CUI INC®

SERIES: VYC30W-T | DESCRIPTION: DC-DC CONVERTER

DISCONTINUED

FEATURES

- chassis mount with screw terminal connectors
- up to 30 W output
- compact size
- 4:1 input range (9~36 V, 18~75 V)
- single and dual outputs
- 1,500 V isolation
- short circuit, over current, and over voltage protection
- wide temperature operation (-40~85°C)
- efficiency up to 88%



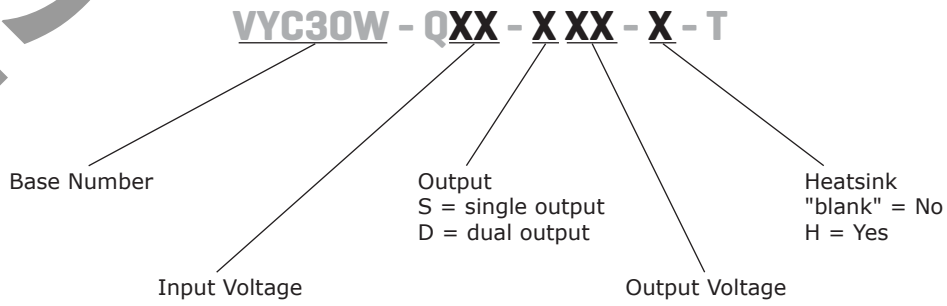
RoHS

MODEL

MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency typ (%)
VYC30W-Q24-S5-T	9 ~ 36	5	6	30	120	87
VYC30W-Q24-S12-T	9 ~ 36	12	2.5	30	120	88
VYC30W-Q24-S15-T	9 ~ 36	15	2	30	120	87
VYC30W-Q24-D5-T	9 ~ 36	±5	±3	30	120	86
VYC30W-Q24-D12-T	9 ~ 36	±12	±1.25	30	120	88
VYC30W-Q24-D15-T	9 ~ 36	±15	±1	30	120	87
VYC30W-Q48-S5-T	18 ~ 75	5	6	30	120	87
VYC30W-Q48-S12-T	18 ~ 75	12	2.5	30	120	88
VYC30W-Q48-S15-T	18 ~ 75	15	2	30	120	87
VYC30W-Q48-D5-T	18 ~ 75	±5	±3	30	120	86
VYC30W-Q48-D12-T	18 ~ 75	±12	±1.25	30	120	88
VYC30W-Q48-D15-T	18 ~ 75	±15	±1	30	120	87

Notes: 1. Ripple and noise are measured at 20 MHz BW with 10µF tantalum capacitor and 1µF ceramic capacitor across output

PART NUMBER KEY



INPUT

parameter	conditions/description		min	typ	max	units
operating input voltage			9 18	24 48	36 75	Vdc Vdc
start-up time				10		ms
under voltage lockout		power up 24 V input power up 48 V input power down 24 V input power down 48 V input			9.0 17.8	Vdc Vdc Vdc Vdc
Remote on/off[1]		module off module on (or open circuit)	0 3.5		1.2 12	Vdc Vdc
filter	PI type					

Notes: 1. The on/off pin voltage is referenced to GND

OUTPUT

parameter	conditions/description		min	typ	max	units
line regulation	measured from low line to high line			±0.2	±0.5	%
load regulation	measured from 10% to full load			±0.5	±1	%
voltage accuracy	refer to recommended circuit			±1	±3	%
transient recovery time	25% step load charge			300	500	µs
transient peak deviation	25% rated load			300		µs
cross regulation	dual output models	main output 50%, supplemental output from 10~100% load			±5	%
adjustability				±10%		Vdc
switching frequency	100% load, input voltage range			400		kHz
temperature coefficient				±0.02		%/°C

PROTECTIONS

parameter	conditions/description		min	typ	max	units
short circuit protection	hiccups, automatic recovery					
over current protection	all models	input voltage range		130		%
over voltage protection	single and dual output models	5 V 12 V 15 V		6.1 15 18		Vdc Vdc Vdc

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	tested for 1 minute at 1 mA max.	1,500			Vdc
isolation resistance	at 500 Vdc	1,000			MΩ
isolation capacitance	input to output, 100 kHz / 0.1 V		2,000		pF
RoHS compliant	yes				
MTBF	M1L-HDBK-217F	1,000,000			hours

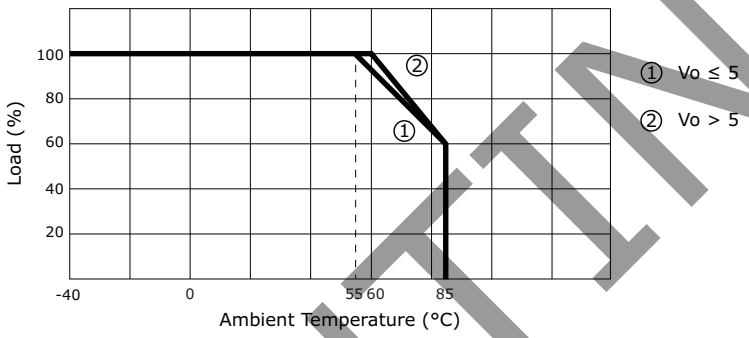
DISCONTINUED

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
case operating temperature		-40		85	°C
maximum case temperature	during operation			105	°C
storage temperature		-40		125	°C
storage humidity	non-condensing	5		95	%

