ARCH ELECTRONICS CORP.

AC -DC ITE & Medical Power Module

MSC60 SERIES 60 Watts

KEY FEATURES

- Switching Power Modules for PCB Mounting
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC
- Regulated Output
- Low Ripple and Noise
- <0.3W No Load Input Power
- Isolation Class II
- CE, CB, UL, cUL Approvals
- 3-Year Product Warranty

E308218

ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No. (Single Output)		MSC60-5S	MSC60-9S	MSC60-12S	MSC60-15S	MSC60-24S
Max output wattage (W)		51W	60W			
Input	Voltage	90-264 VAC or 120-370 VDC, " N " to DC " + " ; "L " to DC " - "				
	Frequency (Hz)	47-440 Hz				
	Current (Full load)	1.5 A max. (115 VAC) / 1 A max. (230 VAC)				
	Inrush current (<2ms,Cold Start)	55 A max. (115 VAC) / 95 A max. (230 VAC)				
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)				
	External fuse (recommend)	3.15A, slow blow type				
Output	Voltage (V.DC.)	5.1V	9V	12V	15V	24V
	Voltage set accuracy	±2%				
	Current (mA) max	10,000	6666	5000	4000	2500
	Maximum Capacitive Load (at 230 VAC)	10000uF	5000uF	5000uF	4000uF	2000uF
	Line regulation (typ.)	0.5%				
	Load regulation (1-100%) (typ.)	1.5%		1%		
	Ripple & Noise (max) (Note 1)	100mV (Vp-p)		1% of Vout		
	Efficiency (at 230 VAC)	86%	87%	88%	86%	87%
	Hold-up time	10 ms min.				
Protection	Over current protection	Automatic recovery				
	Over voltage protection	Zener diode clamp				
	Short circuit protection	Automatic recovery				
Isolation	Input-Output (V.AC)	4000V				
Environment	Operating temperature (Note 5)	-40°C…+80°C (with derating)				
	Storage temperature	-40°C…+90°C				
	Max Case Operating Temperature	Under 115 VAC 73°C , others 80°C				
	Temperature coefficient	±0.05%/°C				
	Altitude During Operation	5000m				
	Humidity	up to 95% RH				
	MTBF	200,000 h~400,000 h @ 25°C				
	Atmospheric Pressure	540 hPa to 1060 hPa				
Physical	Dimensions (L x W x H)	3.5 x 2.5 x 1.09 Inches (89.0 x 63.5 x 27.6 mm) Tolerance ±0.5 mm, Height Tolerance ±1 mm				
	Case Material	Plastic resin (flammability to UL 94V-0)				
	Weight	260 g				
	Cooling method	Free air convection				

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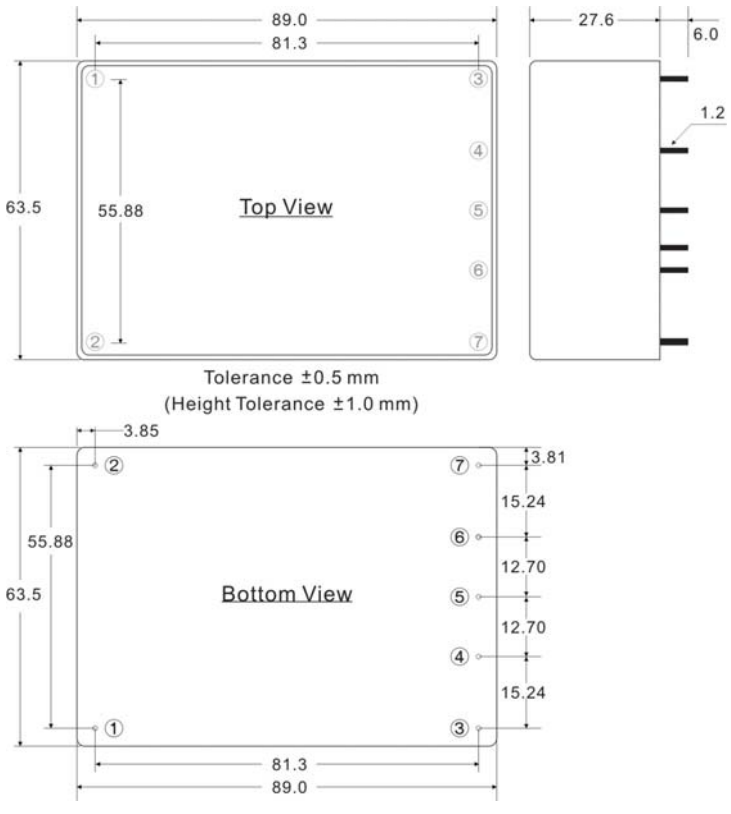
Safety	Approval	cUL / UL Standard: UL 60950-1, CAN/CSA C22.2 No. 60950-1-07 ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10), CAN/CSA-C22.2 No. 60601-1 (2008), 2 x MOPP CB Standard: IEC 60950-1:2005 (2nd Edition) + Am 1:2009 + Am 2:2013 IEC 60601-1:2005 (3rd Edition) + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1 (2012 reprint), 2 x MOPP				
EMC	Conducted and radiated EMI	EN55011 class B (Radiation Class A for MSC60 A2 Series)				
	EMS	EN60601-1-2 4th edition				

