

HiTRON

CHASSIS-MOUNT UNIVERSAL INPUT MEDICAL APPLICATION AC-DC GREEN POWER ENCAPSULATED MODULAR POWER SUPPLIES 10 WATTS MULTIPLE OUTPUT HASM10G SERIES



FEATURES:

- CHASSIS-MOUNT AC/DC MODULAR POWER SUPPLIES
- UNIVERSAL AC INPUT RANGE
- NO LOAD POWER CONSUMPTION <0.51 W
- MEET MEDICAL STANDARD EN60601-1/UL60601-1
- EMI MEETS CISPR PUB.22/FCC CLASS B
- CE MARKING COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Typical 90-264Vac.
Input Frequency: 47-63 Hz. (Nominal 50/60Hz.).
Input Current: Typical 0.16A at 115Vac/0.1A at 230Vac.
Inrush Current: Typical 4.2Arms at 230Vac.
Input Fuse: Use external fuse.
Dielectric Withstand: Meet IEC60601-1.
 4,000Vac-Output/Input.
 2,000Vac-Input/GND.
 1,000Vac-Output/GND.
EMI: Meet CISPR PUB. 22/FCC Class B.
Hold-up time: Typ. 22.4 mS at 115Vac, 130mS at 230Vac.
Green Power: Less than 0.51Watt at 230Vac for single O/P.
Earth Leakage Current: Less than 0.16mA at 230Vac.
Remote ON/OFF:
 ON(Enable)=Open.
 OFF(Disable)=Short.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: Typical 10 Watts.
Line Regulation: Various with output voltage. Typ.±0.1%.
Load Regulation: Various with output voltage.
 Main VO1 typ. ± 0.1-2.0%.
 Aux.VO2 typ. ± 0.7-1.2%.
 Aux.VO3 typ. ± 0.1%.
Total Regulation: Typical 0.1-1.9%.
Noise & Ripple: Typical 1.0% peak to peak.
 Typ. 100mV for 3.3V/5V.
OVP: Built-in on main output VO1.
Adjustability: Available at main output VO1.
Overload Protection (OLP):
 Fully protected against output overload and short circuit.
 Typical 125-150% of rating output load.
 Con2sult the factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: Typical 70-80%. (various with output voltage)
Switching Frequency: 80K Hz.
Circuit Topology: Fixed Frequency Flyback circuit.
Transient Response: Peak deviation on 70mV,
 Recovery time <0.2mSec. at 25%step load change.
Case: Impact resistant thermo-plastic enclosure.
Safety Standard: EN60601-1/ UL60601-1 Class I.
Power Density: 1.22 Watts. / Cubic inch.
Operating Temperature: 0°C to +50°C range at full load without derating.
 From+50°C derating linearly to half load at +70°C (Refer to the Derating Chart).
Storage Temperature: -20°C to +85°C.
Temperature Coefficient: ±0.03% /°C.
Cooling: Convection cooling for +50°C at full load.
Medical Grade only.

NOTE: (1) All measurements are at nominal input, full load, and +25°C unless otherwise specified.
(2) Load Regulation measured from Full-Load (F-L) to Half-Load (H-L) at nominal input and others loaded at half load.
(3) Due to requests in market and advances in technology, specifications subject to change without notice.



In application.

OUTPUT VOLTAGE/ CURRENT RATINGS CHART

SINGLE OUTPUT

MODEL NO.	VO1 ★@	
	TYP.	VOLT.
HASM10G-S033250	2.50A	+3.3V
HASM10G-S050200	2.00A	+5.0V
HASM10G-S090111	1.11A	+9.0V
HASM10G-S120085	0.85A	+12.0V
HASM10G-S150067	0.67A	+15.0V
HASM10G-S240041	0.41A	+24.0V

DUAL OUTPUT

MODEL NO.	VO1 ★@		VO2●	
	TYP.	VOLT.	TYP.	VOLT.
HASM10-D050E	1.00A	+5V	1.00A	-5V
HASM10-D050I	1.00A	+5V	0.42A	+12V
HASM10-D120I	0.42A	+12V	0.42A	-12V
HASM10-D150K	0.34A	+15V	0.34A	-15V
HASM10-D033E	1.51A	+3.3V	1.00A	-5V

TRIPLE OUTPUT

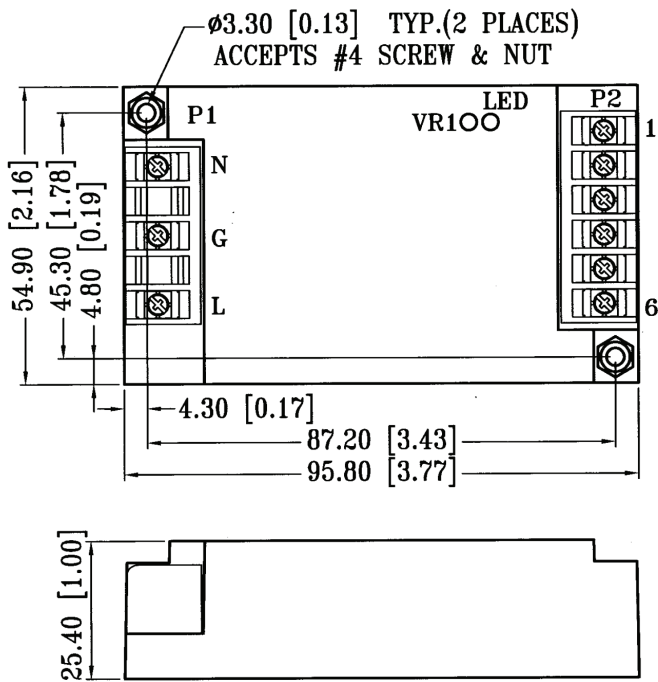
MODEL NO.	VO1 @ ★		VO2 ●		VO3 ●	
	TYP.	VOLT.	TYP.	VOLT.	TYP.	VOLT.
HASM10-T033II	1.51A	+3.3V	0.10A	+12V	0.10A	-12V
HASM10-T050II	1.50A	+5.0V	0.10A	+12V	0.10A	-12V
HASM10-T050KK	1.40A	+5.0V	0.10A	+15V	0.10A	-15V

Symbols: "★" OVP built-in. "@" Adjustable. "●" Installed with Post Regulator (P.R.).

Note: (1) Max. (maximum load) is the continuous operating load of each rail, but the max. load of each rail can not be drawn from all outputs at the same time.

MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: 177.5g (6.26Oz.)



PIN ASSIGNMENT

PIN NO.	SINGLE O/P	DUAL O/P(-VO2)	DUAL O/P(+VO2)	TRIPLE O/P
P1-1	L	L	L	L
P1-3	N	N	N	N
P1-2	G	G	G	G
P2-1	REMOTE ON/OFF	REMOTE ON/OFF	REMOTE ON/OFF	REMOTE ON/OFF
P2-2	DC COM	VO2	DC COM	+VO1RET
P2-3	DC COM	DC COM	DC COM	+VO1
P2-4	VO1	DC COM	VO1	+VO3
P2-5	VO1	VO1	VO2	DC COM
P2-6	NC	NC	NC	VO2

DERATING CHART

