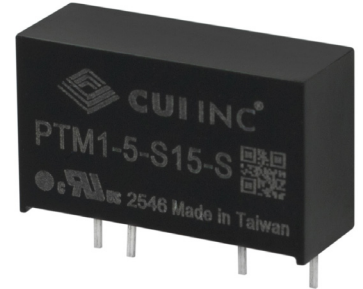


**SERIES:** PTM1-S | **DESCRIPTION:** DC-DC CONVERTER

**FEATURES**

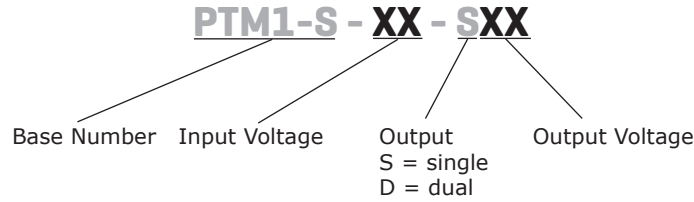
- 1 W isolated output
- industry standard SIP package
- single/dual regulated outputs
- 6,000 Vdc isolation voltage
- reinforced insulation, 300 Vac working voltage
- continuous short circuit protection
- -40~100 °C operating temperature with derating
- UL/cUL, CE/UKCA certified



MODEL	input voltage <sup>1</sup>		output voltage (Vdc)	output current max (mA)	output power max (W)	ripple and noise <sup>2</sup> max (mVp-p)	efficiency <sup>3</sup> typ (%)
	typ (Vdc)	range (Vdc)					
PTM1-5-S3-S	5	4.5~5.5	3.3	303	1	100	76.5
PTM1-5-S5-S	5	4.5~5.5	5	200	1	100	76.5
PTM1-5-S12-S	5	4.5~5.5	12	84	1	100	81.5
PTM1-5-S15-S	5	4.5~5.5	15	67	1	100	81.5
PTM1-5-D5-S	5	4.5~5.5	±5	±100	1	100	77.0
PTM1-5-D12-S	5	4.5~5.5	±12	±42	1	100	78.0
PTM1-5-D15-S	5	4.5~5.5	±15	±34	1	100	83.0
PTM1-12-S3-S	12	10.8~13.2	3.3	303	1	100	76.5
PTM1-12-S5-S	12	10.8~13.2	5	200	1	100	79.5
PTM1-12-S12-S	12	10.8~13.2	12	84	1	100	82.0
PTM1-12-S15-S	12	10.8~13.2	15	67	1	100	84.0
PTM1-12-D5-S	12	10.8~13.2	±5	±100	1	100	78.0
PTM1-12-D12-S	12	10.8~13.2	±12	±42	1	100	80.0
PTM1-12-D15-S	12	10.8~13.2	±15	±34	1	100	82.0
PTM1-15-S5-S	15	13.5~16.5	5	200	1	100	81.0
PTM1-24-S3-S	24	21.6~26.4	3.3	303	1	100	75.0
PTM1-24-S5-S	24	21.6~26.4	5	200	1	100	78.0
PTM1-24-S12-S	24	21.6~26.4	12	84	1	100	80.0
PTM1-24-S15-S	24	21.6~26.4	15	67	1	100	81.0
PTM1-24-D5-S	24	21.6~26.4	±5	±100	1	100	77.0
PTM1-24-D12-S	24	21.6~26.4	±12	±42	1	100	80.0
PTM1-24-D15-S	24	21.6~26.4	±15	±34	1	100	80.0

Note: 1. ±10%  
 2. Measured at 20 MHz bandwidth, nominal input voltage.  
 3. The efficiency is test by nominal input and max full load at 25°C.  
 4. All specifications are measured at Ta=25°C, nominal input voltage and full output load unless otherwise specified.

