

SERIES: PQS075-S | **DESCRIPTION:** DC-DC CONVERTER

FEATURES

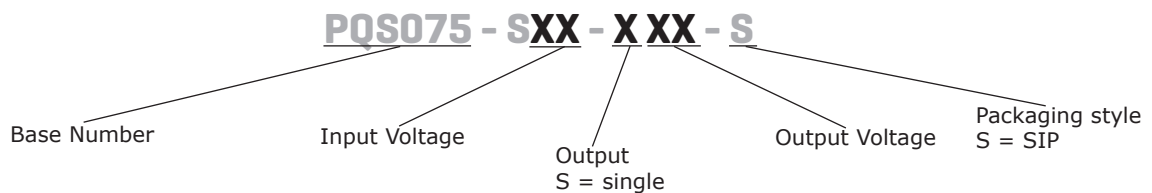
- 0.75W isolated output
- single regulated output
- high efficiency up to 74%
- continuous short circuit protection
- 1500 Vdc isolation
- designed to meet EN/BS EN 62368



MODEL	input voltage		output voltage	output current		output power	ripple & noise ¹	efficiency
	typ (Vdc)	range (Vdc)	(Vdc)	min (mA)	max (mA)	max (W)	max (mVp-p)	typ (%)
PQS075-S5-S3-S	5	4.75~5.25	3.3	20	200	0.66	75	68
PQS075-S5-S5-S	5	4.75~5.25	5.0	15	150	0.75	75	72
PQS075-S5-S9-S	5	4.75~5.25	9.0	9	83	0.75	75	72
PQS075-S5-S12-S	5	4.75~5.25	12.0	7	62	0.74	75	73
PQS075-S5-S15-S	5	4.75~5.25	15.0	5	50	0.75	75	74
PQS075-S12-S3-S	12	11.4~12.6	3.3	20	200	0.75	100	68
PQS075-S12-S5-S	12	11.4~12.6	5	15	150	0.75	100	72
PQS075-S12-S12-S	12	11.4~12.6	12	7	62	0.75	100	73
PQS075-S12-S15-S	12	11.4~12.6	15	5	50	0.75	150	74
PQS075-S24-S3-S	24	22.8~25.2	3.3	20	200	0.75	100	68
PQS075-S24-S5-S	24	22.8~25.2	5	15	150	0.75	100	72
PQS075-S24-S12-S	24	22.8~25.2	12	7	62	0.75	100	73
PQS075-S24-S15-S	24	22.8~25.2	15	5	50	0.75	150	74

Notes: 1. Ripple and noise are measured at 20 MHz BW by "parallel cable" method.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units		
operating input voltage		4.75	5.0	5.25	Vdc		
		11.4	12	12.6	Vdc		
		22.8	24	25.2	Vdc		
current	5 Vdc input full load / no load	3.3 Vdc, 5 Vdc output		209/5	221/10	mA	
		9 Vdc, 12 Vdc output		208/12	221/20	mA	
		15 Vdc output		202/18	215/30	mA	
	12 Vdc input full load / no load	3.3 Vdc output		92/8	98/-	mA	
		5 Vdc output		87/8	92/-	mA	
		12 Vdc output		86/8	91/-	mA	
	24 Vdc input full load / no load	15 Vdc output		85/8	90/-	mA	
		3.3 Vdc output		46/8	51/-	mA	
		5 Vdc output		44/8	48/-	mA	
	filter	capacitance filter	12 Vdc output		43/8	47/-	mA
			15 Vdc output		43/8	46-	mA

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load	3.3 Vdc output			2,400	μF
	5 Vdc output			2,400	μF
	9 Vdc output			1,000	μF
	12 Vdc output			560	μF
	15 Vdc output			560	μF
voltage accuracy				±3	%
line regulation				±0.25	%
load regulation	10%~100% load				
	3.3 Vdc output other outputs			±3 ±2	% %
switching frequency	at full load, nominal input voltage		270		kHz
temperature coefficient	at full load		±0.02		%/°C

