

SERIES: PTK10 | DESCRIPTION: DC-DC CONVERTER
FEATURES

- industry standard pin out
- wide 4:1 input range
- fully isolated
- over-current protection
- over-voltage protection
- six-sided EMI shielding
- constant switching frequency
- high efficiency
- compact size 2.0"x1.0"x0.4"
- 3 year warranty



MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current		output power max (W)	ripple ¹ max (mVp-p)	noise ¹ max (mVp-p)	efficiency typ (%)
			min (mA)	max (mA)				
PTK10-Q24-S3	10 ~ 36	3.3	0.24	2.4	7.92	75	75	79
PTK10-Q24-S5	10 ~ 36	5	0.2	2.0	10.0	75	75	82
PTK10-Q24-S12	10 ~ 36	12	0.09	0.9	10.8	120	120	83
PTK10-Q24-S15	10 ~ 36	15	0.07	0.7	10.5	150	150	84
PTK10-Q24-D5	10 ~ 36	±5	0.1/0.1	1.0/1.0	10.0	100	100	80
PTK10-Q24-D5A	10 ~ 36	±5	0.15/0.05	1.5/0.5	10.0	100	100	78
PTK10-Q24-D12	10 ~ 36	±12	0.045	0.45	10.8	120	120	83
PTK10-Q24-D15	10 ~ 36	±15	0.035	0.35	8.5	150	150	83
PTK10-Q48-S3	20 ~ 72	3.3	0.24	2.4	7.92	75	75	78
PTK10-Q48-S5	20 ~ 72	5	0.2	2.0	10.0	75	75	81
PTK10-Q48-S12	20 ~ 72	12	0.09	0.9	10.8	120	120	84
PTK10-Q48-S15	20 ~ 72	15	0.07	0.7	10.5	150	150	85
PTK10-Q48-D5	20 ~ 72	±5	0.1/0.1	1.0/1.0	10.0	100	100	81
PTK10-Q48-D5A	20 ~ 72	±5	0.15/0.05	1.5/0.5	10.0	100	100	81
PTK10-Q48-D12	20 ~ 72	±12	0.045	0.45	10.8	120	120	83
PTK10-Q48-D15	20 ~ 72	±15	0.035	0.35	10.5	150	150	83

Notes: 1. All models are also available in an extended temperature range of -40°C-85°C. For these models, append "M" to the model number, e.g. PTK10-Q48-S5M.

2. Ripple & noise measured with a 20MHz bandwidth, off a 10uF electrolytic and a 0.1uF ceramic cap in parallel at the output.

INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage		10	24	36	Vdc
		20	48	72	Vdc

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation (low line to high line)	single output		±0.5		%
	dual output		±1.0		%
load regulation measured from 10% to full load	single output models - no load to full load		±1.0		%
	dual output models - balanced loads		±2.5		%
voltage accuracy	positive, refer to recommended circuit		±1	±3	%
	negative, refer to recommended circuit		±3	±5	%
switching frequency	constant		300		kHz
temperature coefficient				±0.03	%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over-current	continuous, automatic recovery ⁴	105		135	%
over-voltage	internal protection zener ⁴	110		140	%

Notes: 4. continuous operation in a protected state may compromise long-term reliability.

SAFETY AND COMPLIANCE

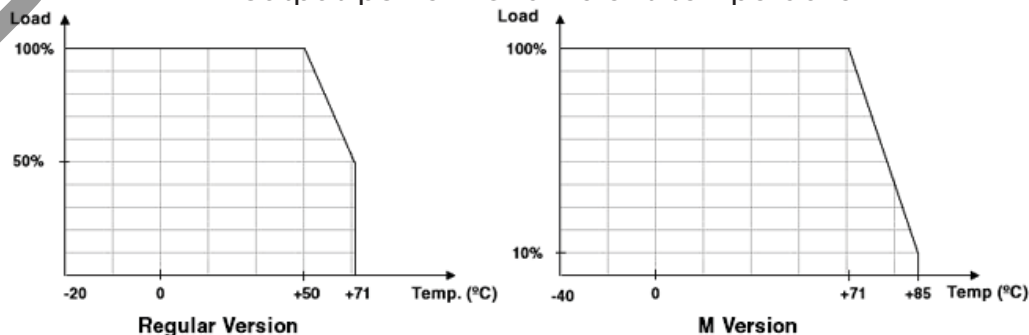
parameter	conditions/description	min	typ	max	units
efficiency	typical at full load	77		83	%
isolation voltage	input/case, input/output, output/case	500			Vac
insulation resistance	at 500 Vdc	100			MΩ
RoHS compliant	yes				
MTBF	MIL-HDBK-217F	580,000			hours

