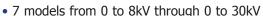
8kV to 30kV High Voltage Cap-Charging Supplies

This High Power line of high-voltage regulated DC to DC converters is an extension of the C Series, directly addressing the high power density needs of >30 watt applications. High Power 8C - 30C units provide up to 60/125/250 watts. This high power density is especially suited to high-energy systems with large capacitances, fast repetition rates, or high continuous-DC-power requirements. See Application Note 10 for more changing information. Typical applications for the High Power 8C-30C Series include the following: laser, cap-charger, pulse generators, Q-switch, and TDR test equipment.



- 60, 125, or 250 watts of output power
- Maximum Iout capability down to 0 Volts
- Maximum Iout during charge/rise time
- Output short-circuit protection



- High efficiency
- High power to voltage density
- Very low profile
- Output current & voltage monitors
- >200,000 hour MTBF @65°C
- Fixed-frequency, low-stored-energy design

 Very fast rise with very low overshoot UL/cUL Recognized Component; CE Mark (LVD & RoHS) 																						
PARAMETER	CONDITIONS																					UNITS
INPUT										AL	L TY	PES										
Voltage Range	Full Power											VDC										
Voltage Range	Derated Power Range												VDC									
Current	Standby / Disable											mA										
Current	No Load, Max Eout		8C to 15C < 500, 20C to 25C < 600 mA										mA									
Current	Max Load, Max Eout	60W: 3.25, 125W: 6.5, 250W: 13										А										
AC Ripple Current	Nominal Input, Full Load	< 50									mA p-p											
OUTPUT			8C 10C 12C 15C 20C 25C						30C													
Voltage Range	Nominal Input	0	0 to 8,000 0 to			to 10,00	J0	0	0 to 12,000		0 to 15,000		0 to 20,000			0 to 25,000			0 to 30,000		VDC	
Power	Nominal Input, Max Eout	60	125	250	60	125	250	60	125 250	60	125	250	60	125	250	60	125	250	60	125	250	Watts
Current	lout, Entire Output Voltage Range	7.5	15.5	31.2	6	12.5	25	5	10.5 20.8	4	8.3	16.7	3	6.25	12.5	2.4	5	10	2	4.17	8.33	mA
Current Scale Factor	Full Load	4.7	14.2	6.25	4.1	10.9	5	4.0	7.4 4.17	4.0	7.5	3.33	.65	.653	2.5	.65	.650	2	.65	.642	1.67	mA/V
Voltage Monitor Scaling		60W & 125W Models - $1000:1 \pm 2\%$ into $10M\Omega$; 250W Models - $10,000:1 \pm 2\%$												-								
Internal Capacitance	Capacitance / 95% Decay (50Meg Load)	4400/ 659	2200/ 330	1500/ 225	2933/ 439	1467/ 220	1500/ 225	2933/ 439	1467/ 750/ 220 112	2200/	1100/ 165	750/ 112	1320/ 200	880/ 132	750/ 112	1100/ 165	733/ 110	500/ 75	825/ 125	550/ 85	500/ 75	pF/mS
Ripple	Full Load, Max Eout											V p-p										
Rise Time	Max Iout, Various C Loads & Eout										-											
Storage Capacitance	Internal	4400	2200	1500	2933	1467	1500	2933	1467 750	2200	1100	750	1320	880	750	1100	733	500	825	550	500	pF
Overshoot	C Load, O Eout to Full Eout											V pk										
Line Regulation	Nom. Input, Max Eout, Full Power	< 0.01% VI										VDC										
Static Load Regulation	No Load to Full Load, Max Eout	< 0.01% VDI										VDC										
Stability	< 0.01% / < 0.02%												VDC									
PROGRAMMING	§ & CONTROLS									AL	L TY	PES										
Input Impedance	Nominal Input	+ Output Models 1.1MΩ to GND, - Output Models 1.1MΩ to +5 Vref									MΩ											
Adjust Resistance	Typical Potentiometer Values	10K to 100K (Pot across Vref. & Signal GND, Wiper to Adjust) Ω									Ω											
Adjust Logic	0 to +5 for +0ut, +5 to 0 for - Out	+4.64 VDC for +Output or +0.36 for -Output = Nominal Eout								-												
Output Voltage & Impedance	$+ 5.00$ VDC $\pm 1\%$, Zout = $464\Omega \pm 1\%$													-								
Enable/Disable								0 1	to +0.8V Disa	le, +2.) to 32	Enable (Default	= Enab	le)							VDC
ENVIRONMENT	AL									AL	L TY	PES										
Operating	Full Load, Max E out, Case Temperature	-40 to +65									°C											
Coefficient	Over the Specified Temperature	±50 (±25 Optional) PPM/										PPM/°C										
Thermal Shock	Mil-Std-810, Method 503-4, Proc. II	-40 to +65 °C									°C											
Storage	Non-Operating, Case Temp.	-55 to +105 °C									°C											
Humidity	All Conditions, Standard Package	0 to 95% non-condensing -									-											
Altitude	Standard Package, All Conditions	<u> </u>									ft											
Shock	Mil-Std-810, Method 516.5, Proc. IV										G's											
Vibration	Mil-Std-810, Method 514.5, Fig.514.5C-3										10											G's
C = uF		C =	uF						C = 1	F				Specif	ncation	ıs subj	ject to	chan	ge wit	thout n	otice.	

