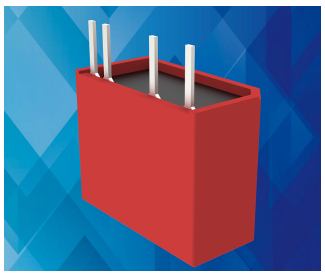
DC/DC CONVERTER - 1W ISOLATED

SINGLE OUTPUT

myrra
Power Supplies

507xx SERIES



MAIN FEATURES:

- 1W Small Compact Size - PCB Mount
- Output Range : 3.3VDC - 24VDC
- Operating Altitude Up To 5000m
- Low cost /High Reliability
- Very Low Standby Power Consumption <0.1W
- Better Energetic Efficiency
- 3000Vdc I/O Isolation voltage
- Operating Temperature range:-40°C to +105°C
- Industry standard pinout
- Materials : Uses UL 94-V0 Plastic And Resin
- Safety:Meets All Requirements of IEC/EN62368-1,UL62368-1, CSA C22.2 No.62368-1-14,IEC60601-1, CE, UKCA,
- EMC : Conducted And Radiated Emissions Conform To EN55032,FCC part15 CLASS A/B, EN/IEC61000-3-2 CLASS A, EN61000-3-3,
- Immunity Conforms To EN61000-4-2, EN/IEC61000-4-3, EN61000-4-4, EN61000-4-5,EN61000-4-6,EN61000-4-8,EN610004-11

UKCA CE RoHS

DATA SHEET

Part No	Power Rating Watts	Output Voltage (VDC)	Output Current (mA)max/min	Input Current Typ.(Full load/No load) (mA)	Ambient Temp. (℃)	Efficiency Typical	Input Range
50700	1.0	3.3	303/30	270/8	-40°C to +105°C	72%	4.5VDC-5.5VDC
50701	1.0	5.0	200/20	244/8	-40°C to +105°C	80%	
50702	1.0	9.0	111/12	241/8	-40°C to +105°C	80%	
50703	1.0	12	84/9	241/12	-40°C to +105°C	80%	
50704	1.0	15	67/7	241/18	-40°C to +105°C	80%	
50705	1.0	24	42/4	241/18	-40°C to +105°C	83%	
50706	1.0	5	200/20	208/8	-40°C to +105°C	72%	10.8VDC – 13.2VDC
50707	1.0	12	84/9	201/8	-40°C to +105°C	81%	10.8VDC – 13.2VDC
50708	1.0	5	200/20	104/8	-40°C to +105°C	72%	21.6VDC – 26.4VDC

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Model: 1 Watt		Specifications
DC Input Characteristics	Rated DC input Voltage	5.0VDC :PN50700 to 50705; 12VDC :PN50706 to 50707; 24VDC: PN50708
	DC Input Voltage Range	4.5 - 5.5VDC:P/N50700 to 50705; 10.8 -13.2VDC:PN50706 to 50707; 21.6 - 26.4VDC: PN50708
	Input Current	See table
	Protection(Fuse recommended)	500mA
	Input Filter	Capacitor type
DC Output Characteristics	Rated Output Power	1W
	Output Voltage Line Regulation	3.3Vdc type: 1.5% Max.@1% input variation 5.0Vdc type: 1.2% Max.@1% input variation 9.0Vdc type: 1.2% Max.@1% input variation 12Vdc type: 1.2% Max.@1% input variation 15Vdc type: 1.2% Max.@1% input variation 24Vdc type: 1.2% Max.@1% input variation
	Output Voltage Load Regulation	3.3Vdc type: 15% Typ. , 20% Max. @10% to 100% load 5.0Vdc type: 10% Typ. , 15% Max. @10% to 100% load 9.0Vdc type: 8% Typ. , 10% Max. @10% to 100% load 12Vdc type: 7% Typ. , 10% Max. @10% to 100% load 15Vdc type: 6% Typ. , 10% Max. @10% to 100% load 24Vdc type: 5% Typ. , 10% Max. @10% to 100% load
	Output Voltage Accuracy	See “Envelope GRAPH”
	Switching Frequency	300KHz typ.@5VDC input type 280KHz typ.@ 12V/24VDC input type
	Ripple & Noise	Max 100mVp-p@ Rated DC input, at nominal line (The measuring will be terminated with a 22uF AL E-Cap and a 0.1uF Ceramic-Cap. An oscilloscope set at 20MHz bandwidth)

