



ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

MEDICAL POWER SUPPLY
SINGLE CHANNEL OUTPUT
40 WATTS
UNIVERSAL INPUT

MBH40S SERIES

General Description



Features

1. Regulated Output
2. Fully Encapsulated
3. Low ripple and noise
4. PCB Mountable
5. Over power, short circuit, over voltage protection, over temperature protection
6. Isolation Class II

Options

Screw Terminal (add suffix "-S")

Application

Broad needs

Input

Input Voltage Range:	AC90~264V (or 100~375VDC)
Input current:	860mA max (115VAC), 460mA max (230VAC)
Frequency Range:	47~440 Hz
External Fuse:	3.15A slow blow type
Inrush Current: *1, *4	10A (max.) at AC115VAC 20A (max.) 230VAC





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Output Characteristic	Unit	Models					
		MBH40S-3.3	MBH40S-5	MBH40S-9	MBH40S-12	MBH40S-15	MBH40S-24
Output Voltage	Vdc	3.3	5	9	12	15	24
Output Current	mA	8000	8000	4444	3333	2666	1667
Ripple & Noise(max)	mVpp	50mV	1% of Vo				
Voltage Accuracy		±2%					
Capacitive Load (max)	uF	70000	33000	10000	4000	3000	1200
Hold up time	mS	18 minimum					
Switching Frequency	kHz	132					
Minimum Load	%	1%					
Regulation							
a. Line Regulation [max]		±0.5%					
b. Load Regulation	mV	±1%					
c. Temperature Coefficient	/°C	±0.01% /°C					

Efficiency	*1	%	76	79	82	83	83	83
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Conditions:

- *1 Rated input and Rated output
- *2 at Output current quick change 25% to 75%
- *3 At 100% load (convection cooling)
- *4 Cold start at 25 °C Ambient temp.



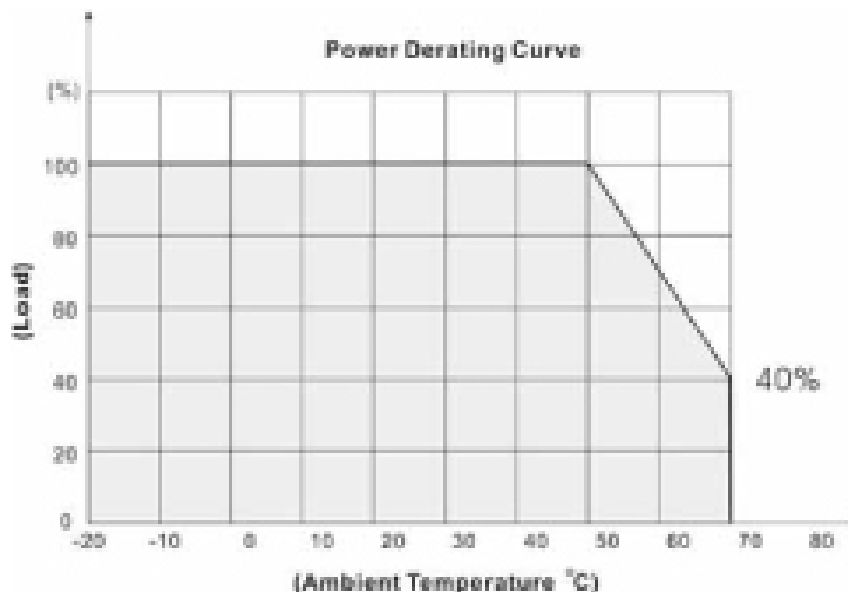


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Environmental Specification	
Operating Temperature*3	-25 to +70 °C with derating, case temperature 95°C max
Storage Temperature	-40 to +100 °C
Humidity	95% RH max
Isolation Voltage	4000V Input-Output
Leakage Current	100µA max
Cooling	Convection
MTBF	200,000 hours to 400,000 hours at 25°C
Enclosure Material	Plastic Resin with Fiberglass (flammability meeting UL 94V-0)
Environmental Agencies	
Line Conducted Noise [EMI]	Built to meet EN55011-B
Safety	EN60601-1, EN60601-1-2, UL, cUL, CB
Class II	IEC60536, EN60536
Function/Protection	
Over Power Protection	Above 105% rated output power
Over voltage Protection	Zener diode clamp
Short circuit Protection	Hiccup mode, indefinite (automatic recovery)
Over Temperature Protection	up to 100°C
Mechanical	
Dimension [mm]	63.5W × 89.0L × 25.0H ±0.5
Weight [g] (typical)	280

Derating Curves



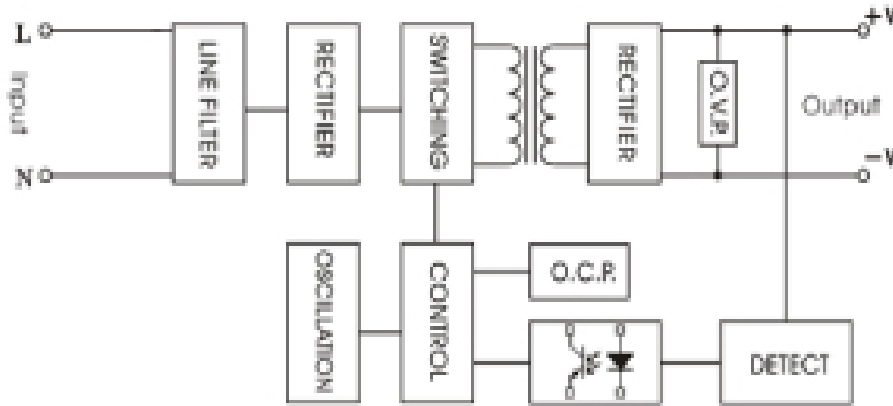


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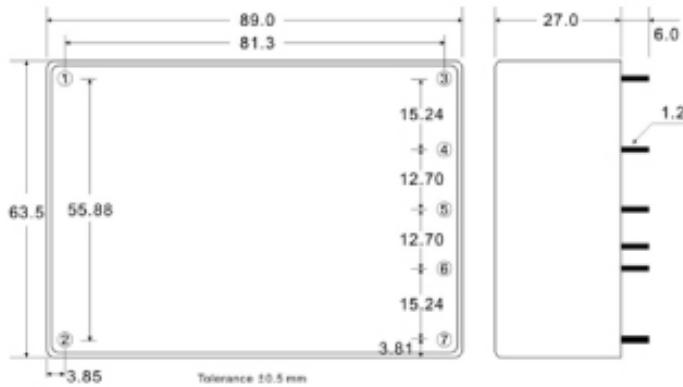
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Block Diagram

Single Output



Mechanical Dimensions



PIN#	SINGLE	Dual	5S/12S	Triple
			5S/24S	
1	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
2	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
3	+DC OUT	+DC OUT	+OUT2	+DC OUT
4	NO PIN	NO PIN	+OUT1	+5V
5	-DC OUT	COMMON	+OUT2 RTN	COMMON
6	NO PIN	NO PIN	+OUT1 RTN	+5 RTN
7	NOCONNECT	-DC OUT	NO PIN	-DC OUT

