

SERIES: PCM1-SA

DESCRIPTION: DC-DC CONVERTER

FEATURES

- up to 1 W isolated output
- industry standard SIP 7 package
- 1:1 input range
- single unregulated output
- 1,000 Vdc isolation voltage
- -40 to 85°C temperature range
- efficiency up to 76%
- UL/cUL safety approval



MODEL

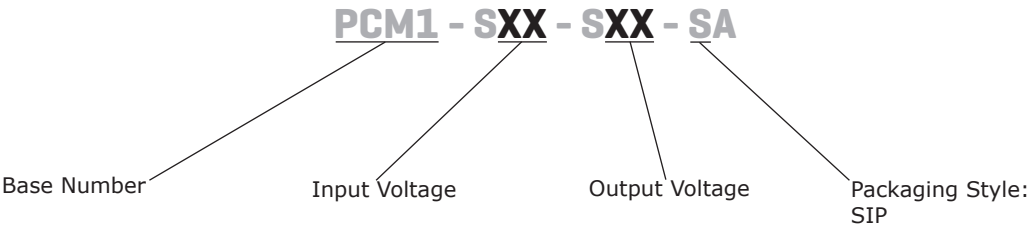
	input voltage		output voltage	output current	output power	ripple & noise ¹	efficiency
	typ (Vdc)	range (Vdc)	(Vdc)	max (mA)	max (W)	max (mVp-p)	typ (%)
PCM1-S5-S5-SA	5	4.5~5.5	5	200	1	100	76

Notes:

1. At full load, nominal input, 20 MHz bandwidth oscilloscope, output terminated with a 0.1 μF multilayer low ESR ceramic capacitor.

2. All specifications measured at Ta=25°C, nominal input voltage, rated output load, and after warm up unless otherwise specified.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage		4.5	5	5.5	Vdc

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load ¹				1000	μF
voltage accuracy	at full load, Vin nominal, see tolerance envelope curves			±5	%
line regulation	measured from low to high line, full load		±1.2		%
load regulation	measured from 20~100% load			±10	%
switching frequency	at Vin nominal	50	82	105	kHz

Note: 1. Maximum capacitive load is tested at nominal input voltage and full load.

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 second	1,000			Vdc
isolation resistance	at 500 Vdc	1,000			MΩ
isolation capacitance				75	pF
safety approvals	UL/cUL (60950-1, 2nd Edition)				
MTBF	as per MIL-HDBK-217F, full load, 25°C as per MIL-HDBK-217F, full load, 85°C	2,400,000 650,000			hours hours
RoHS	2011/65/EU				

ENVIRONMENTAL

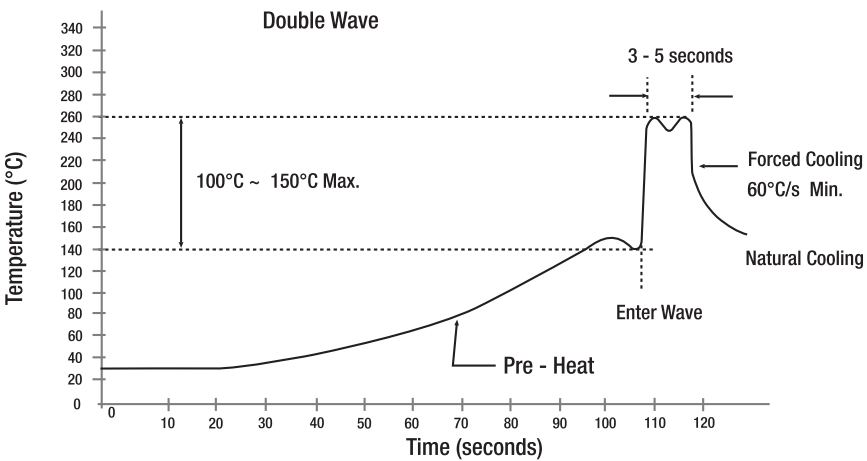
parameter	conditions/description	min	typ	max	units
operating temperature		-40		85	°C
storage temperature		-55		125	°C
operating humidity	non-condensing			95	%

SOLDERABILITY

parameter	conditions/description	min	typ	max	units
wave soldering	see wave solder profile			260	°C

Note: 2. The wave solder profile is measured on lead temperature.
3. Need to keep the solder parts internal temperature less than about 210°C.