## PART NUMBER KEY



## INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage			±10		%
filter	internal capacitors				

## OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	3.3 & 5 Vdc output models			1,000	µF
	±5 Vdc output models			330	µF
	12 & 15 Vdc output models			220	µF
	±12 & ±15 Vdc output models			100	µF
line regulation	input voltage from low to high, full load		1.2		%
load regulation	10% to full load				
	3.3 & 5 Vdc output models			15	%
	all other output models			10	%
switching frequency	at full load, nominal input voltage	30			KHz
voltage accuracy			±5		%

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
short circuit protection	continuous				

## SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute	6,000			Vdc
isolation capacitance			10		pF
safety approvals	certified to 62368-1: UL certified to 60601-1: EN (2xMOOP)				
EMI	EN 55032 Class A/B EN 55011 Class B				
ESD	EN 61000-4-2, Air ±15 kV; Contact ±8 kV, perf. Criteria B				
EFT/burst	EN 61000-4-4, ± 2 kV, perf. Criteria A				
surge	EN61000-4-5, ± 1 kV, perf. Criteria A				
vibration	MIL-STD-202G				
MTBF	at 25°C	15,000,000			hours
RoHS compliant	yes				

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-40		100	°C
storage temperature		-55		125	°C
maximum temperature case				105	°C
operating humidity	non-condensing	5		95	%

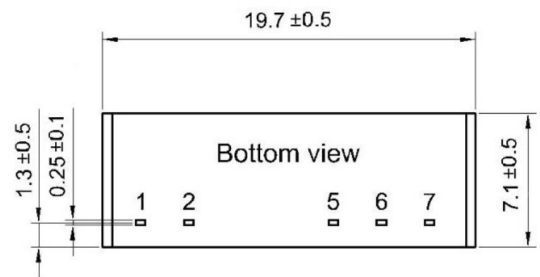
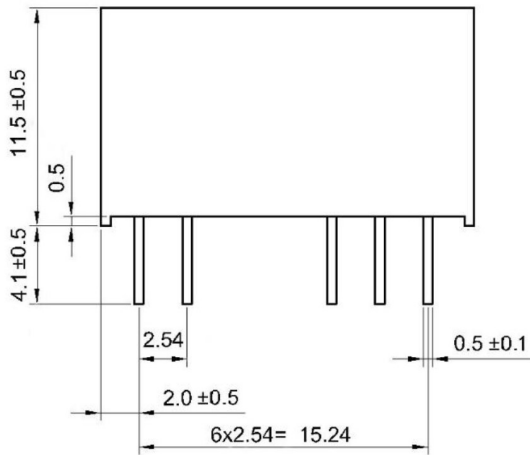
## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	19.7 x 7.1 x 11.5				mm
weight			2.8		g
case material	UL94V-0 black plastic				
potting material	silicone (UL94V-0)				

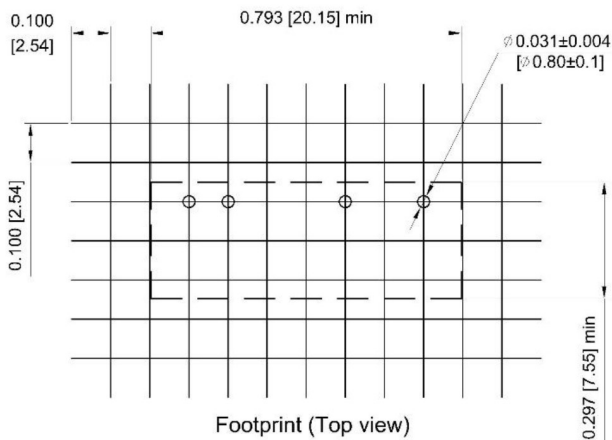
## MECHANICAL DRAWING

units: mm  
 tolerance:  
 x.x = ±0.5 mm  
 x.xx = ±0.25 mm

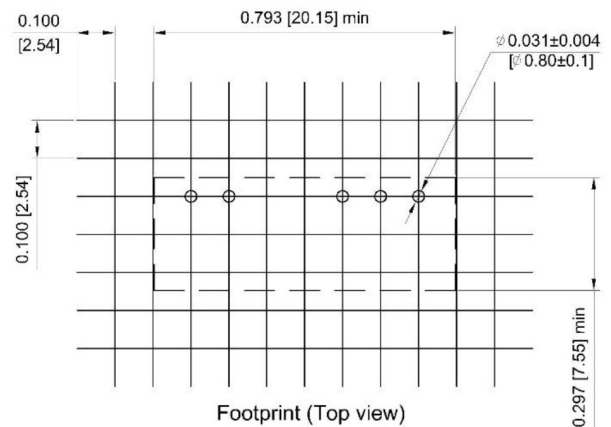
PIN CONNECTIONS		
PIN	Single output	Dual output
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	no pin	COM
7	+Vout	+Vout



