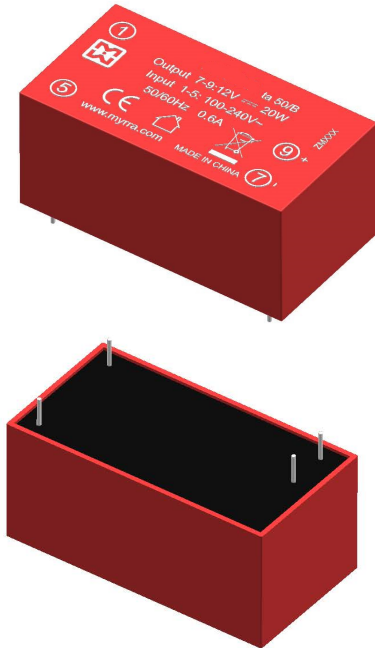


# ONE OUTPUT 20W - REGULATED



Power Supplies

## 20W SERIES



## MAIN FEATURES:

- 20W Small Compact Size - PCB Mount
- Single Output - Secondary Side Regulated
- Output Range : 3.3VDC - 24VDC
- Input Range : 85VAC - 265VAC/47 - 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption < 0.15W
- High Energetic Efficiency: Meets the Requirements Of Energy Star and EC Code Of Conduct
- Safety: Meets IEC/EN61558-2-16, IEC/EN60335, IEC/EN62368, UL/CUL60950, CE, VDE, ENEC
- Materials: Uses UL 94-VO Plastic and Resin
- EMC: Conducted And Radiated Emission conform To EN55032, N55014 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

## DATA SHEET

Part No	Power Rating Watts	Output Voltage (VDC)	Output Current (mA)	Ambient Temp. (°C)	Efficiency Typical	Input Range
47220	15	3.3	4500	50	>82%@230VAC	85VAC-265VAC (120VDC-370VDC)
47221	20	5	4000	60	>82%@230VAC	
47222	20	9	2200	60	>85%@230VAC	
47223	20	12	1700	60	>85%@230VAC	
47224	20	15	1400	60		
47225	20	18	1100	60		
47226	20	24	840	60		

**NOTE : Other output voltage are available upon request.**

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

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Model: 20 Watt		Specification
AC Input Characteristics	Rated input Voltage	100~240Vac Or 140VDC-340VDC
	Input Voltage Range	85~265Vac Or 120VDC-370VDC
	AC Input Frequency Range	47Hz~63Hz
	Rated AC Input Frequency	50/60Hz
	Input Current	0.6A Max@85Vac~265Vac, at full load
	Input Inrush Current	40A Max @85Vac~265Vac input, cold start, full load
	Standby Power	0.15W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
DC Output Characteristics	Output Voltage Accuracy	± 3% (9V,12V,15V,18V,24V Types) ± 4%(3.3V Type, 5V Type)
	Output Voltage Line Regulation	± 2%(9V,12V,15V,18V,24V Types) ± 3%(3.3V and 5V Types )
	Output Voltage Load Regulation	± 3%(9V,12V,15V,18V,24V Types) ± 4%(3.3V Type, 5V Type)
	Ripple & Noise	Max 180mVp-p @Rated AC input (The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Dynamic Response	The output voltage shall not exceed ±10% rated output voltage @ 10%←→90% Load change, 1A/uS , 1KHz 50% duty cycle
	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
	Hold Up Time	5mS Min@ 100Vac ~240Vac, DC output with full load

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	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
	Efficiency	See table (Meet Requirements Of Energy Star And EC Code Of Conduct)
Protection Characteristics	Over Current Protection	The power supply shall automatic protection. The power supply shall auto-recovery normal operation after the deformation is removed. No excessive heat, odor, or plastic deformation shall occur, 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, 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), +70°C at 50% full load(Refer to "DERATING GRAPH" )
	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 sec .
	Radiation	Meeting EN55032,EN55014,FCC part 15, Class B. under 3dB margin

# ONE OUTPUT 20W - REGULATED



Power Supplies

## 20W SERIES

<b>Safety &amp; EMC Requirement</b>	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 $\pm 4KV$ ,Air Discharge $\pm 8KV$
	RF Field Strength Susceptibility	Meeting IEC61000-4-3:2006+A1:2007+A2:2010
	Electrical Fast Transient	Meeting IEC61000-4-4:2012, $\pm 4KV$
	Lightning Surge	Meeting IEC61000-4-5:2014, $\pm 2KV$
	Conducted Susceptibility	Meeting IEC61000-4-6:2013
	Voltage Dips And Interruptions	Meeting IEC61000-4-11:2004
	Safety Standards	Meet all requirements of UL/CUL62368 IEC/EN62368 IEC/EN60335 IEC/EN61558-2-16
<b>Reliability Requirement</b>	MTBF	Calculated by MIL-HDBK-217-F2 200K Hours Min. @230VAC input, 50deg.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
<b>Mechanical</b>	Physical Size	The units do not including PINs of input and output, and dimension is (L)65*(W)35*(H)24.5 $\pm$ 0.5mm (see appearance drawing)
	Net Weight	About 92 grams per product unit.
<b>Guarantee</b>	This product meet to RoHS standard	