PROTECTIONS

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

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 1 minute with 1 mA max	1,500			Vdc
isolation resistance	input to output at 500 Vdc	1,000			MΩ
isolation capacitance	input to output, 100 kHz / 0.1 V		20		pF
safety approvals	designed to meet 62368: EN, BS EN				
EMI/EMC	CISPR32/EN 55032 Class B (see recommended circuit)				
ESD	IEC/EN 61000-4-2 Air ±8kV, Contact ±4kV, perf. Criteria B				
MTBF	as per MIL-HDBK-217F, 25°C	3,500			K hours
RoHS	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-40		85	°C
storage temperature		-55		125	°C
storage humidity	non-condensing	0		95	%
vibration	10-155Hz, 5G, 30 min. along X, Y and Z				

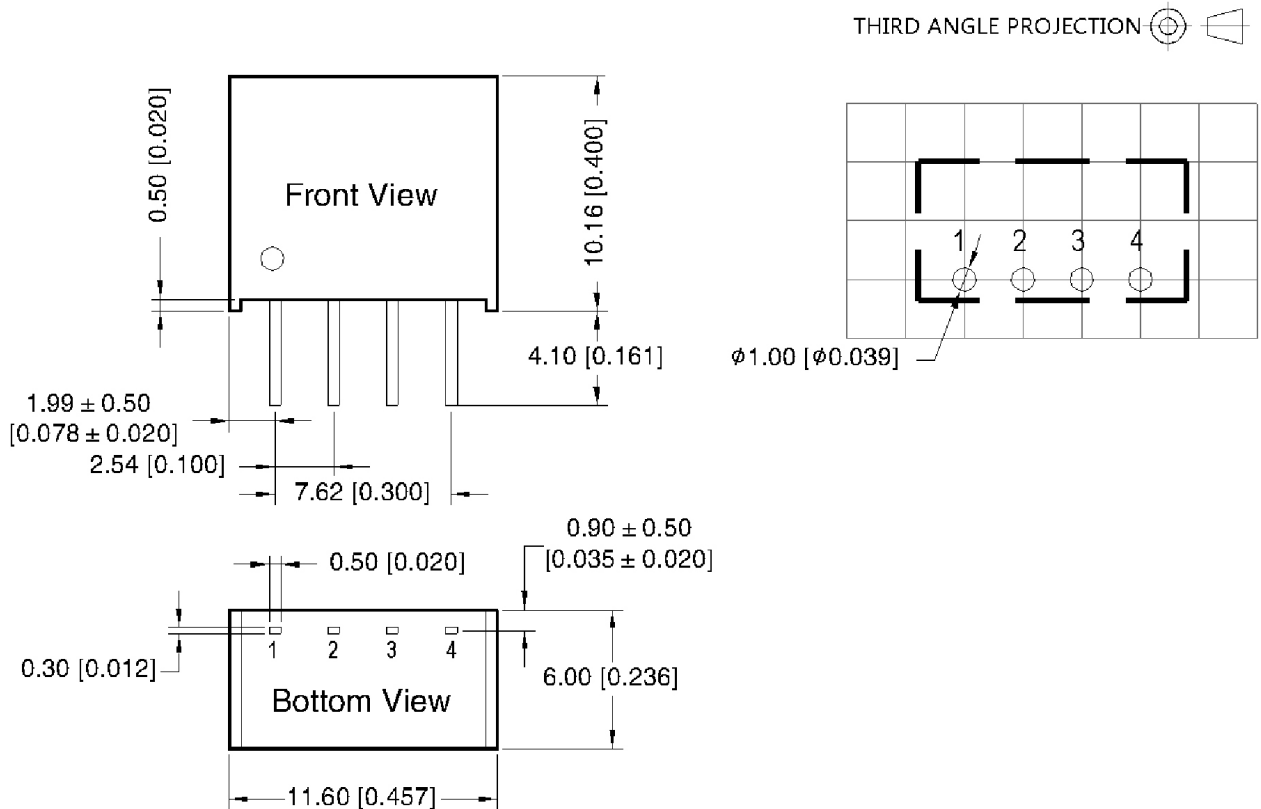
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	11.60 x 6.00 x 10.16 [0.457 x 0.236 x 0.4 inch]				mm
case material	black plastic				
weight			1.3		g

