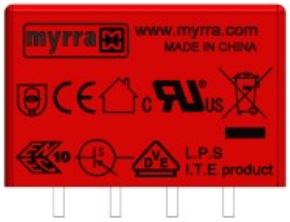
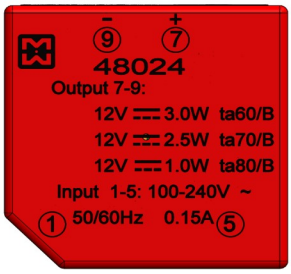
SINGLE OUTPUT 1W to 3W – Primary Side Regulated

48000 SERIES





MAIN FEATURES:

- 1 to 3W Small Compact Size - PCB Mount
- Single Output – Primary Side Regulated
- Output Range : 3.3VDC - 24VDC
- Input Range : 85VAC - 265VAC/47 - 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption < 0.15W
- Better Energetic Efficiency : Meet Requirements Of Energy Star And EC Code Of Conduct
- Encapsulated Design And Same Footprint As EE20 Transformer: Upgrade Your Application Without Redesign Of PCB
- Safety : IEC/EN61558-2-16,IEC/EN60950,IEC/EN60335, IEC/EN62368,UL/CUL60950,UL/CUL62368, CE, VDE, ENEC Mark
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emissions Conform To EN55032,EN55014 And FCC Part 15, CLASS B
- Immunity Conform To EN61000-3-2 CLASS A, EN61000-3-3,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-11

Part No	Power Rating Watts	Output Voltage (VDC)	Output Current（mA）	Ambient Temp.（℃）	Efficiency Typical	Input Range
48021	2.75	3.3	830	50	>63%@230VAC	85VAC-265VAC (120VDC-370VDC)
	2.5		750	60		
	1.0		300	80	>60%@230VAC	
48022	3.0	5.0	600	50	>65%@230VAC	
	2.5		500	60		
	1.0		200	80	>60%@230VAC	
48023	3.0	9.0	330	60	>70%@230VAC	
	2.5		280	70		
	1.0		110	80	>67%@230VAC	
48024	3.0	12	250	60	>72%@230VAC	
	2.5		210	70		
	1.0		84	80	>67%@230VAC	
48025	3.0	15	200	60	>72%@230VAC	
	2.5		170	70		
	1.0		67	80	>67%@230VAC	

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48026	3.0	18	170	60	>72%@230VAC	
	2.5		140	70		
	1.0		56	80	>67%@230VAC	
48027	3.0	24	125	60	>74%@230VAC	
	2.5		105	70		
	1.0		42	80	>70%@230VAC	

Note: Other output voltages are available upon request.

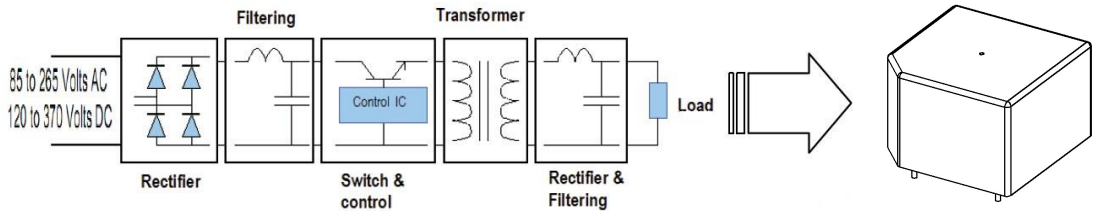
Model: 1 to 3 Watt		Specification
AC Input Characteristics	Rated AC input Voltage	100~240Vac or 140VDC-340VDC
	AC Input Voltage Range	85~265Vac or 120VDC-370VDC
	AC Input Frequency Range	47Hz~63Hz
	Rated AC Input Frequency	50/60Hz
	Input Current	0.15A Max@85Vac~265Vac, at full load
	Standby Power	0.15W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
DC Output Characteristics	Output Voltage Accuracy	3.3V type: ± 6 % Other types(5V,9V,12V,15V,18V and 24V): ± 5 %
	Output Voltage Line Regulation	3.3V type: ± 5 % Other types(5V,9V,12V,15V,18V and 24V): ± 3 %
	Output Voltage Load Regulation	3.3V type: ± 6 % Other types(5V,9V,12V,15V,18V and 24V): ± 5 %
	Ripple & Noise	Max 200mVp-p@ Rated AC input, at nominal line (The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Ceramic-Cap. An oscilloscope set at 20MHz bandwidth)
	Dynamic Response	The output voltage shall not exceed ±10% rated output voltage @ 50%←→100% Load change, 1A/uS , 1KHz 50% duty cycle

