

-F OPTION

Ripple Stripper[®] Output Filter

The -F Option Ripple Stripper[®] Output Filter features a ripple-reduction circuit added internally to 62V through 6kV A Series high-voltage power supply modules prior to encapsulation at the factory.

While adding a minimum of output capacitance and output impedance, output ripple is reduced >10 times! Output voltage regulation remains at <0.01% no load to full load. Also included is an Output Voltage Monitor. For greater performance the optional, wrap-around Mu-Metal shield should be used. The Ripple Stripper[®] accessory is also available on the [10A-25A Series](#) and [30A-40A Series](#). Please see the corresponding data sheets for specifications.

- Ripple Stripper[®] Output Filter
- Ultra-low output ripple
- Output voltage monitor
- Encapsulated with A Series power supplies
- Fixed-frequency, low-stored-energy design
- >400,000 Hrs MTBF @ 65°C
- UL/cUL Recognized Component; CE Mark (LVD & RoHS)

HIGH VOLTAGE OUTPUT

Square .025in (0.635mm) pins are used for high-voltage output and high-voltage return. These pins can be used for PCB mounting or for direct wiring. High voltage connector and cable options are available.

OUTPUT VOLTAGE MONITOR

The -F Option features a 100:1 voltage monitor on pins 12 and 13 referenced to Signal Ground pin 5. The monitor output impedance is calibrated for use with a 10 MegΩ input impedance meter. Units 2kV or higher have a 100 MegΩ/1.1 MegΩ divider; units below 2kV use a 10 MegΩ/102k divider. Overall accuracy is ± 2.5% with a temperature coefficient of ±200 ppm per °C.

For applications requiring a different scale factor, such as an ADC compatible design, an external resistor may be added in parallel with the output.

OUTPUT CURRENT MONITOR

Iout Monitor Scale Factors for -F Option units are:

MODEL W/ -F OPTION	4 WATT	20 WATT	30 WATT
1/16A with -F	-	-	-
1/8A with -F	438.4mA/V	1860mA/V	2891.6mA/V
1/4A with -F	213.3mA/V	1000mA/V	1481.5mA/V
1/2A with -F	123mA/V	506mA/V	740.7mA/V
1A with -F	55.6mA/V	243.9mA/V	400mA/V
2A with -F	31.7mA/V	129.9mA/V	211.3mA/V
4A with -F	15.6mA/V	66.7mA/V	85.2mA/V
6A with -F	11.3mA/V	48.5mA/V	56.8mA/V

*Contact the factory for boosted current monitor options.



Typical applications include scanning electron microscopes (SEM), photomultiplier tubes (PMT), particle accelerators and channel electron multipliers.

HIGH VOLTAGE OUTPUT RIPPLE LEVELS

The -F Option strips the typical output ripple on A Series high-voltage power supplies down to:

MODEL	VOLTAGE	POWER	WITH -F	WITH -F-M	50% LOWER THAN -F-M RIPPLE W/ EXT. CAP
1/16A12	62V	4W	<0.002%	<0.002%	.5uF / Metal Film
1/16A24	62V	20W	<0.003%	<0.004%	.5uF / Metal Film
1/16A24	62V	30W	<0.006%	<0.006%	.5uF / Metal Film
1/8A12	125V	4W	<0.002%	<0.0048%	.5uF / Metal Film
1/8A24	125V	20W	<0.008%	<0.0056%	.5uF / Metal Film
1/8A24	125V	30W	<0.006%	<0.006%	.5uF / Metal Film
1/4A12	250V	4W	<0.0012%	<0.0052%	.047uF / Metal Film
1/4A24	250V	20W	<0.004%	<0.0028%	.047uF / Metal Film
1/4A24	250V	30W	<0.0032%	<0.005%	.047uF / Metal Film
1/2A12	500V	4W	<0.0006%	<0.001%	.022uF / Metal Film
1/2A24	500V	20W	<0.002%	<0.0138%	.022uF / Metal Film
1/2A24	500V	30W	<0.025%	<0.0016%	.022uF / Metal Film
1A12	1kV	4W	<0.0010%	<0.0010%	.05uF / Metal Film
1A24	1kV	20W	<0.0010%	<0.0008%	.05uF / Metal Film
1A24	1kV	30W	<0.003%	<0.002%	.05uF / Metal Film
2A12	2kV	4W	<0.0036%	<0.0007%	4700pF/X7R
2A24	2kV	20W	<0.0063%	<0.0038%	4700pF/X7R
2A24	2kV	30W	<0.015%	<0.004%	4700pF/X7R
4A12	4kV	4W	<0.0063%	<0.0004%	1500pF/X7R
4A24	4kV	20W	<0.0051%	<0.0088%	1500pF/X7R
4A24	4kV	30W	<0.0094%	<0.0026%	1500pF/X7R
6A12	6kV	4W	<0.0135%	<0.0003%	1500pF/X7R
6A24	6kV	20W	<0.0086%	<0.0012%	1500pF/X7R
6A24	6kV	30W	<0.02%	<0.004%	1500pF/X7R

Specifications subject to change without notice.



