

UC Series

PCB-mount ultra compact capacitor charging



MAKING HIGH VOLTAGE
EASIER!®



MAF-10 : MAF10-24P402
MAF-100 : MAF100-24P402
Vin : 24Vdc
Vout : 0 to +4000V
Charging Power : 4J/s

- very small volume
- PCB flat mounting
- output voltage monitoring
- available in a high stability version (10ppm/°C)
- lightweight
- tight line/load regulation
- safeguards against overheating

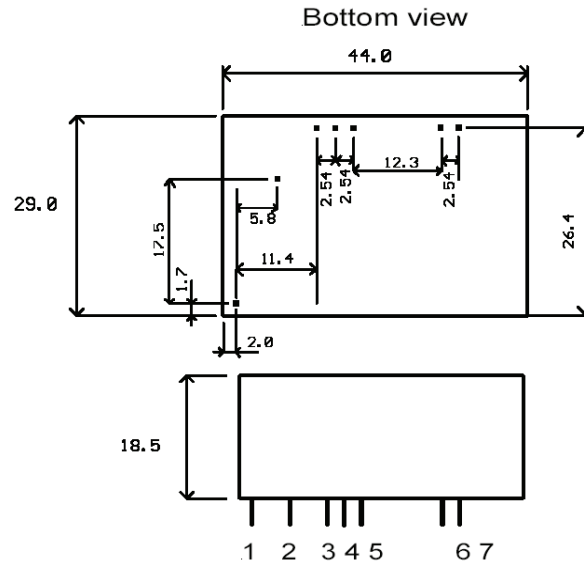
Parameters	Specifications
Input voltage Vin (pins 6 & 7)	24Vdc \pm 0.5Vdc (recommended) maximum : 32Vdc (incurred damages) minimum : 18Vdc (output inhibition)
Input current	at full load : <500mA at no load : <80mA
HV output Vout (pin 2)	adjustable from 100V to 4000V maximum, end loading overshoot <2.5%
Polarity	fixed positive
HV setting (pin 3)	via external voltage source 0/10V accuracy : \pm 0.2% at full scale input impedance : 250k Ω
Charge time to reach 4000V according to load capacitance	from 0 to 220nF : <0.5s C = 470nF, t = 0.9s C = 910nF, t = 1.8s C = 1.4 μ F, t = 2.7s C = 3.8 μ F, t = 7.6s C = 5.1 μ F, t = 10s
Load voltage regulation	\pm 0,01% of full output voltage for no load to full load
Line voltage regulation	\pm 0,01% of full output voltage over specified input voltage range
Temperature coefficient	according to type : MAF-10 reference : 10ppm/°C for the maximum output voltage after starting and over temperature range 0 to +50°C, MAF-100 reference : 100ppm/°C for the maximum output voltage after starting and over temperature range 0 to +50°C.
Output HV monitoring (pin 4)	DC analogue 0/10V buffered output signal, accuracy : \pm 0.2% for MAF-10; \pm 2% for MAF-100, advised maximum output current : 1mA
Output voltage monitoring accuracy	\pm 0,2% at 25°C
Residual output voltage at 0V input signal	<100V
Operating temperature	-30°C to +50°C (beware : the case can reach 85°C)
Storage temperature	-30°C to +85°C
Safeguards	<ul style="list-style-type: none"> ▪ output current limited at 2.4mA in case of overloading or short-circuit ▪ emergency stop in case of overheating (auto start after cooling) ▪ safeguards against input voltage inversion ▪ input voltage internally limited at about 12V (so that the output can reach 4800V)

Main Applications
▪ Capacitor Charging

Package Configuration	
Case material	tin steel plate thickness 0.5mm
Case dimensions LxHxW	44.0 x 18.5 x 29 mm
Pins	0.63 x 0.63mm square pins, length : 4mm, spacing : 2.54mm
Weight	70g
Insulation	fully potted in an epoxy resin

Pin Connections	
Line input :	7. Vin 6. 0V supply
HV setting :	5. 0V signal 3. control input
HV monitoring :	4. voltage monitoring
HV output :	2. Vout
HV output :	1. 0V GND

Mechanical Dimensions



Functional Diagram

