

**KEY FEATURES**

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-305VAC, 47-440 Hz
- Single and Dual Output
- Low Ripple and Noise
- Isolation Class II
- Maximum No-Load Watts < 0.3W
- CE , UL Approval
- 3-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

Model No. ( Single Output )	AOCH -3.3S	AOCH -5S	AOCH -8S	AOCH -9S	AOCH -12S	AOCH -14S	AOCH -15S	AOCH -24S	
Max Output Wattage (W)	3.96W	4W	4W	4W	4W	4W	4W	4W	
Input	Voltage								
	90-305 VAC or 120-430 VDC								
	Frequency (Hz)								
	47-440 Hz								
	Current (Full load)								
	75 mA max. (115 VAC) / 55 mA max. (230 VAC)								
Inrush Current (<500us)									
15 A max. (115 VAC) / 25 A max. (230 VAC)									
Leakage Current									
0.25 mA max.									
External Fuse (recommend)									
3.15 A slow blow type									
Output	Voltage (V.DC.)								
	3.3V	5V	8V	9V	12V	14V	15V	24V	
	Voltage Accuracy								
	±2%								
	Current (mA) max								
	1200	800	500	444	333	286	267	167	
	Line Regulation (LL-HL) (typ.)								
	±0.5%	±0.2%							
	Load Regulation (0-100%) (typ.)								
	±1.5%	±0.5%							
Minimum Load									
0%									
Maximum Capacitive Load									
14000uF	8000uF	2700uF	2400uF	1000uF	750uF	700uF	220uF		
Ripple & Noise (Vp-p) max									
<250mV	<200mV	<150mV	<100mV						
Efficiency									
68%	72%	74%	75%	76%	76%	76%	77%		
Hold-up Time									
15 ms min.									
Switching Frequency									
132±8 KHz									
Protection	Over Power Protection								
	Hiccup technique, auto-recovery								
	Over Voltage Protection								
Zener diode clamp									
Short Circuit Protection									
Hiccup mode, indefinite (automatic recovery)									
Isolation	Input-Output (V.AC)								
3000V									
Environment	Operating Temperature								
	-40°C...+70°C ( with derating )								
	Storage Temperature								
	-40°C...+85°C								
	Temperature Coefficient								
±0.02%/°C									
Humidity									
95% RH									
MTBF									
>350,000 h @ 25°C (MIL-HDBK-217F)									
Physical	Dimension (L x W x H)								
	1.44 x 1.07 x 0.67 Inches ( 36.66 x 27.16 x 17.1 mm ) Tolerance ±0.5 mm								
	Case Material								
	Plastic resin with Fiberglass (flammability to UL 94V-0)								
Weight									
26 g									
Cooling Method									
Free air convection									
Safety	Agency Approvals								
UL , cUL , CE									
EMC	EMI (Conducted & Radiated Emission)								
	EN 55022 class B								
EMS (Noise Immunity)									
EN 55024									

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

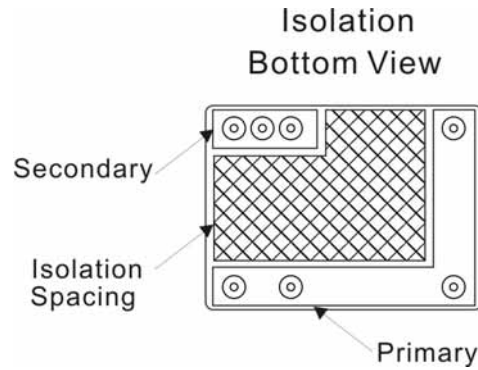
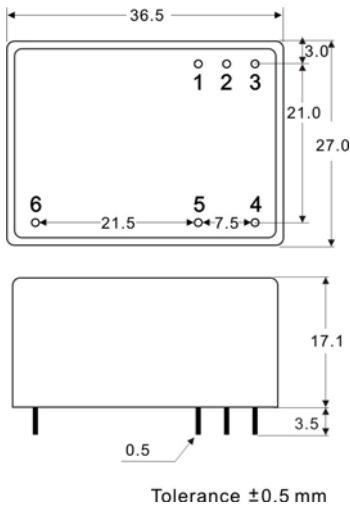
2. Ripple &amp; Noise are measured at 20MHz of bandwidth with 0.1uF &amp; 47uF parallel capacitor.