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	Efficiency	See table
Protection Characteristics	Over Current Protection	The DC converter shall automatically protect against over current. The DC converter shall auto-recover normal operation after the fault condition is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard during the fault
	Output Short Circuit Protection	The DC converter shall withstand a continuous output short without damage; The DC converter shall resume normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur with no safety hazard
Environmental	Operation Temperature	-40°C ~+105°C (Refer to "DERATING GRAPH")
	Operation Humidity	10~ 90% RH(No Condensing) @ DC with full load
	Storage Temperature	-10°C to +35°C
	Storage Humidity	< 75%RH
	Cooling Method	Ordinary or thermostat
Safety & EMC Requirement	Dielectric Strength	Input to Output: 3000Vdc 1mA, 3 secs.
	Radiation	Meets EN55032, FCC part 15, (Class A/B with external components, refer to EMC typical recommended circuit).
	Conduction	Meets EN55032, FCC part 15, (Class A/B with external components, refer to EMC typical recommended circuit).
	Harmonic Current Disturbance	Meets EN/IEC61000-3-2:2019, Class A
	Voltage Fluctuation And Flicker	Meets EN61000-3-3:2013
	Electrostatic Discharge	Meets EN61000-4-2:2009 Contact Discharge ±6KV,Air Discharge ±8KV
	RF Field Strength Susceptibility	Meets EN/IEC61000-4-3:2019
	Electrical Fast Transient	Meets EN61000-4-4:2012, ±1KV

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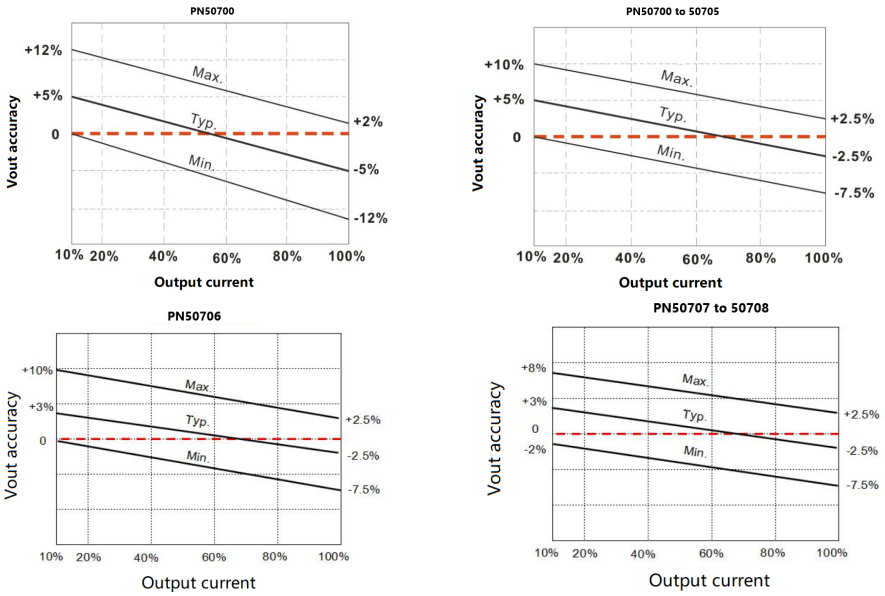
Safety & EMC Requirement	Lightning Surge	Meets EN61000-4-5:2014,+1KV (line to line)
	Conducted Susceptibility	MeetsEN61000-4-6:2014
	Power Frequency Magnetic Field Susceptibility Test	Meets EN61000-4-8:2010
	Voltage Dips And Interruptions	MeetsEN61000-4-11:2004
	Safety Standards	Meets all requirements of : UL62368-1,CSA C22.2 NO.62368-1-14, IEC/EC62368-1, IEC60601-1 CE,UKCA Mark
	Isolation Capacitance	20pF Max. @100KHz/0.1V,
Reliability Requirement	MTBF	>200K Hours @ at 85deg.C >700K Hours @ at 25deg.C *Calculated in accordance with MIL-HDBK-217-F2*
	Burn-In Test	The unit shall be burned in for 2~ 5hours under rated input voltage and DC with full load at an ambient temperature of 30~45 degrees C
Net Weight	Approximately 2.5 grams per product unit	
Physical size:	The units do not including PINs of input and output, and dimension is (L)19.5*(H) 16*(W) 10.6 ±0.5mm (see appearance drawing) .	
Guarantee	This product is in accordance with the European RoHS & REACH directives	

ENVELOPE GRAPH



Please refer to MYRRA's website and catalogue for MYRRA SMPS application notes.

The information contained in this document is subject to change without notice.