$$C = uF$$

 $V = Volts$
 $I = mA$

T = mS

$$T = \frac{C \times V}{I}$$

$$C = uF$$

 $V = kV$
 $I = mA$

$$I = C \times V \times F$$

$$I = C \times V \times F$$

$$C = uF$$

 $V = kV$
 $I = mA$
 $F = Hz$

$$F = \frac{I}{C \times V}$$

$$=\frac{1}{C \times V}$$

$$C = uF$$

 $E^2 = kV$
 $J = Ws$

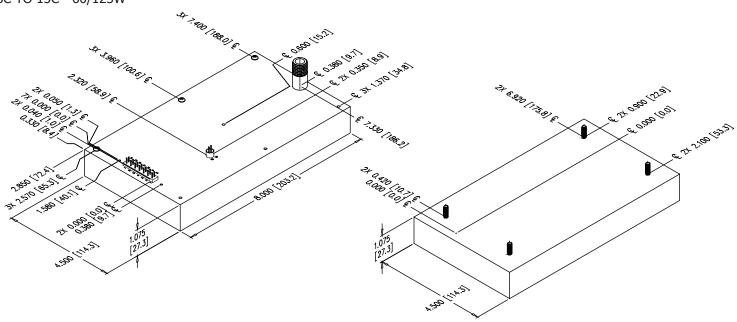
$$J = \frac{C \times E^2}{2}$$



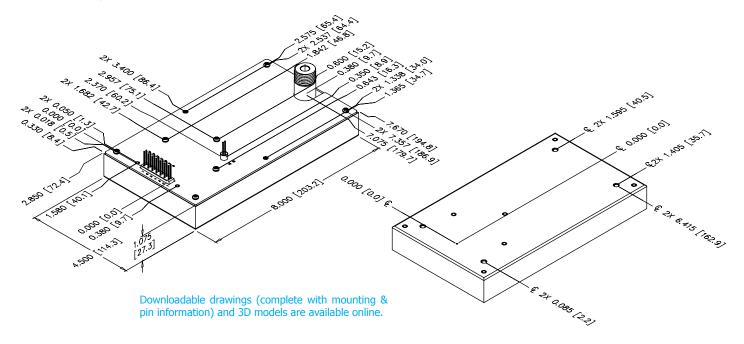
ULTRAVOLT®

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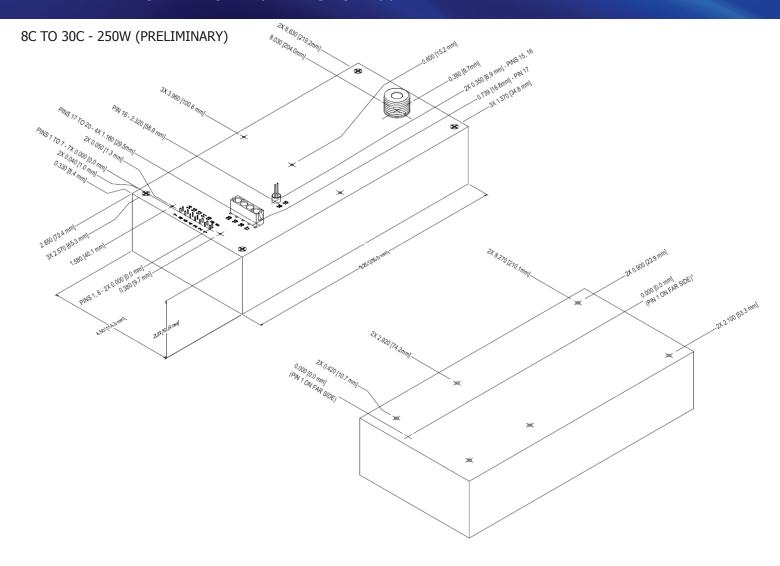
8C TO 15C - 60/125W



20C TO 30C - 60/125W



8kV to 30kV High Voltage Cap-Charging Supplies



CONSTRUCTION

Epoxy-filled Aluminum Box Chem film per MIL-A-8625 Type II (Anodizing)

SIZE - 60 & 125W MODELS

Volume 38.7 in³ (634cc) Weight 2.6 lbs. (1.18kg)

SIZE - 250W MODELS

Volume 84.5 in³ (1386cc) Weight 5.6 lbs. (1.18kg)

TOLERANCE

Overall $\pm 0.025''$ (0.64) Pin to Pin $\pm 0.015''$ (0.38) Hole to hole location $\pm 0.025''$ (0.64)

PINS

Gold-plated 0.025 (0.64) sq.

The center of the pins and mounting holes are located from the center of pin $\ensuremath{\mathbf{1}}$

Pins 1 thru 14 spacing 0.100 (2.54) x 0.200 (5.08) on center,

height from cover 0.280 (7.11) min

Pins 15 and 16 spacing 0.100 (2.54) on center,

height from cover 0.450 (11.43) min

HV OUTPUT CONNECTION

Unit requires an LGH flying lead connector for proper operation: 8C to 15C (60W & 125W Models) = CA-20KV-1000 20C to 30C (60W & 125W Models) = CA-40KV-1000 8C to 30C (250W Models) = CA-40KV-1000



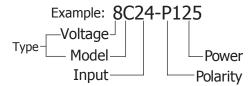
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CONNECTIONS							