DERATING CURVES

output power vs. ambient temperature

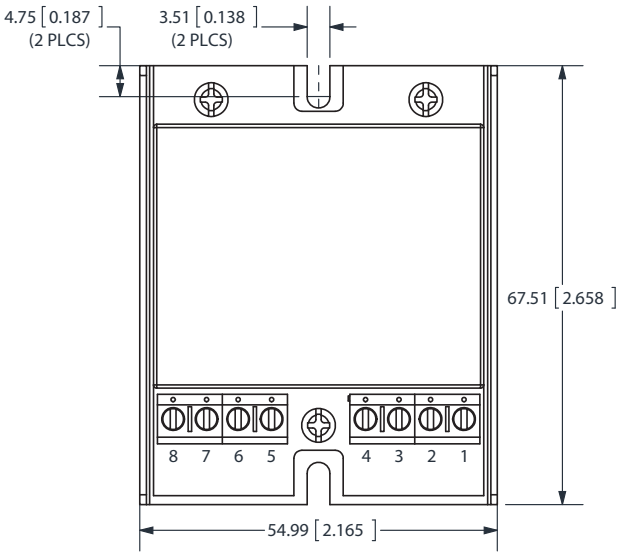


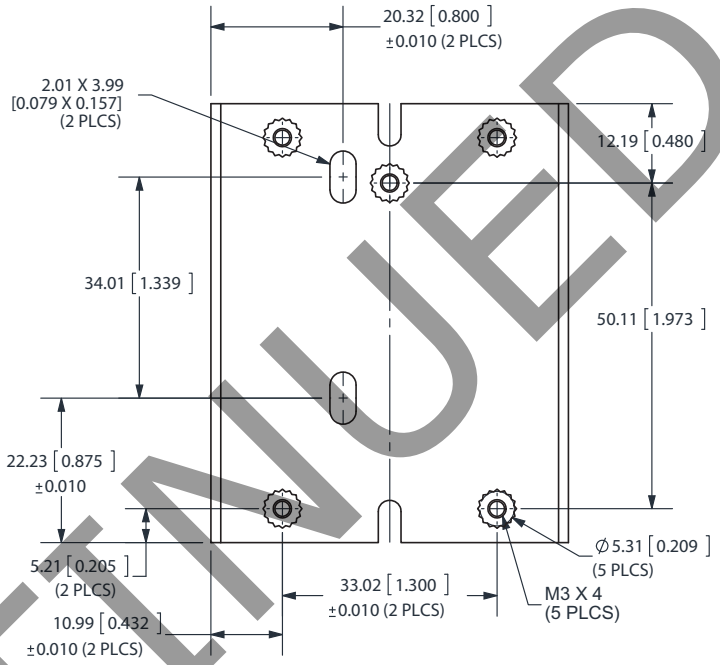
MECHANICAL

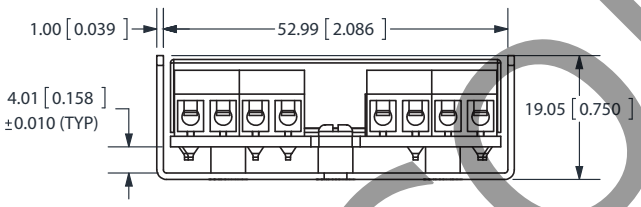
parameter	conditions/description	min	typ	max	units
dimensions	2.17 x 2.66 x 0.75 inch (55.0 x 67.5 x 19.1 mm)				
case material	aluminum				
weight			83.5		g

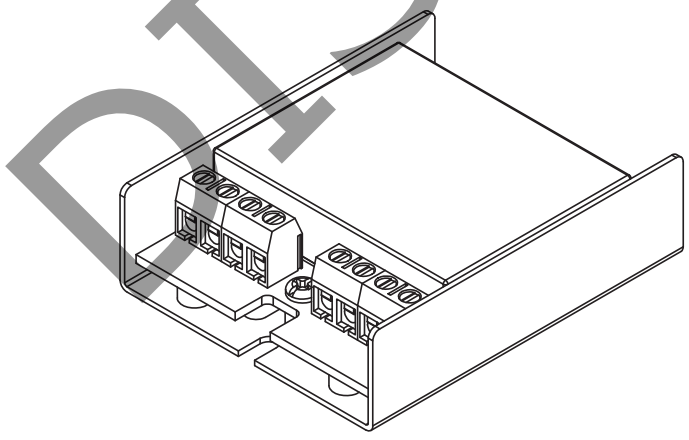
DISCONTINUED

MECHANICAL DRAWING









PIN CONNECTIONS		
Pin	Single	Dual
1	+Vo	+Vo
2	-Vo	0V
3	Trim	-Vo
4	No Pin	Trim
5	Case	Case
6	On/Off	On/Off
7	GND	GND
8	Vin	Vin