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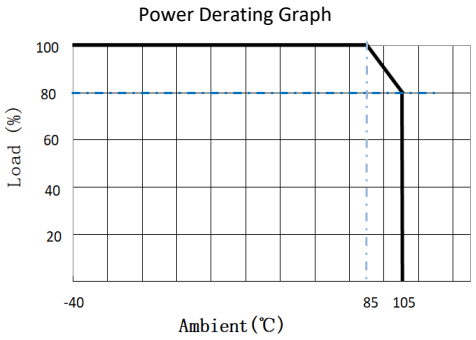
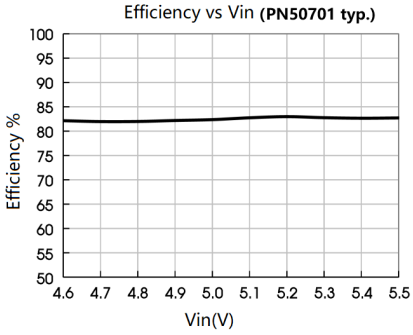
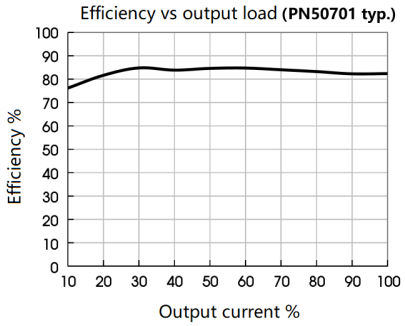
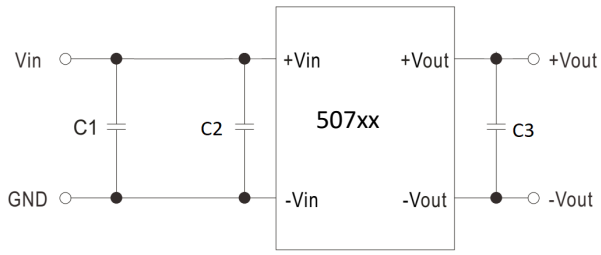
DERATING GRAPH & Efficiency vs Vin/Output load





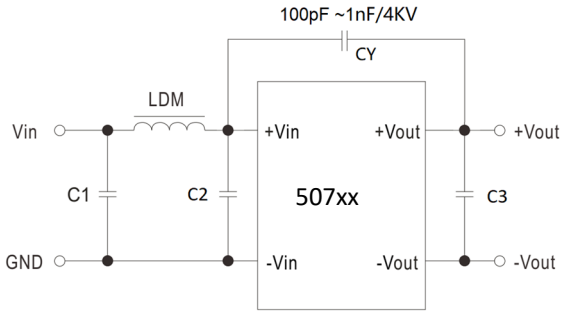


TYPICAL APPLICATION



C1: 4.7uF/16V@5Vdc Vin;
: 2.2uF/25V@12Vdc Vin;
: 1.0uF/25V@24Vdc Vin;
C2: No component
C3:
3.3Vdc, 5.0Vdc output types: 10uF/16V;
9.0Vdc,12Vdc output types: 2.2uF/25V;
15Vdc,24Vdc output types: 1uF/50V;

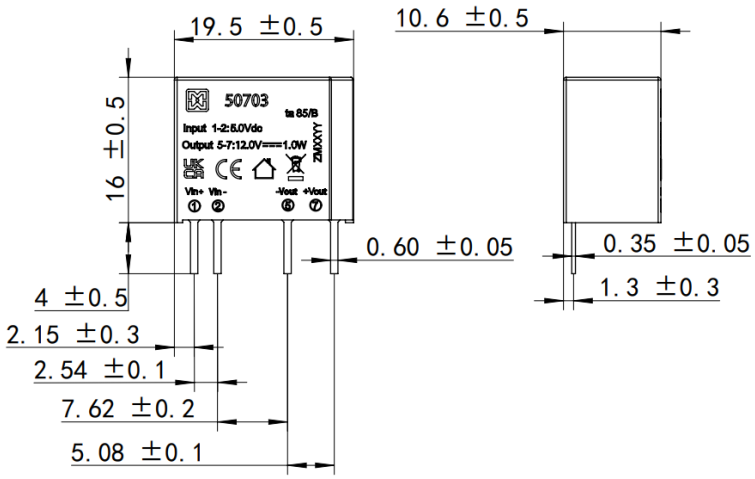
EMC SUGGESTION



C1,C2: 4.7uF/25V
CY: 100pF ~ 1nF/4kv
LDM: 4.7 to 10uH
C3: 1uF to 10uF/16V

DIMENSIONS AND PINOUT 4 PINS

Pin 1: DC Input +Vin
Pin 2: DC Input -Vin
Pin 5 : DC Output -Vout
Pin 7 : DC Output +Vout



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