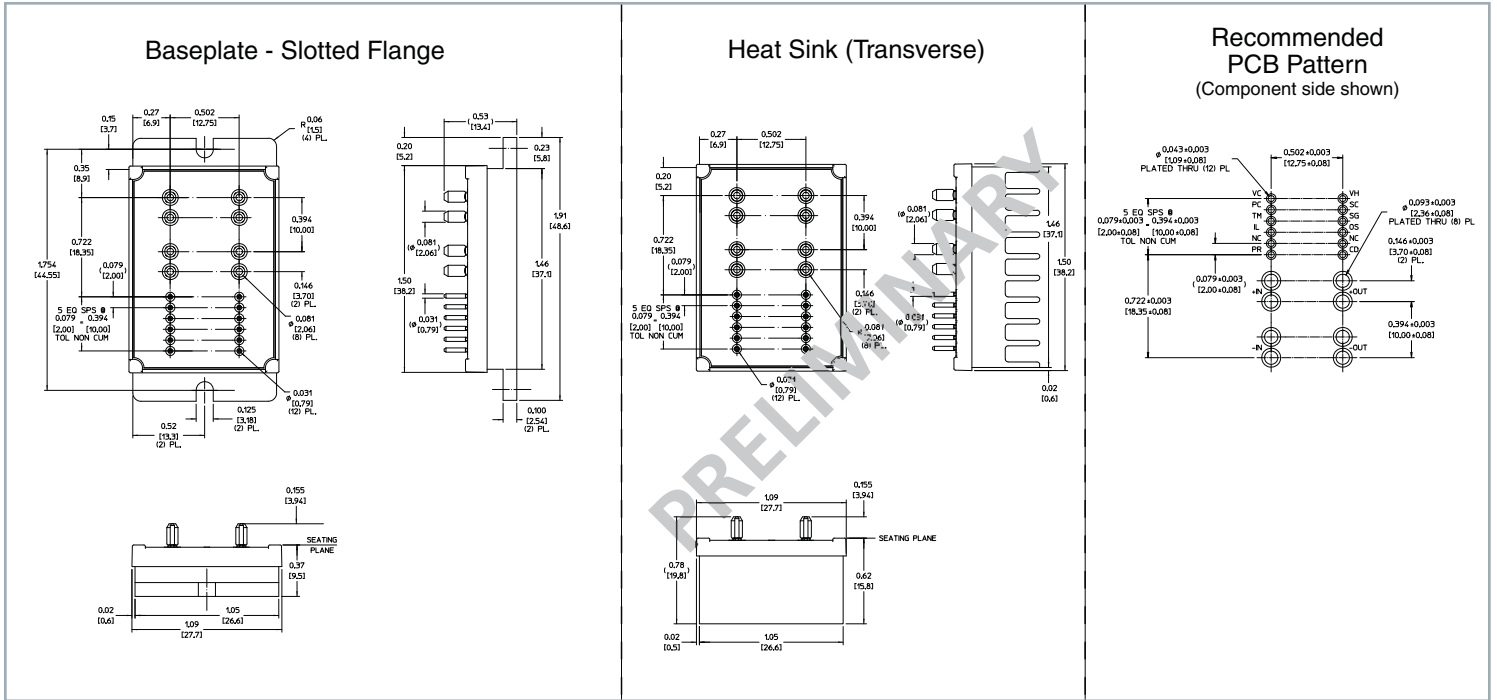
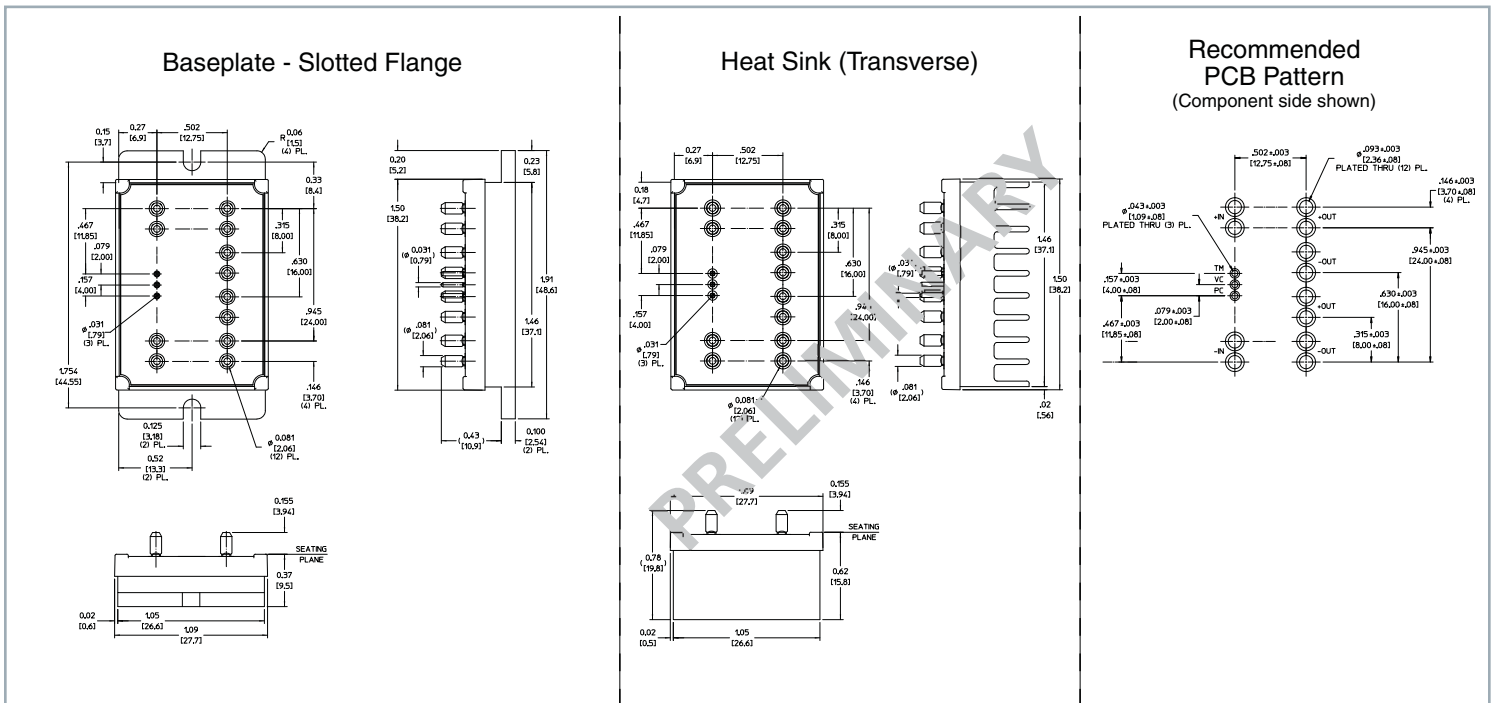


Figure 1 — Typical application with Adaptive Loop control, the output of the VTM is regulated over the load current range with only a single interconnect between the PRM and VTM and without the need for isolation in the feedback path.

VI BRICK PRM Mechanical Drawing



VI BRICK VTM Mechanical Drawing



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