**ELECTRICAL SPECIFICATIONS**

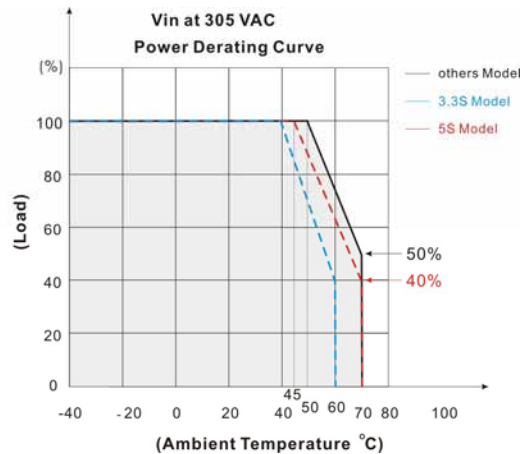
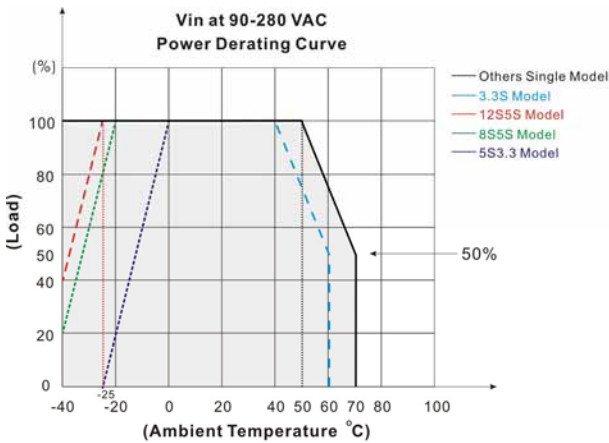
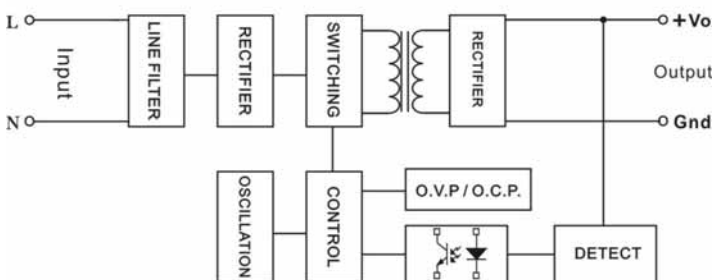
Model No. ( Dual Output )	AOCH-5S3.3S	AOCH-8S5S	AOCH-12S5S	
Max Output Wattage (W)	3.5W	3.6W	3.6W	
Input	Voltage	90-305 VAC or 120-430 VDC		
	Frequency (Hz)	47-440 Hz		
	Current (Full load)	85 mA max. (115 VAC) / 65 mA max. (230 VAC)		
	Inrush Current (<500us)	15 A max. (115 VAC) / 25 A max. (230 VAC)		
	Leakage Current	0.25 mA max.		
	External Fuse (recommend)	3.15 A slow blow type		
Output	Voltage (V.DC.)	Vo : 5V Vr : 3.3V	Vo : 8V Vr : 5V	Vo : 12V Vr : 5V
	Voltage Accuracy	Vo : ±2% Vr : ±5%		
	Current (mA) max	600 / 150	375 / 120	250 / 120
	Line Regulation (LL-HL) (typ.)	Vo : ±0.2% Vr : ±3%		
	Load Regulation (0-100%) (typ.)	Vo : ±0.5% Vr : ±5%		
	Minimum Load	25%		
	Maximum Capacitive Load	Vo : 5600uF Vr : 4700uF	Vo : 1000uF Vr : 4700uF	Vo : 330uF Vr : 4700uF
	Ripple & Noise (Vp-p) max	<200mV	<150mV	<100mV
	Efficiency	72%	74%	75%
	Hold-up Time	15 ms min.		
	Switching Frequency	132±8 KHz		
Protection	Over Power Protection	Hiccup technique, auto-recovery		
	Over Voltage Protection	Zener diode clamp		
	Short Circuit Protection	Hiccup mode, indefinite (automatic recovery)		
Isolation	Input-Output (V.AC)	3000V		
Environment	Operating Temperature	-40°C...+70°C ( with derating )		
	Storage Temperature	-40°C...+85°C		
	Temperature Coefficient	±0.02%/°C		
	Humidity	95% RH		
	MTBF	>350,000 h @ 25°C (MIL-HDBK-217F)		
Physical	Dimension (L x W x H)	1.44 x 1.07 x 0.67 Inches ( 36.66 x 27.16 x 17.1 mm ) Tolerance ±0.5 mm		
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)		
	Weight	26 g		
	Cooling Method	Free air convection		
Safety	Agency Approvals	UL , cUL , CE		
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B		
	EMS (Noise Immunity)	EN 55024		

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2. Ripple &amp; Noise are measured at 20MHz of bandwidth with 0.1uF &amp; 47uF parallel capacitor.

**MECHANICAL DIMENSION ( Top View )**


PIN#	Single	Dual
1	+Vo	+Vo
2	GND	COM
3	NC	+Vr
4	AC IN (L)	AC IN (L)
5	AC IN (N)	AC IN (N)
6	NC	NC

**DERATING**

**BLOCK DIAGRAM**
**Single Output**

**Dual Output**