Single output

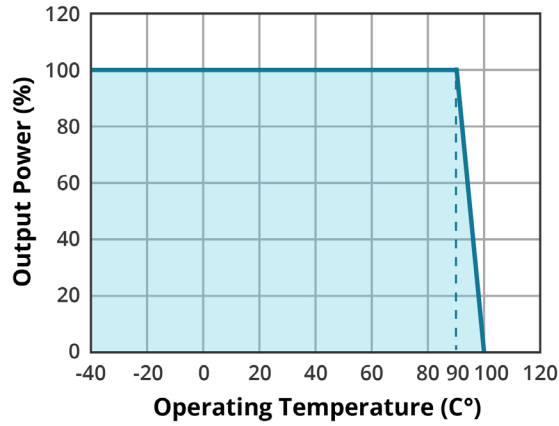


Dual output



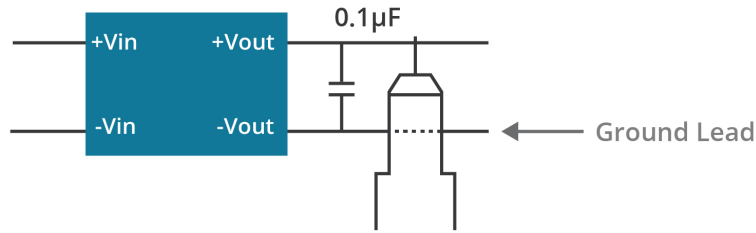
## DERATING CURVES

**TEMPERATURE DERATING CURVE**



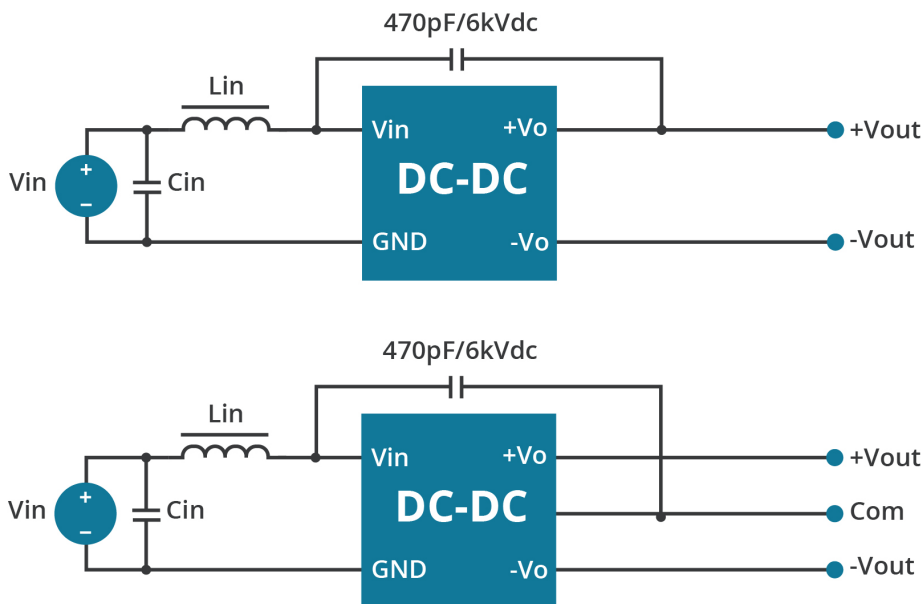
## RIPPLE AND NOISE MEASURE

**Figure 1**



## EMC RECOMMENDED CIRCUIT - CLASS B

**Figure 2**



**Table 1**

Input voltage (V)	Inductance / Capacitance (Lin/Cin)
5	47µH/10µF
12	47µH/10µF
15	47µH/10µF
24	100µH/4.7µF

Note: The External Filter for meet EN55032 Class B

## REVISION HISTORY

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rev.	description	date
1.0	initial release	04/02/2026

The revision history provided is for informational purposes only and is believed to be accurate.



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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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