Unit: mm[inch]
TOLERANCE: ±0.5mm [±0.020 inch] UNLESS OTHERWISE SPECIFIED
Screw terminals: Degson Electronics terminal block part number DG301-5.0-04P-12 or equivalent (4 pin, M2.5 screw) 5.0 mm spacing
*DIN rail mounting kit available (part # STK-DIN)

DISCONTINUED

APPLICATION NOTES

1. EMI & EMS recommended external circuit

	Single output, 18 ~ 75 Vin	Single output, 9 ~ 36 Vin	Dual output, 18 ~ 75 Vin	Dual output, 9 ~ 36 Vin
TVS	SMCJ90A,1500W(Bringtking)	SMCJ48A,1500W(Bringtking)	SMCJ90A,1500W(Bringtking)	SMCJ48A,1500W(Bringtking)
LCM	232uH(0.1V 100KHz) 15T core: N5 T12*6*4	232uH(0.1V 100KHz) 15T core: N5 T12*6*4	232uH(0.1V 100KHz) 15T core: N5 T12*6*4	232uH(0.1V 100KHz) 15T core: N5 T12*6*4
C0	680μF/1000V (CapXon)	1000μF/50V(CapXon)	680μF/100V (CapXon)	1000μF/50V(CapXon)
C1	105K/100V 1210(TDK)	105K/100V 1210(TDK)	105K/100V 1210(TDK)	105K/100V 1210(TDK)
C2	225K/100V 1210(TDK)	225K/100V 1210(TDK)	225K/100V 1210(TDK)	225K/100V 1210(TDK)
C3	No component	No component	102K/2000V 1206 (TDK)	102K/2000V 1200 (TDK)
C4	No component	No component	102K/2000V 1206 (TDK)	102K/2000V 1206 (TDK)

Figure 1 (Single output)

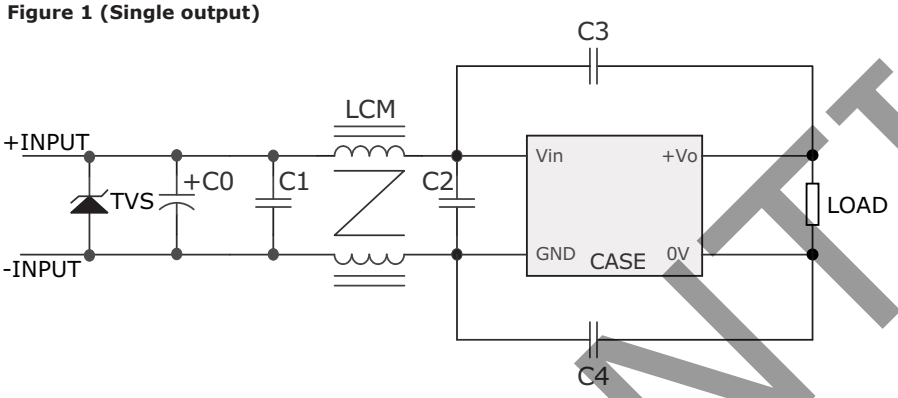
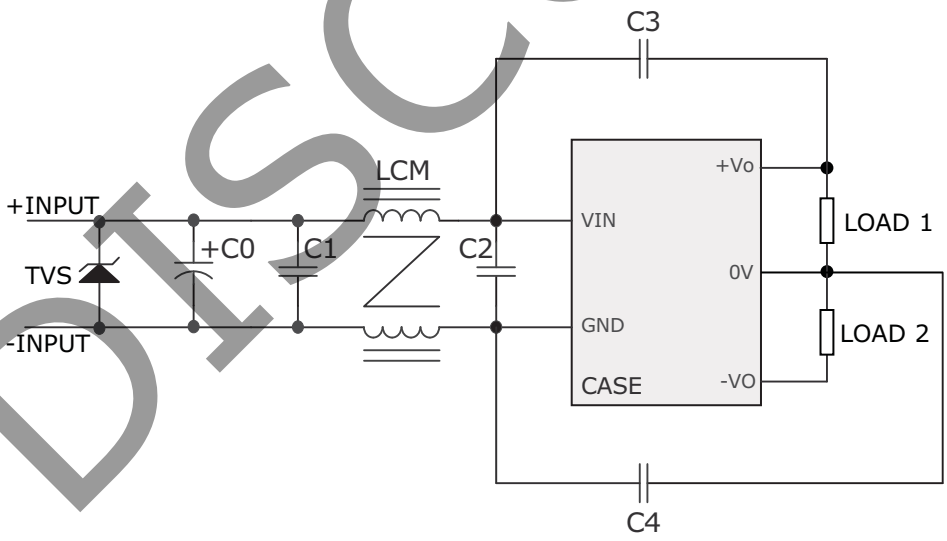


Figure 2 (Dual output)



DISCONTINUED

REVISION HISTORY

rev.	description	date
1.0	initial release	08/23/2011
1.01	added VYC30W-Q24-D5-T and VYC30W-Q48-D5-T	03/08/2012
1.02	V-Infinity branding removed	08/29/2012

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.