

H HITRON

ON-BOARD UNIVERSAL INPUT AC-DC ENCAPSULATED MODULAR POWER SUPPLIES 5 WATTS SINGLE & DUAL OUTPUT HAM05S & HAM05D SERIES



FEATURES:

- ON-BOARD AC/DC MODULAR POWER SUPPLIES
- UNIVERSAL AC INPUT RANGE
- COMPACT IN SIZE
- MEET UNIVERSAL SAFETY STANDARDS
- EMI MEET CISPR PUB.22 / FCC CLASS B
- CE MARKING COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Typical 90-264Vac.

Input Frequency: 47-63 Hz. (50/60Hz.Nom.). **Input Current:** 0.15A at 115Vac./0.07A at 230Vac.

Inrush Current: 32.5A peak at 230Vac.

Input Fuse: Use external fuse. 1.0A/250Vac for the

primary fuse is suggested.

Dielectric Withstand: Meet IEC950.

3,000Vac-Output/Input. 1,500Vac-Input/GND. 500Vac-Output/GND.

EMI: Meet CISPR PUB.22 / FCC Class B.

Hold-up time: 20 mS at 115Vac, 80mS at 230Vac. **Earth Leakage Current:** Less than 3.5mA at 230Vac.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart. Output Current: See Ratings Chart Output Wattage: Typical 5Watts.

Output Indicator: LED.

Line Regulation: Various with output voltages.

HAM05S ±0.1 % typical. HAM05D ±0.5% typical.

Load Regulation: Various with output voltage.

HAM05S $\pm 1.0\%$ typical. HAM05D $\pm 2.0\%$ typical. **Noise & Ripple:** 1.0% typical peak to peak.

OVP: Built-in on main output.

Adjustability: From -10% of main output till OVP.

Overload Protection (OLP):

Fully protected against output overload and short circuit. OLP set at about 125-150% rating output wattage.

Consult the factory for OLP setting.

GENERAL SPECIFICATION

Efficiency: Typ. 64%-78%. (Various with output voltage).

Switching Frequency: 75K Hz.

Circuit Topology: Fixed Frequency Flyback circuit. Transient Response: Typical peak deviation 250mV, Recovery time < 3mS for a 25% load change. Case: Impact resistant thermo-plastic enclosure. Power Density: 1.61 Watts. / Cubic inch.

Safety Standard: EN60950/ UL1950 Class I. MTBF: 110,000 hours. Mil Std 217, 25°C. Commercial Grade only.

Operating Temperature: -10 to +70°C range. -10°C to +50°C full load without derating.

From +50°C, derating linearly to half load at +70°C.

(Refer to Derating Chart.)

Storage Temperature: -20°C to +85°C.
Temperature Coefficient: ± 0.03% /°C.
Humidity: Up to 95%RH, Non-condensing.
Cooling: Convection cooling for +50°C at full load.
At least 100LFM moving air is recommended

for full load > +50°C in a confined area.

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.





For the details of safety approval, please consult the factory

OUTPUT VOLTAGE/ CURRENT RATINGS CHART

SINGLE OUTPUT

DUAL OUTPUT

MODEL NO.	VO1 @ ★			
MODEL NO.	TYP.	VOLT.	PEAK	
HAM05S-033130	1.30A	3.3V	1.59A	
HAM05S-050100	1.00A	5.0V	1.20A	
HAM05S-090060	0.60A	9.0V	0.72A	
HAM05S-120045	0.45A	12.0V	0.54A	
HAM05S-150036	0.36A	15.0V	0.43A	
HAM05S-180030	0.30A	18.0V	0.36A	
HAM05S-240022	0.22A	24.0V	0.26A	

MODEL NO.	+VO1 @ ★			-VO2		
MIODEL NO.	TYP.	VOLT.	MAX.	TYP.	VOLT.	MAX.
HAM05D-033064	0.64A	+3.3V	0.73A	0.64A	-3.3V	0.73A
HAM05D-050050	0.50A	+5.0V	0.57A	0.50A	-5.0V	0.57A
HAM05D-090030	0.30A	+9.0V	0.34A	0.30A	-9.0V	0.34A
HAM05D-120022	0.22A	+12.0V	0.25A	0.22A	-12.0V	0.25A
HAM05D-150018	0.18A	+15.0V	0.20A	0.18A	-15.0V	0.20A

Symbols: "★" OVP built-in. "@" Adjustable. " || " Double Feedback.

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.

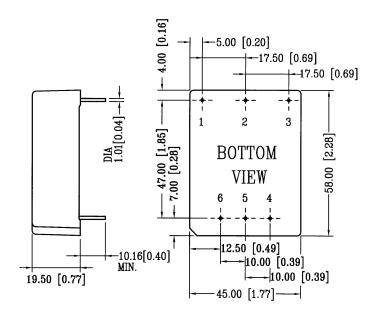
(2) Peak output, less than 60 Sec. with duty cycle <10%.

MECHANICAL DIMENSIONS: MM [INCHES]

PIN ASSIGNMENT

PIN NO.	SINGLE	DUAL	
PIN #1.	AC-GROUND	AC-GROUND	
PIN #2.	AC-NEUTRAL	AC-NEUTRAL	
PIN #3.	AC-LINE	AC-LINE	
PIN #4.	+VO1	+VO1	
PIN #5.	NO PIN	DC-COM	
PIN #6.	DC-COM	-VO2	

WEIGHT: 107.0g (3.77 Oz.)



CASE SIZE: AM01

DERATING CHART