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Safety approvals cover frequency 47-63 Hz.
3. That “natural convection” is about 20LFM but is not equal to still air (0 LFM).
4. It's recommended to add Varistor 14S471K at L / N input side in parallel.
5. Due to varying customer application conditions, the product is tested for maximum operating temperature under full load only. For other regulatory requirements, please contact ARCH.
6. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw

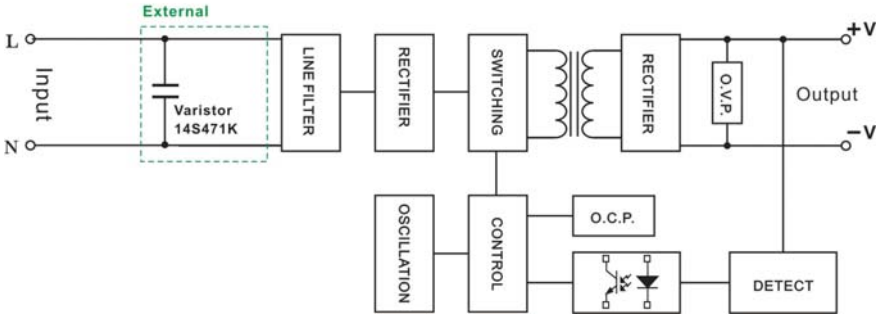
MECHANICAL DIMENSIONS (Top View)



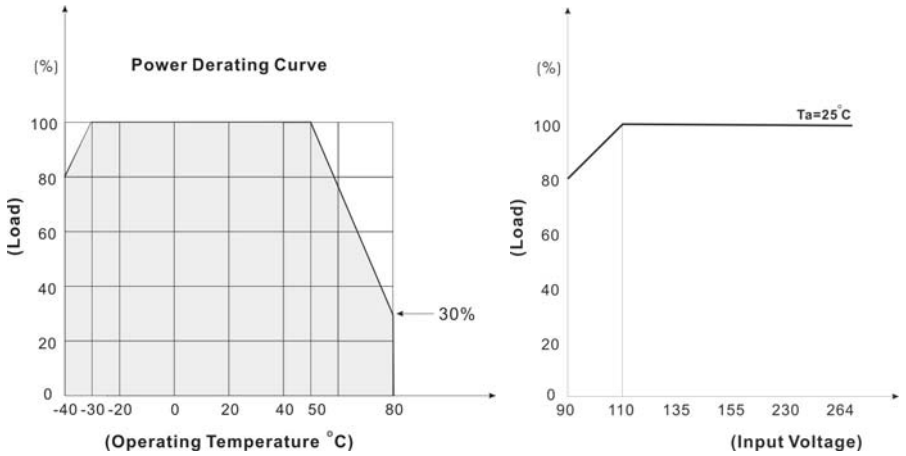
PIN#	Single
1	AC IN (L)
2	AC IN (N)
3	+DC OUT
4	NO PIN
5	-DC OUT
6	NO PIN
7	NO PIN

BLOCK DIAGRAM

Single Output



DERATING



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SCREW TERMINAL

MSC60-A2

PIN#	Single
1	AC IN (L)
2	NO CONNECT
3	AC IN (N)
4	+DC OUT
5	NO CONNECT
6	-DC OUT
7	NO CONNECT
8	NO CONNECT