Making High Voltage Easier![®]

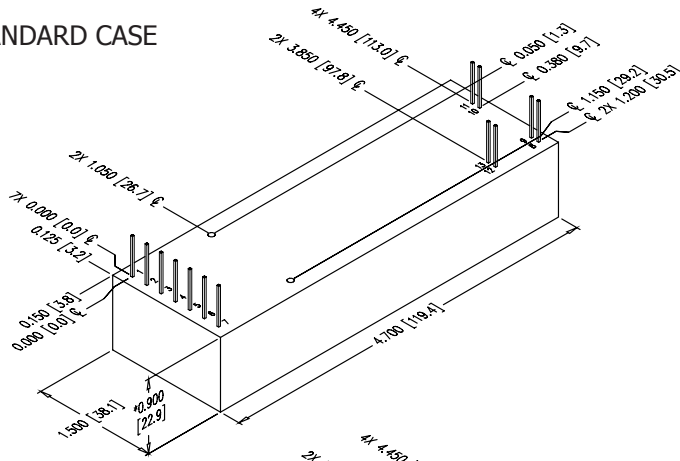
Higher Service, Higher Performance, Higher Reliability

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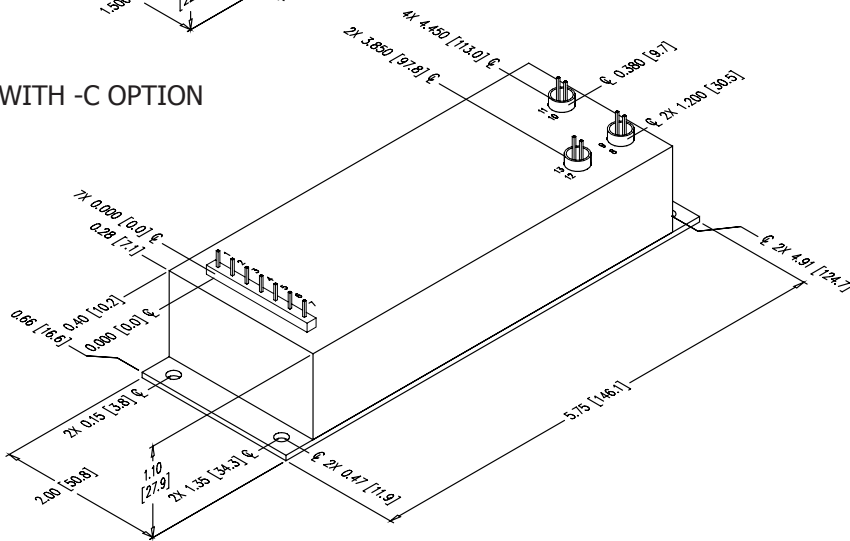
-F OPTION

Ripple Stripper® Output Filter

STANDARD CASE



WITH -C OPTION



CONNECTIONS	
PIN	FUNCTION
1	Input Power Ground Return
2	Positive Power Input
3	Iout Monitor
4	Enable/Disable
5	Signal Ground Return
6	Remote Adjust Input
7	+5VDC Reference Output
8 & 9	HV Ground Return
10 & 11	HV Output
12 & 13	Eout Monitor

All grounds joined internally. Power-supply mounting points isolated from internal grounds by >100kΩ, .01uF / 50V (Max) on all models except -M, -C, and -M-E configurations which are 0Ω.

Rev. F 10/14

CONSTRUCTION

Epoxy-filled DAP box certified to ASTM-D-5948 with -C Option: Aluminum Alloy 5052-H32, Finish: MIL-A-8625 Type II (Anodizing)

SIZE

Volume 4.30in³ (70.5 cc), w/ -C Option: 8.00in³ (131.1 cc)
Weight 5.0oz (142g), w/ -C Option: 10.0oz (284g)

TOLERANCE

Overall ±0.050" (1.27)
Pin to Pin ±0.015" (0.38)
Mounting hole location ±0.025" (0.64)

NOTES

20W and 30W versions are an additional 0.062" (1.57) in height.
-M equipped units are an additional 0.030" (0.76) for each dimension.
Contact [UltraVolt's Customer Service Department](#) for drawings of models equipped with -E or -H options.

[Downloadable drawings \(complete with mounting & pin information\) and 3D models are available online.](#)



Non-RoHS compliant units are available. Please contact the factory for more information.

Manufactured in USA

ORDERING INFORMATION

Accessory	Ripple Stripper® Output Filter	-F
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*Compatible with all standard module options. See [Options & Accessories data sheet](#) for more information..

Example: 1/2A12-P4-F

Ripple Stripper®
Output Filter

Popular accessories ordered with this product include CONN-KIT-F and BR-2 mounting bracket kit.



Making High Voltage Easier!®

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