



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004



Features

- 1.8"x1" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- No load power consumption<0.075W
- Extremely low leakage current
- Wide operating temp. range -40 ~ +85°C
- EMI class B for class II configuration
- Protections:
Short circuit / Overload / Over voltage / Over temperature
- No minimum load required
- Typical lifetime > 48K hours
- 3 years warranty

Applications

- Portable medical device
- Mobile clinical workstation
- Medical computer monitor
- Medical examination instrument

GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

Description

MPM-05 is a 5W high density and small size (45.7*25.4*21.5mm) AC/DC module type medical grade power supply series offered in pin type. It features the operation for 80~264VAC, a low no load power consumption less than 0.075W, a high efficiency up to 82%, Class II (no FG) double insulation, outstanding dissipation and high lifespan thanks to the interior potting, 5G anti-vibration, high EMC performance, 4KVAC isolation, etc. The design observes IEC/BS EN/EN60601-1 and ANSI/AAMI ES60601-1 version three with 2xMOPP level and ultra-low leakage current (<80 μ A). It is very suitable for BF (patient contact) type medical device or relevant equipment.

Model Encoding

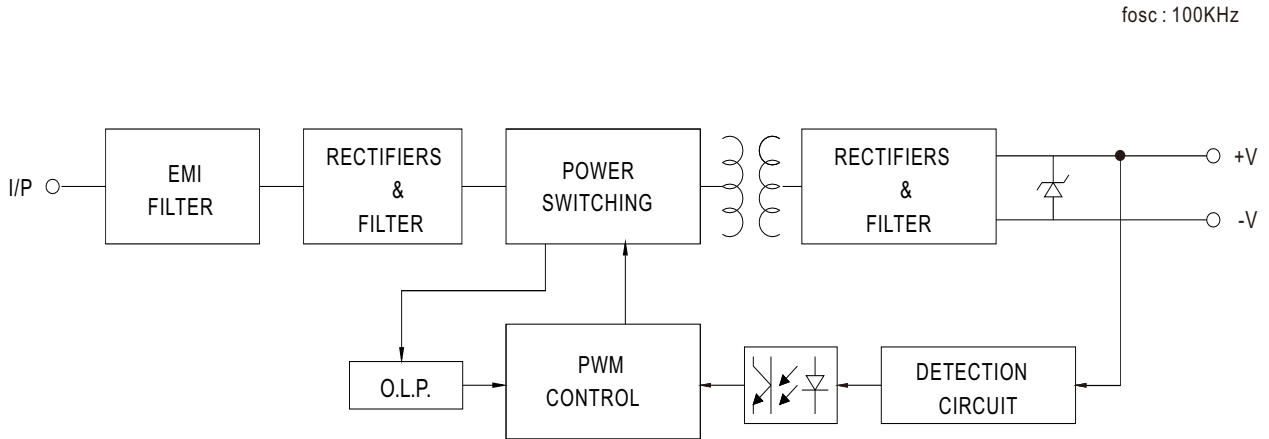
MPM - 05 - 5

Output voltage
Rated wattage
Series name

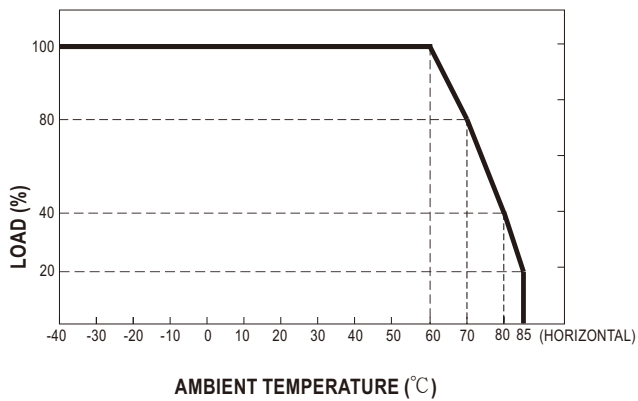
SPECIFICATION

MODEL		MPM-05-3.3	MPM-05-5	MPM-05-12	MPM-05-15	MPM-05-24
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V
	RATED CURRENT	1.25A	1A	0.42A	0.33A	0.23A
	CURRENT RANGE Note.2	0 ~ 1.25A	0 ~ 1A	0 ~ 0.42A	0 ~ 0.33A	0 ~ 0.23A
	PEAK CURRENT	1.38A	1.1A	0.46A	0.36A	0.25A
	RATED POWER	4.1W	5W	5W	5W	5.5W
	PEAK LOAD(10sec.) Note.3	4.6W	5.5W	5.5W	5.4W	6W
	RIPPLE & NOISE (max.) Note.4	100mVp-p	100mVp-p	150mVp-p	150mVp-p	180mVp-p
	VOLTAGE TOLERANCE Note.5	±2.5%	±2.5%	±2.5%	±2.5%	±2.5%
	LINE REGULATION	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	1000ms, 30ms/230VAC 1000ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)	40ms/230VAC 12ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.6	80 ~ 264VAC				
	FREQUENCY RANGE	47 ~ 440Hz				
	EFFICIENCY (Typ.)	74%	78%	80%	81%	82%
	AC CURRENT (Typ.)	0.2A/115VAC 0.1A/230VAC				
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC 45A/230VAC				
