

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
- EN62368 approved
- meets UL62368 standards

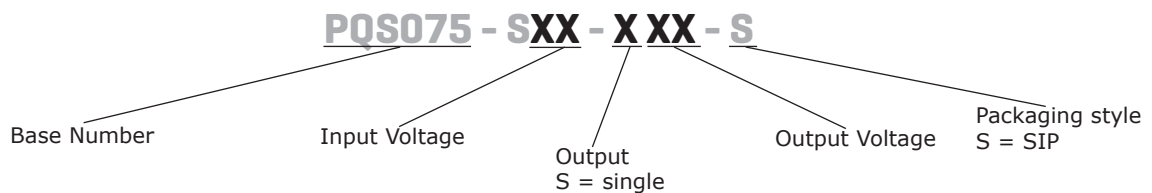


MODEL

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

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
current	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
filter	capacitance filter				

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load	3 Vdc			2,400	μF
	5 Vdc			2,400	μF
	9 Vdc			1,000	μF
	12 Vdc			560	μF
	15 Vdc			560	μF
voltage accuracy				±3	%
line regulation				±0.25	%
load regulation	10%~100% load				
	3.3 Vdc output			±3	%
	other outputs			±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	EN/IEC 62368				
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				

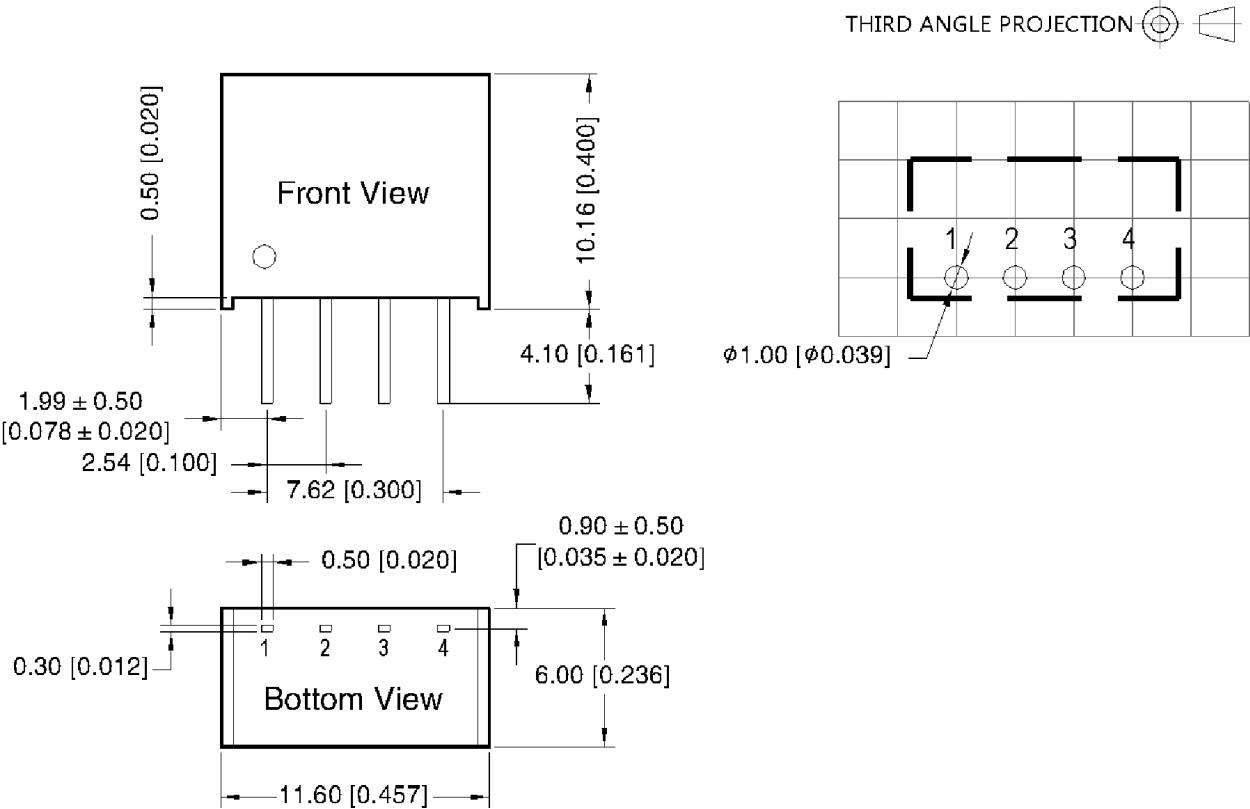
MECHANICAL

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

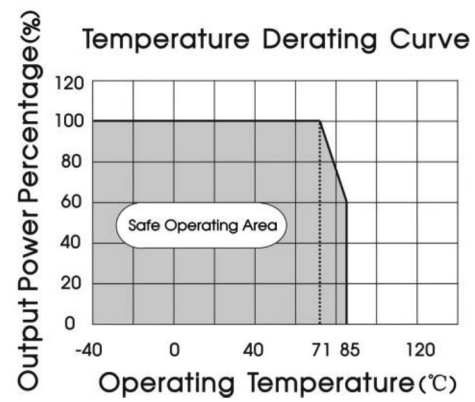
MECHANICAL DRAWING

units: mm [inch]
pin section tolerance: $\pm 0.10[\pm 0.020]$
general diameter tolerance: $\pm 0.10[\pm 0.004]$

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



DERATING CURVES



APPLICATION CIRCUIT

Figure 1

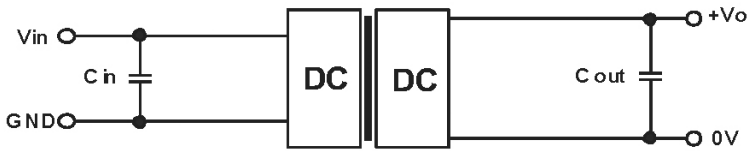


Table 1

Vin (Vdc)	Cin (μF)	Vo (Vdc)	Cout (μF)
5	4.7	3.3/5	10
--	--	9/12	2.2
--	--	15	1

EMC RECOMMENDED CIRCUIT

Figure 2

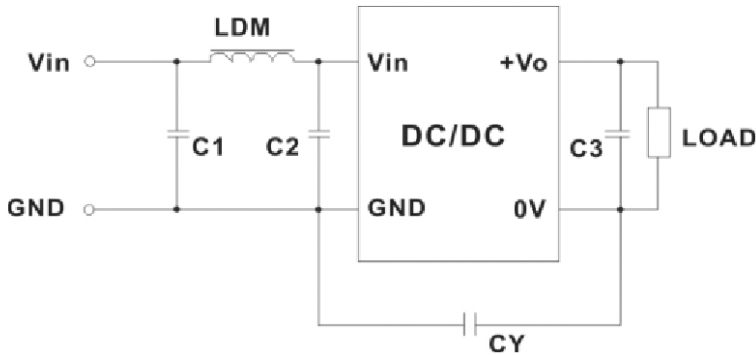


Table 2

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

REVISION HISTORY

rev.	description	date
1.0	initial release	08/17/2020

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



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