

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

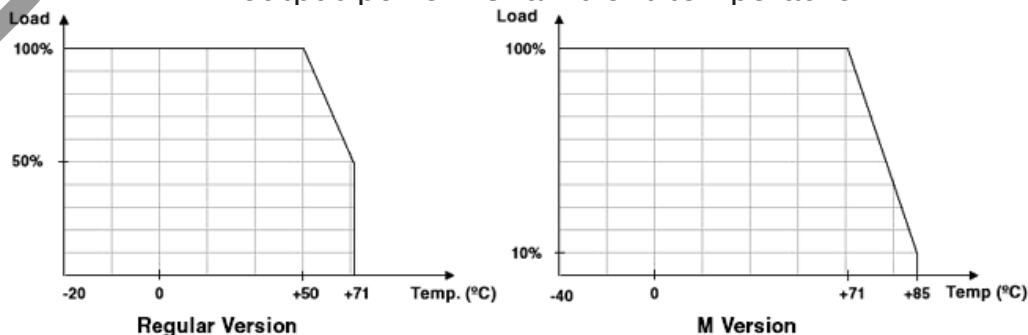
parameter	conditions/description	min	typ	max	units
efficiency	typical at full load	77		83	%
isolation voltage	input/case, input/output, output/case	500			Vac
insulation resistance	at 500 Vdc	100			MΩ
RoHS compliant	yes				
MTBF	MIL-HDBK-217F	580,000			hours

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



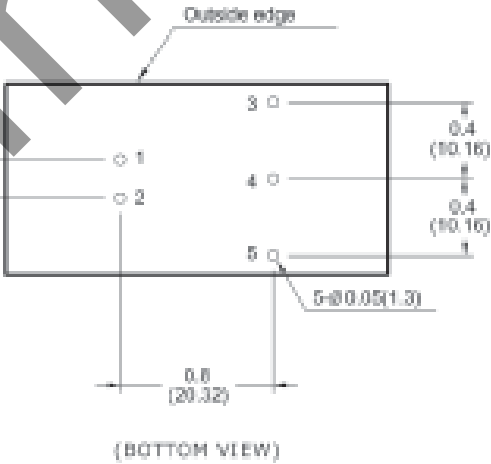
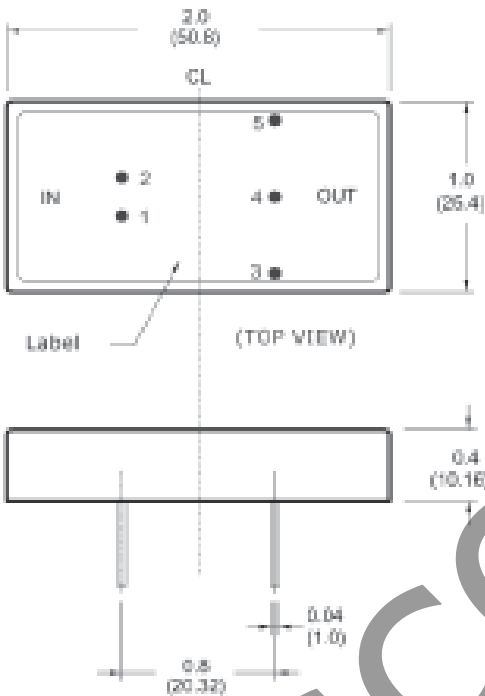
MECHANICAL

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.

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

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