Lead-free Recommended Soldering Profile



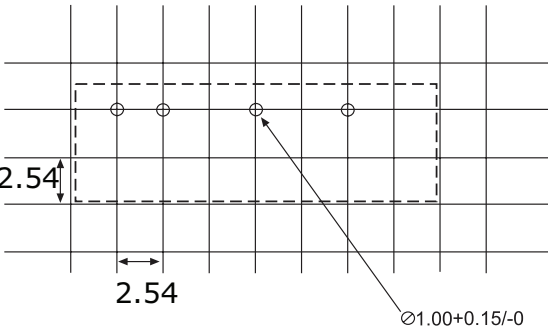
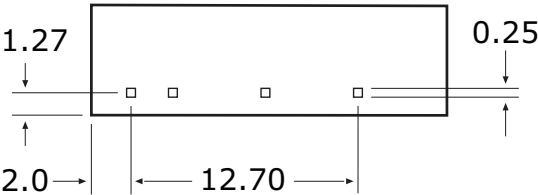
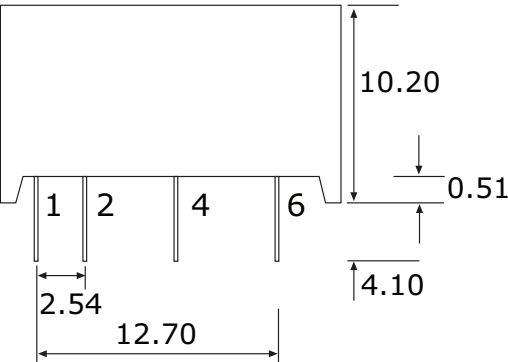
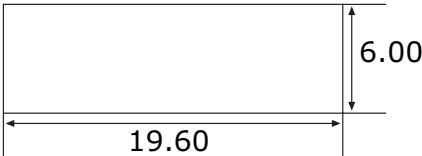
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	19.60 x 6.00 x 10.20				mm
case material	non-conductive black plastic (UL94V-0)				
weight			2.2		g

MECHANICAL DRAWING

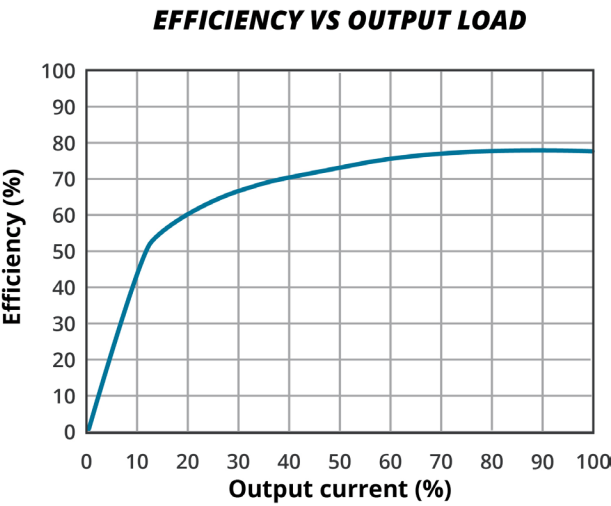
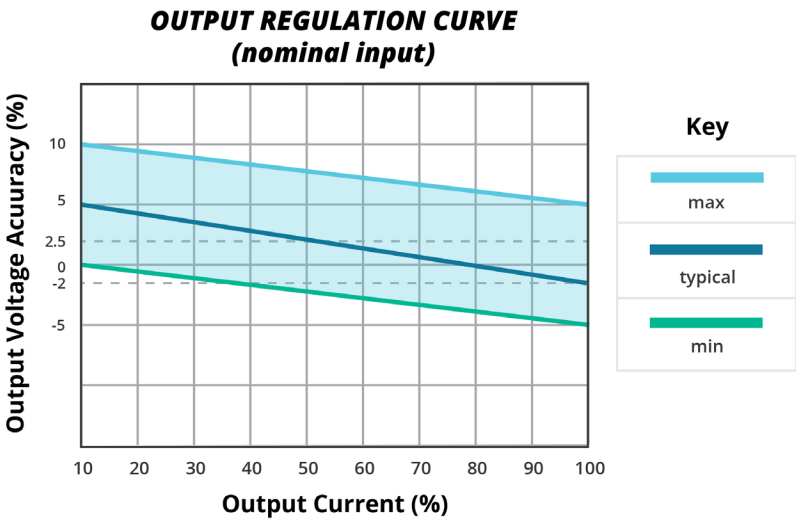
units: mm
tolerance: ±0.25 mm

PIN CONNECTIONS	
PIN	Function
1	+Vin
2	-Vin
4	-Vout
6	+Vout



Recommended PCB Layout
Top View

PERFORMANCE CURVES

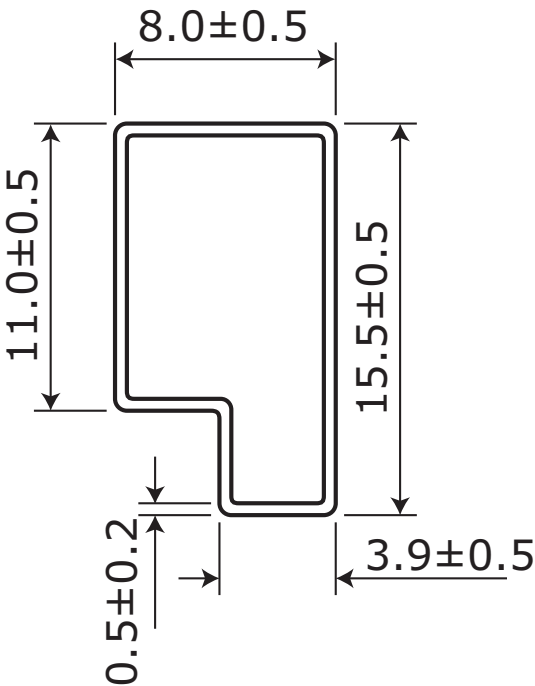


PACKAGING

units: mm

Tube Size: 15.5 x 8 x 520 mm

QTY: 25 pcs



REVISION HISTORY

rev.	description	date
1.0	initial release	08/31/2016
1.01	company logo updated	04/12/2021
1.02	performance curves updated	06/30/2021
1.03	company address updated	11/05/2024

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



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