PIN	FUNCTION						
1 & 8	Input-Power Ground Return						
2 & 9	Positive Power Input						
3	Iout Monitor						
4	Enable/Disable						
5	Signal Ground Return						
6	Remote Adjust Input						
7	+5VDC Reference Output						
10	N/C (or Arc Detect option)						
11, 12, & 13	N/C						
14	Eout Monitor						
15 & 16	HV Ground Return						

All grounds joined internally. Power-supply mounting points isolated from internal grounds by $>100k\Omega$, .01uF / 500V (Max).

ORDERING INFORMATION						
	0 to 8,000 VDC Output	8C				
	0 to 10,000 VDC Output	10C				
	0 to 12,000 VDC Output	12C				
Туре	0 to 15,000 VDC Output	15C				
	0 to 20,000 VDC Output	20C				
	0 to 25,000 VDC Output	25C				
	0 to 30,000 VDC Output	30C				
Input	24VDC Nominal	24				
Polarity	Positive Output	-P				
	Negative Output	-N				
	60 Watts Output	60				
Power	125 Watts Output	125				
	250 Watts Output	250				
Heat Sink	.400" High (sized to fit case)	-H				
PCB Support	(5) 0.187" standoffs on top cover	-Z11				
Enhanced Interface	5V Controls and Monitors	-I5				
Ellianced Interface	10V Control and Monitors	-I10				
	Arc Detect	-AD				
Options	Arc Quench	-AQ				
	25PPM Temperature Coefficient	-25PPM				

Note: For more information on the enhanced interface options, download the I5/I10 Option datasheet.



Popular accessories ordered with this product include CONN-KIT-HP, BR-7 and BR-8 mounting bracket kits and our full range of high voltage output connectors (see Accessories & Connectors datasheet).





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

Manufactured in USA