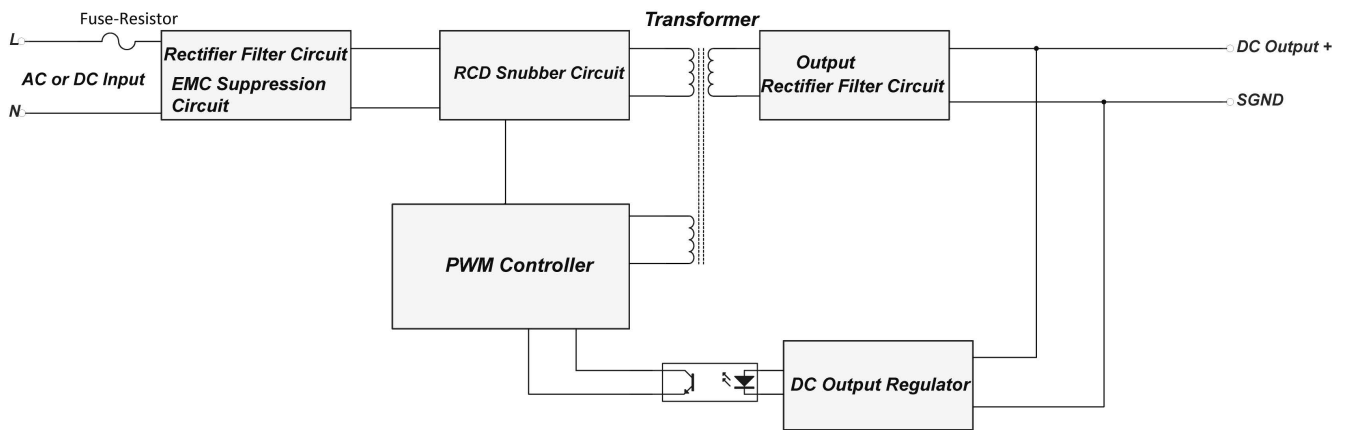
# ONE OUTPUT 20W - REGULATED



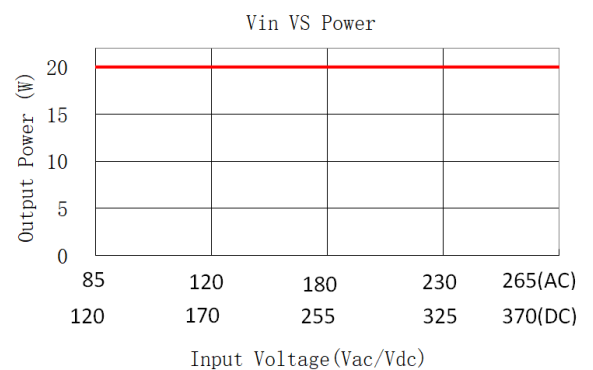
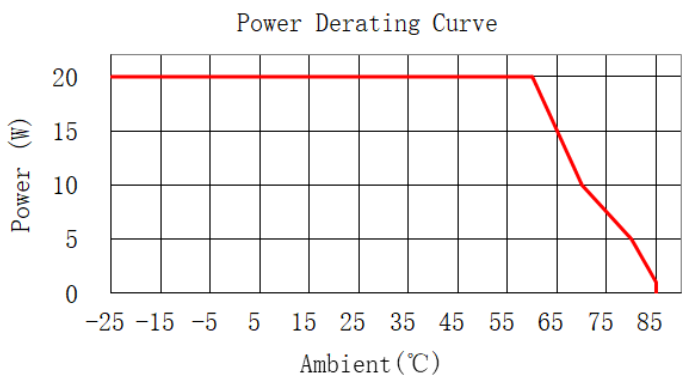
Power Supplies

20W SERIES

## SCHEMATIC

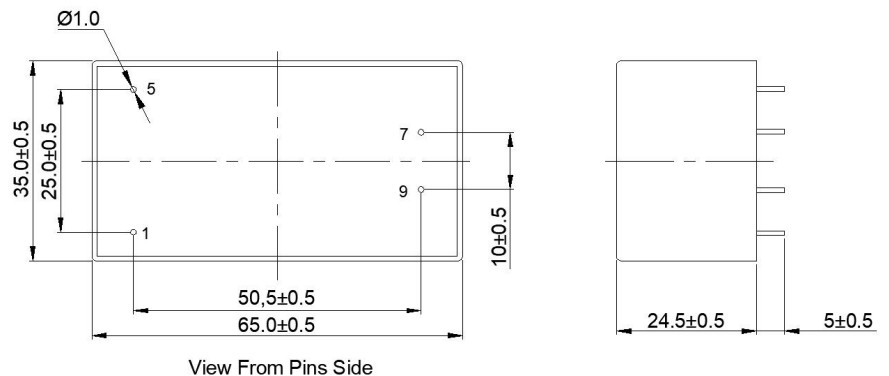


## DERATING GRAPH (TYPICALLY 12V TYPE)



## DIMENSIONS AND PINOUT 4 PINS

- PRI:
- Pins 1-5: AC or DC Input
- Input SEC:
- Pin 7 : DC Output 1 +V
- Pin 9 : DC Output 2 0V



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