

SERIES: PCM1-S | **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

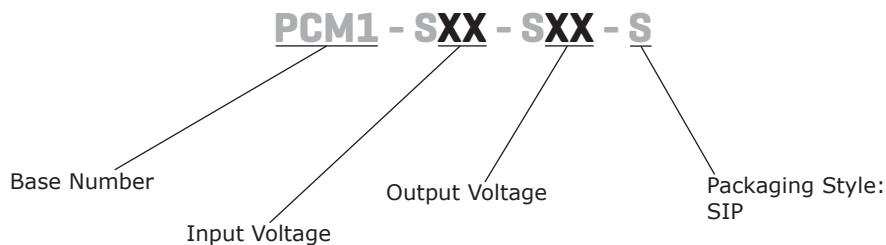


MODEL

| 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-S | 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 | 10,000 | | | 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

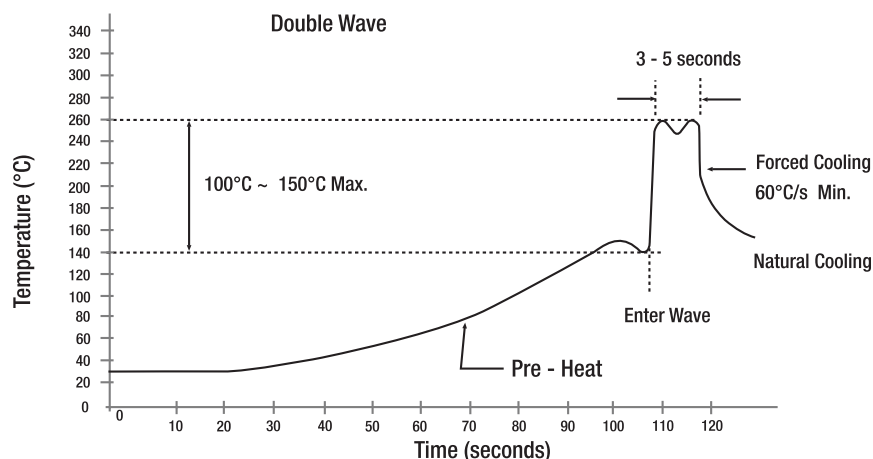
| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | | -40 | | 85 | °C |
| storage temperature | | -55 | | 125 | °C |
| operating humidity | non-condensing | | | 95 | % |

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

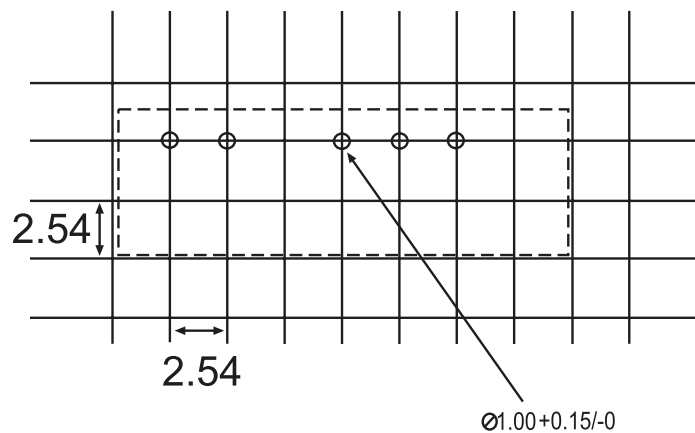
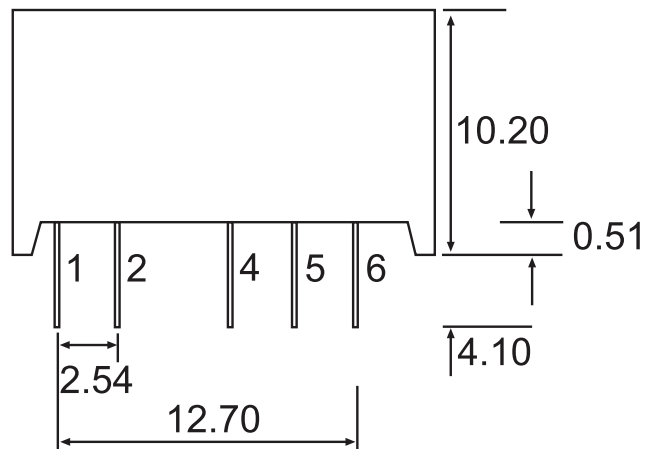
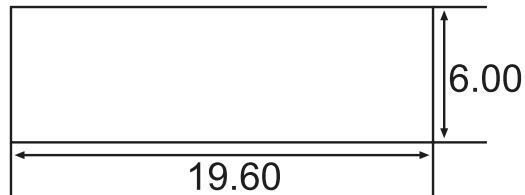
| parameter | conditions/description | min | typ | max | units |
|---------------|--|-----|-----|-----|-------|
| dimensions | 19.60 x 6.00 x 10.20 | | | | mm |
| case material | non-conductive black plastic (UL94V-0) | | | | |
| weight | | | 2.2 | | g |