	Hold Up Time	5mS min@ 100Vac ~240Vac, DC output with full load
	Turn On Delay	3S max @ 85Vac~265Vac input and DC output with full load
	Rise Time	50ms max @ 85Vac~265Vac input and DC output with full load
	Overshoot	The output voltage shall not exceed +10% rated output voltage @ Power on and 85Vac~265Vac input, and DC with full load
	Undershoot	The output voltage shall not exceed -10% rated output voltage @ Power off and 85Vac~265Vac input and DC output with full load
	Efficiency	See table (Meets Requirements Of Energy Star And EC Code Of Conduct)
Protection Characteristics	Over Current Protection	The power supply shall automatic protect. The power supply shall auto-recover normal operation after the deformation is removed. No excessive heat, odor, or plastic deformation shall occur with no safety hazard
	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours; The short may be applied before power on, or after power on; The power supply shall resume normal operation after the short is removed, no excessive heat, odor, or plastic deformation shall occur with no safety hazard
	Over temperature protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C.
Environmental	Operation Temperature	-25°C ~+ (see table)
	Operation Humidity	10~ 90% RH(No Condensing) @ full load
	Storage Temperature	-40°C~ +85°C
	Storage Humidity	5%~95%
	Cooling Method	Ordinary or thermostat

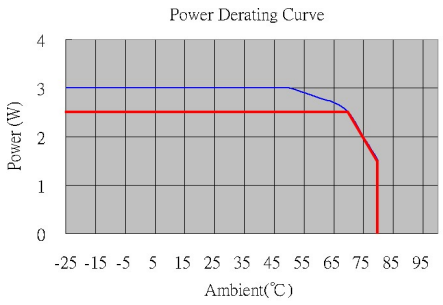
Safety & EMC Requirement	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 secs.
	Radiation	Meeting EN55032,EN55014,FCC part 15, Class B. under 3dB margin
	Conduction	Meeting EN55032,EN55014, FCC part 15,Class B. under 3dB margin
	Harmonic Current Disturbance	Meeting EN61000-3-2:2014, Class A
	Voltage Fluctuation And Flicker	Meeting EN61000-3-3:2013
	Electrostatic Discharge	Meeting IEC61000-4-2:2008 Contact Discharge ±4KV,Air Discharge ±8KV
	RF Field Strength Susceptibility	Meeting IEC61000-4-3:2006+A1:2007+A2:2010
	Electrical Fast Transient	Meeting IEC61000-4-4:2012, ±1KV
	Lightning Surge	MeetingIEC61000-4-5:2014,±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).
	Conducted Susceptibility	Meeting IEC61000-4-6:2013
	Voltage Dips And Interruptions	Meeting IEC61000-4-11:2004
	Safety Standards	Meet all requirements of UL/CUL60950 UL/CUL62368 IEC/EN60950 IEC/EN60335 IEC/EN61558-2-16 IEC/EN62368 CE,VDE, ENEC Mark
Reliability Requirement	MTBF	Calculated by MIL-HDBK-217-F2 >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C

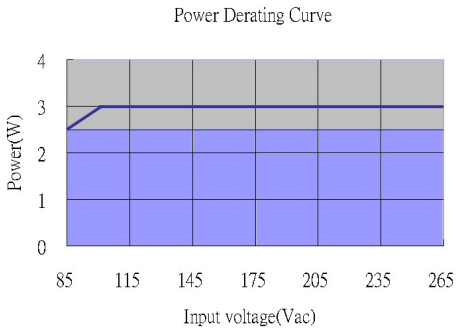
	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C
Net Weight	About 16 grams per product unit	
Guarantee	This product meets RoHS standard	

SCHEMATIC



DERATING GRAPH (Typically 12V type)





DIMENSIONS and PINOUT

4 PINS

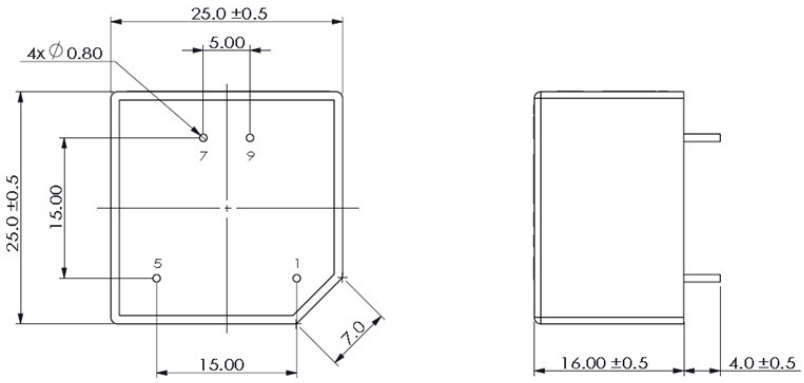
PRI:

Pins 1 – 5: AC or DC Input

SEC:

Pin 7 : DC Output +V

Pin 9 : DC Output 0V



(View From Pins Side)