MECHANICAL DRAWING

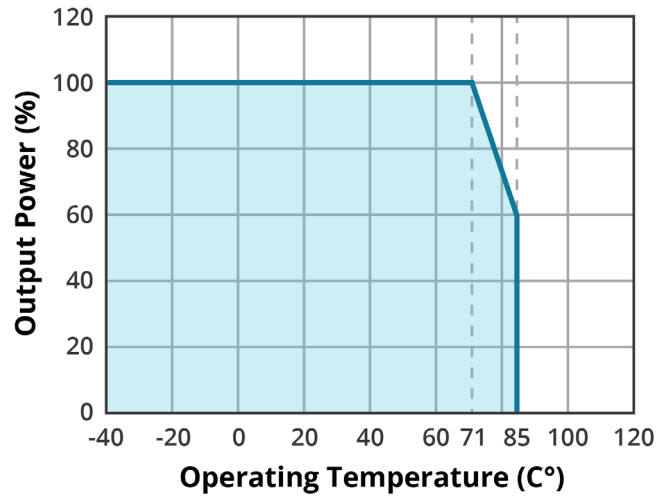
units: mm [inch]
 pin section tolerance: $\pm 0.10[\pm 0.004]$
 general tolerance: $\pm 0.25[\pm 0.010]$

PIN Out	
PIN	Function
1	GND
2	Vin
3	0V
4	+Vo



DERATING CURVES

TEMPERATURE DERATING CURVE



APPLICATION CIRCUIT

Figure 1

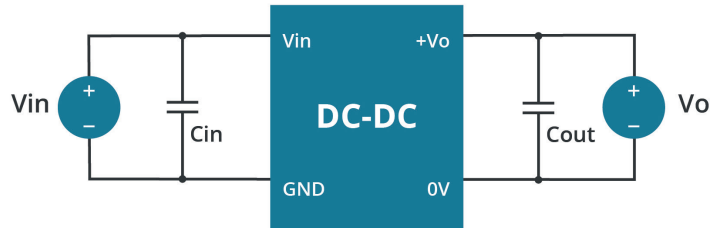


Table 1

Vin (Vdc)	Cin (μF / V)	Vo (Vdc)	Cout (μF / V)
5	4.7μF	3.3/5	10μF
--	--	9/12	2.2
--	--	15	1
12	2.2μF /25	3.3/5	10μF/16V
24	1μF/50V	12	2.2μF/25V
--	--	15	1μF/25V

EMC RECOMMENDED CIRCUIT

Figure 2

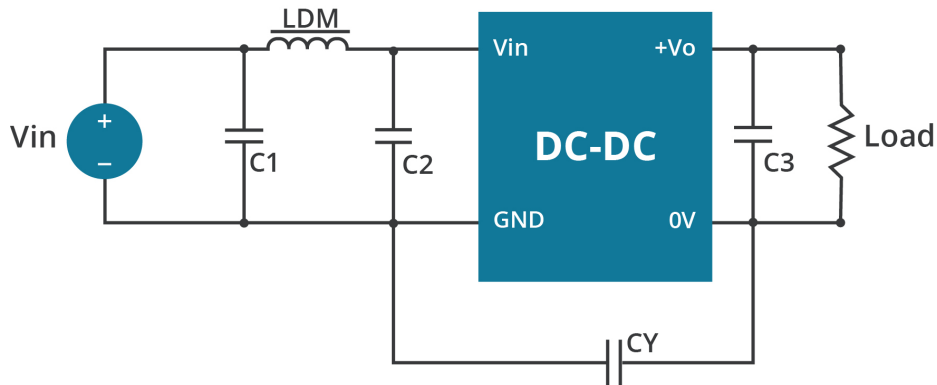


Table 2

Input voltage	Output voltage (Vdc)		3.3/5/9	12/15
	5 Vdc	EMI	C1/C2	4.7μF/25V
CY			--	1nF/4KVdc Vishay HGZ10102MBP TDK CD45-E2GA102M-GKA
C3			Refer to the Cout in table 1	
LDM			6.8μH	
12, 24 Vdc		C1/C2	4.7μF/50V	
		CY	270pF/2kV	
		C3	Refer to the Cout in table 1	
		LDM	6.8μH	

REVISION HISTORY

rev.	description	date
1.0	initial release	08/17/2020
1.01	mechanical tolerances updated	09/22/2020
1.02	derating curve and circuits updated	06/29/2021
1.03	datasheet updated	09/08/2021
1.04	CE certification updated	12/22/2022

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



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.

Please read our datasheet & drawing disclaimer [here](#).