



30 Watt Ultraminiature Modular Switching Power Supplies

ASC series

KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- High Efficiency
- CE, CB, cUL, TUV Approvals
- 2-Year Product Warranty



ELECTRICAL SPECIFICATIONS

Model No. (Single Output)	ASC-3.3S	ASC-5S	ASC-12S	ASC-15S	ASC-24S
Max Output Wattage (W)	20W	30W	30W	30W	30W
Input	Voltage				
	90-264 VAC or 120-370 VDC				
	Frequency (Hz)				
	47-440 Hz				
	Current (Full load)				
	520 mA max. (115 VAC) / 320 mA max. (230 VAC)				
Output	Inrush Current (<2ms)				
	10 A max. (115 VAC) / 20 A max. (230 VAC)				
	Leakage Current				
	0.75 mA max.				
	External Fuse (recommend)				
	1.5 A slow blow type				
	Voltage (V.DC.)	3.3V	5V	12V	15V
	Voltage Accuracy	±2%			
	Current (mA) max	6000	6000	2500	2000
	Line Regulation (LL-HL) (typ.)	±1%			
	Load Regulation (5-00%) (typ.)	±1%			
	Minimum Load	5%	4%	2%	2%
	Maximum Capacitive Load	470-23,000µF depending on model			
	Ripple	<0.2% Vout +40mV max (Vp-p)			
	Noise	<0.5% Vout +50mV max (Vp-p)			
Protection	Efficiency	70%	75%	80%	80%
	Hold-up Time	15 ms min.			
	Switching Frequency	100 kHz			
Isolation	Over Power Protection	Hiccup technique, auto-recovery			
	Over Voltage Protection	Zener diode clamp			
	Short Circuit Protection	Hiccup mode, indefinite (automatic recovery)			
Environment	Input-Output (V.AC)	3000 V			
Physical	Operating Temperature	-25°C...+70°C (with derating)			
	Storage Temperature	-40°C...+85°C			
	Temperature Coefficient	±0.02%/°C			
	Humidity	95% RH			
	MTBF	>200,000 h @ 25°C (MIL-HDBK-217F)			
Safety	Dimension (L x W x H)	3.5 x 2.5 x 0.98 Inches (89.0 x 63.5 x 25.0 mm) Tolerance ±0.5 mm			
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)			
	Weight	220 g			
	Cooling Method	Free air convection			
EMC	Agency Approvals	UL/cUL, CE, TUV, CB			
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B			
	EMS (Noise Immunity)	EN 55024			

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

ELECTRICAL SPECIFICATIONS

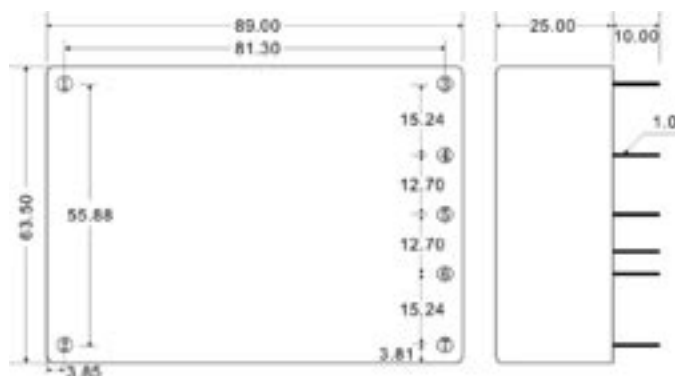
Model No.	(Dual • Triple Output)	ASC-5D	ASC-12D	ASC-15D	ASC-5S12S	ASC-5S12D	ASC-5S15D
Max Output Wattage (W)		30W	30W	30W	30W	30W	30W
Input	Voltage	90-264 VAC or 120-370 VDC					
	Frequency (Hz)	47-440 Hz					
	Current (Full load)	520 mA max. (115 VAC) / 320 mA max. (230 VAC)					
	Inrush Current (<2ms)	10 A max. (115 VAC) / 20 A max. (230 VAC)					
	Leakage Current	0.75 mA max.					
	External Fuse (recommend)	1.5 A slow blow type					
Output	Voltage (V.DC.)	±5V	±12V	±15V	5/12	5/±12	5/±15
	Voltage Accuracy	±2%					
	Current (mA) max	±3000	±1250	±1000	3000/1250	3000/±630	3000/±500
	Line Regulation (LL-HL) (typ.)	±1%			±1% / ±5%		
	Load Regulation (5-100%) (typ.)	±3%			±2% / ±6%		
	Minimum Load	2%	3%	1%	20%	20%	20%
	Maximum Capacitive Load	470-23,000µF depending on model					
	Ripple	<0.2% Vout +40mV max (Vp-p)					
	Noise	<0.5% Vout +50mV max (Vp-p)					
	Efficiency	73%	78%	76%	77%	77%	76%
	Hold-up Time	15 ms min.					
	Switching Frequency	100 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)	3000 V					
Environment	Operating Temperature	-25°C...+70°C (with derating)					
	Storage Temperature	-40°C...+85°C					
	Temperature Coefficient	±0.02%/°C					
	Humidity	95% RH					
	MTBF	>200,000 h @ 25°C (MIL-HDBK-217F)					
Physical	Dimension (L x W x H)	3.5 x 2.5 x 0.98 Inches (89.0 x 63.5 x 25.0 mm) Tolerance ±0.5 mm					
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)					
	Weight	220 g					
	Cooling Method	Free air convection					
Safety	Agency Approvals	UL/cUL, CE, TUV, CB					
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B					
	EMS (Noise Immunity)	EN 55024					