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
case operating temperature	regular models - see derating curve	-20		71	°C
	extended temperature models	-40		85	°C
storage temperature		-40		105	°C
storage humidity	non-condensing	5		95	%
temperature rise	100% load		40		°C
lead temperature	1.5 mm from the case for 10 seconds			300	°C

DERATING CURVES

output power vs. ambient temperature



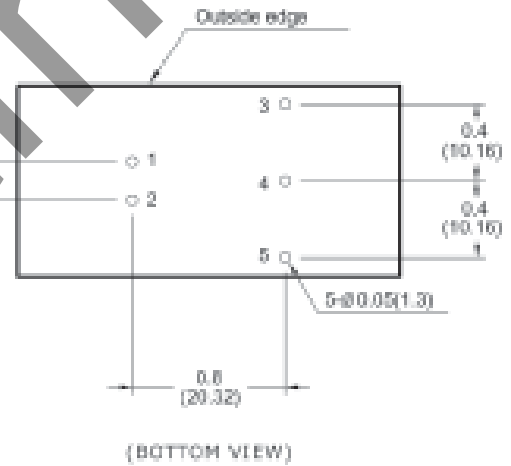
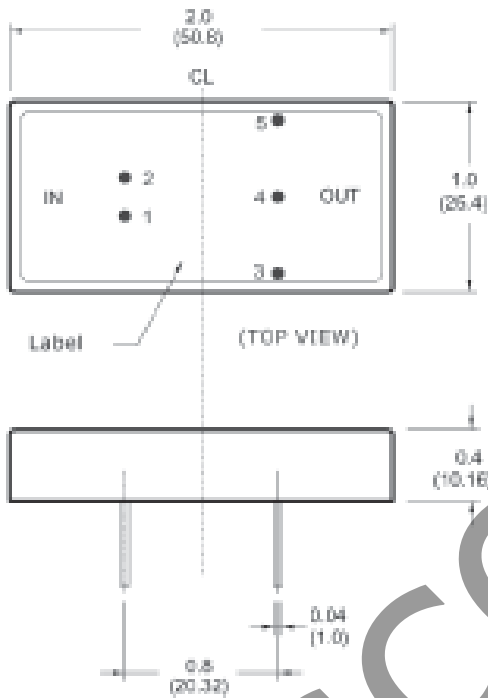
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	2.0 x 1.0 x 0.4 inch (50.8 x 25.4 x 10.16 mm)				
case material	Zn				
weight			40		g

MECHANICAL DRAWING

units: inches (mm)

Single Output	Dual Output
1. +Vin	1. +Vin
2. -Vin	2. -Vin
3. +Vout	3. +Vout
4. No pin	4. Com
5. -Vout	5. -Vout



PIN Definitions

- +Vin: Input positive terminal
- Vin: Input negative terminal
- CNT: Remote On/Off control of output voltage. Referenced to -Vin
- +Vout: Main output positive terminal
- Vout: Output negative terminal
- +Vaux: Positive auxiliary output
- Vaux: Negative auxiliary output
- Com: Common node for dual- or triple-output models
- Trim: For trimming output voltage on single- or dual-output models

REVISION HISTORY

rev.	description	date
1.0	initial release	07/07/2011
1.01	updated mechanical drawing	03/27/2012
1.02	discontinued	09/28/2012

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

Discontinued



CUI INC[®]

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

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.