	LEAKAGE CURRENT (max.) Note.7	Touch current <80 μ A/264VAC				
PROTECTION	OVERLOAD	110% ~ 180% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	3.8 ~ 5V	5.8 ~ 6.8V	13.8 ~ 16.2V	17.3 ~ 20.3V	27.6 ~ 32.4V
		Protection type : Shut off o/p voltage, clamping by zener diode				
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.	-40 ~ +85℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +100℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)				
	SOLDERING TEMPERATURE	260℃ ±5℃/10sec.max.				
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes				
	LEAD TEMPERATURE	260±5℃, 5s (max.)				
	OPERATING ALTITUDE Note.8	5000 meters				
SAFETY & EMC (Note 9)	SAFETY STANDARDS	IEC60601-1, BS EN/EN60601-1, EAC TP TC 004, UL ANSI/AAMI ES60601-1(3.1 version), CAN/CSA-C22 3 rd Edition approved ; Design refer to BS EN/EN60335-1(by request)				
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP				
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION	Parameter	Standard		Test Level / Note	
		Conducted	BS EN/EN55011 (CISPR11)		Class B	
		Radiated	BS EN/EN55011 (CISPR11)		Class B	
		Harmonic Current	BS EN/EN61000-3-2		Class A	
		Voltage Flicker	BS EN/EN61000-3-3		-----	
	EMC IMMUNITY	BS EN/EN60601-1-2				
		Parameter	Standard		Test Level / Note	
		ESD	BS EN/EN61000-4-2		Level 4, 15KV air ; Level 4, 8KV contact	
		RF field susceptibility	BS EN/EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)	
		EFT bursts	BS EN/EN61000-4-4		Level 3, 2KV	
		Surge susceptibility	BS EN/EN61000-4-5		Level 3, 1KV/Line-Line	
		Conducted susceptibility	BS EN/EN61000-4-6		Level 3, 10V	
		Magnetic field immunity	BS EN/EN61000-4-8		Level 4, 30A/m	
		Voltage dip, interruption	BS EN/EN61000-4-11		100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	
OTHERS	MTBF	9337.3K hrs min. Telcordia SR-332 (Bellcore) ; 1799.5K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	45.7*25.4*21.5mm (L*W*H) or 1.8*1.0*0.85" inch				
	PACKING	0.035Kg; 270pcs/10.5Kg/0.94CUFT				

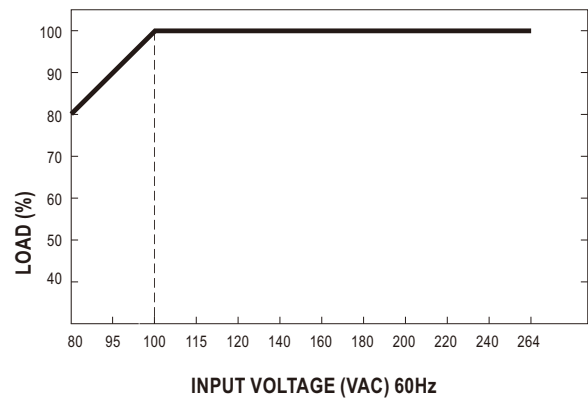
Block Diagram



Derating Curve

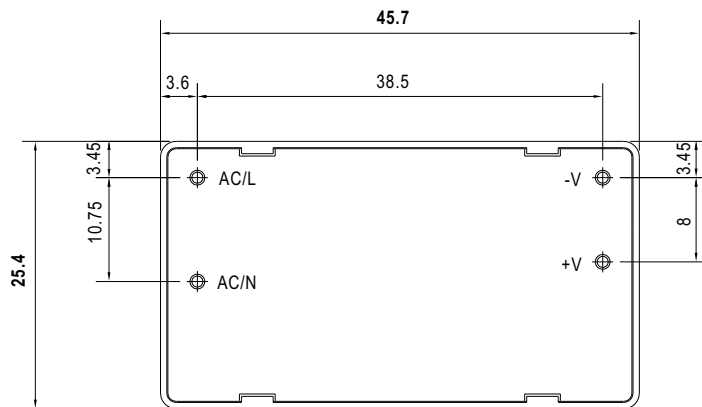


Output Derating VS Input Voltage

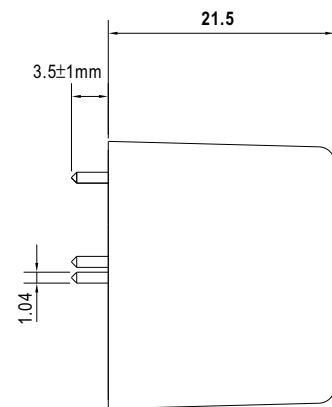


■ Mechanical Specification

Case No.222A Unit:(mm)



BOTTOM VIEW



SIDE VIEW

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>