MECHANICAL DRAWING

units: mm
tolerance: ±0.25 mm

| PIN CONNECTIONS | |
|-----------------|----------|
| PIN | Function |
| 1 | +Vin |
| 2 | -Vin |
| 4 | NC |
| 5 | -Vout |
| 6 | +Vout |

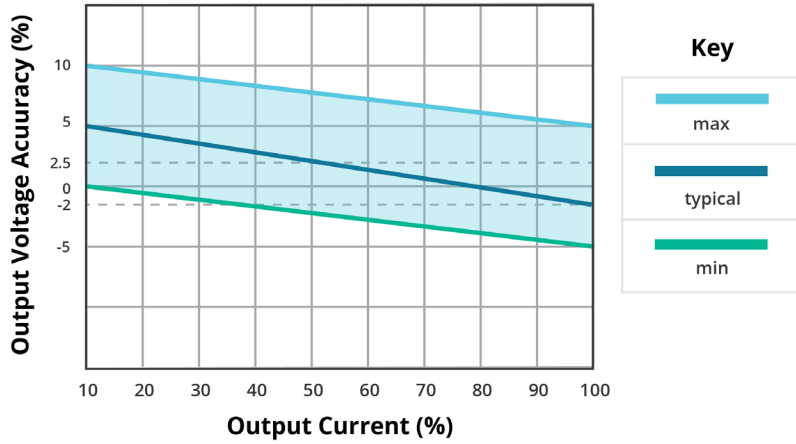
NC = no connection



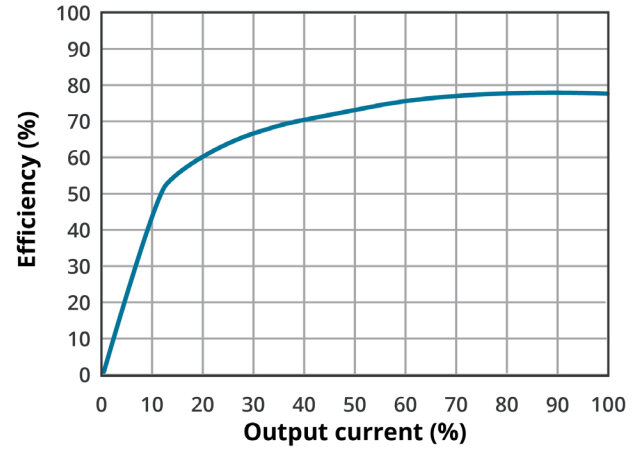
Recommended PCB Layout
Top View

PERFORMANCE CURVES

**OUTPUT REGULATION CURVE
(nominal input)**



EFFICIENCY VS OUTPUT LOAD

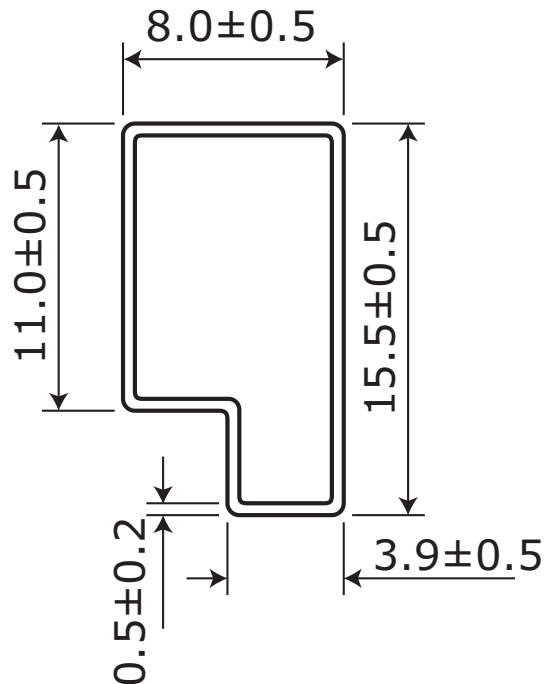


PACKAGING

units: mm

Tube Size: 15.5 x 8 x 520 mm

QTY: 25 pcs



REVISION HISTORY

| rev. | description | date |
|------|----------------------------|------------|
| 1.0 | initial release | 07/25/2016 |
| 1.01 | company logo updated | 04/12/2021 |
| 1.02 | performance curves updated | 06/30/2021 |

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



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