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

Note

- The triple output required a minimum 20% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices; however they may not meet all listed specification.
- Load regulation for triple output:
Main output (V1): 20% to 100% with 20% to 100% balanced on auxiliaries.
Auxiliary outputs (V2 and V3): 20% to 100% balanced on all outputs.
- Cross regulation for triple output:
Main output 100% load, auxiliary 100%, other auxiliary 25% to 100%.
Auxiliary outputs (V2 and V3): Main output 100% load, auxiliary 100%, other auxiliary 25% to 100% or main output 25%, auxiliary 25%, other auxiliary 25% to 100%.

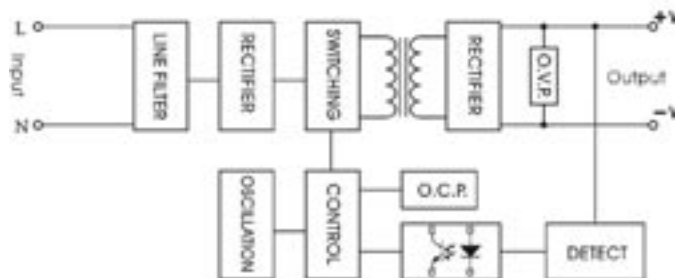
MECHANICAL DIMENSION (Top View)



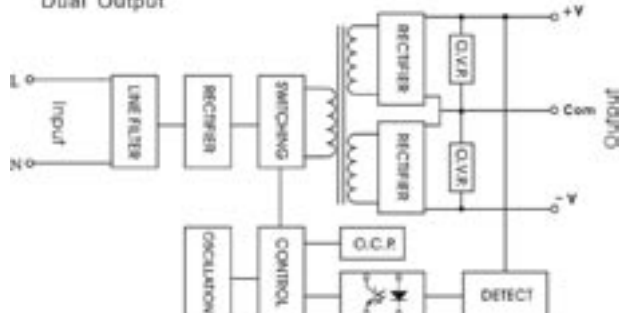
PIN#	SINGLE	Dual	5S/12S	Triple
1	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
2	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
3	+DC OUT	+DC OUT	+12V	+DC OUT
4	NO PIN	NO PIN	+5V	+5V
5	-DC OUT	COMMON	+12 RTN	COMMON
6	NO PIN	NO PIN	+5 RTN	+5 RTN
7	NOCONNECT	-DC OUT	NO PIN	-DC OUT

BLOCK DIAGRAM

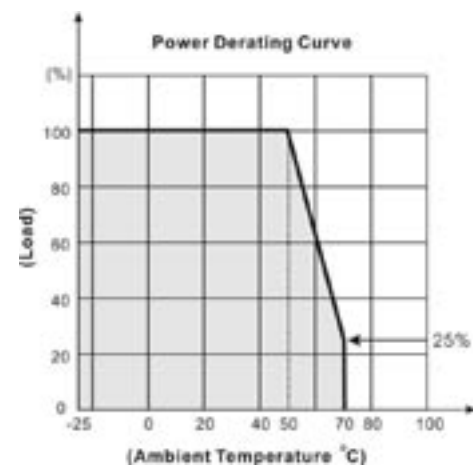
Single Output



Dual Output



DERATING



Triple Output

