Systems Development & Solutions

Electronics and Power Conversion

MT Series

PCB-mount ultra compact power supply module

24 standard models + customization possible

Vin : 12Vdc, 15Vdc or 24Vdc

Vout : *from* 0 to ±600V *up to* 0 to ±1500V

$Pout_{max}$: *up to* 1W

- low cost
- flat or raised PCB-mountable
- very small volume and lightweight
- tight line/load regulation
- low ripple (0,01% peak to peak)
- voltage monitoring
- arc and continuous short circuit protection
- self restoring output voltage
- option : flying wire for HV output

Parameters	Specifications
Input voltage Vin (pins 1 & 2)	12Vdc ±0.5Vdc or 15Vdc ±0.5Vdc or 24Vdc ±1Vdc, according to type
Input current	at no load : 15mA at full load : from 65mA to 100mA
HV output Vout (pin 7 or optional wire)	from 0 to ±600V up to 0 to ±1500V according to type
HV setting (pins 3, 4 & 5)	via external voltage source 0/5V ±0.5%, input impedance >1MΩ or, via external potentiometer, minimum resistance 10kΩ option : external voltage source 0/10V
Max. output current Iout	from 0.4mA to 1mA according to type
Load voltage regulation	±0,01% of full output voltage for no load to full load
Line voltage regulation	±0,01% of full output voltage over specified input voltage range
Polarity	fixed positive [MTP] or negative [MTN] (see ordering table)
Residual ripple	between 50mV and 150mV peak-to-peak at full load
Temperature coefficient	100ppm/°C for the maximum output voltage after starting and over temperature range 0 to 50°C
Output HV monitoring (pin 6)	+1V/1kV max. or -1V/-1kV max. according to model polarity output impedance = 200kΩ ±1%
Operating temperature	0°C to +50°C
Storage temperature	-20°C to +70°C
Safeguards	arc and short circuit protection
Options	▪ flying wire for HV output instead of pin 7 ▪ suitable for use with an external potentiometer

Possible Applications

- Avalanche Photodiodes (APD)
- Photodiodes (PD)
- Photomultiplier Tubes (PMT)

Package Configuration

Case material	tin plate thickness 0.5 mm
Case dimensions LxHxW	MTR: 46.0x25.0x12.0mm MTF: 51.0x13.0x31.5mm
Input / Output connections	through ∅0.46 round pins, length : 3mm, spacing : 2.54mm, option: flying wire for HV output
Weight	35g
Insulation	fully potted in an epoxy resin

Pin Connections

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

MT Series Selection Guide*

Model	V_{in}	V_{out}	I_{out}	P_{out}	Model	V_{in}	V_{out}	I_{out}	P_{out}
MT12P601401	12 Vdc	0 to +600 V	0.4 mA	0.24 W	MT12P122401	12 Vdc	0 to +1250 V	0.4 mA	0.50 W
MT12N601401	12 Vdc	0 to –600 V	0.4 mA	0.24 W	MT12N122401	12 Vdc	0 to -1250 V	0.4 mA	0.50 W
MT15P601501	15 Vdc	0 to +600 V	0.5 mA	0.30 W	MT15P122701	15 Vdc	0 to +1250 V	0.7 mA	0.88 W
MT15N601501	15 Vdc	0 to -600 V	0.5 mA	0.30 W	MT15N122701	15 Vdc	0 to -1250 V	0.7 mA	0.88 W
MT24P601102	24 Vdc	0 to +600 V	1 mA	0.60 W	MT24P122801	24 Vdc	0 to +1250 V	0.8 mA	1 W
MT24N601102	24 Vdc	0 to -600 V	1 mA	0.60 W	MT24N122801	24 Vdc	0 to -1250 V	0.8 mA	1 W
MT12P102401	12 Vdc	0 to +1000 V	0.4 mA	0.40 W	MT12P152301	12 Vdc	0 to +1500 V	0.3 mA	0.45 W
MT12N102401	12 Vdc	0 to -1000 V	0.4 mA	0.40 W	MT12N152301	12 Vdc	0 to -1500 V	0.3 mA	0.45 W
MT15P102601	15 Vdc	0 to +1000 V	0.6 mA	0.60 W	MT15P152501	15 Vdc	0 to +1500 V	0.5 mA	0.75 W
MT15N102601	15 Vdc	0 to -1000 V	0.6 mA	0.60 W	MT15N152501	15 Vdc	0 to -1500 V	0.5 mA	0.75 W
MT24P102102	24 Vdc	0 to +1000 V	1 mA	1W	MT24P152701	24 Vdc	0 to +1500 V	0.7 mA	1.05 W
MT24N102102	24 Vdc	0 to -1000 V	1 mA	1W	MT24N152701	24 Vdc	0 to -1500 V	0.7 mA	1.05 W

* other output voltages and output currents available upon request

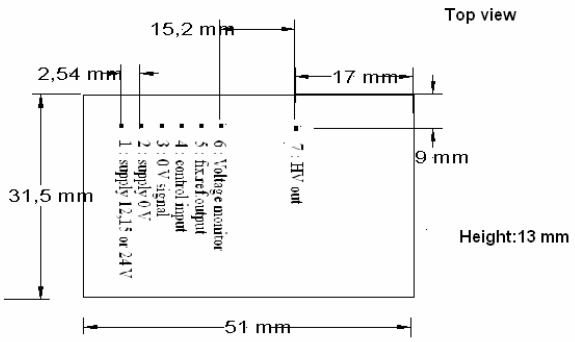
Ordering Information

example : MT 12 P 601 401 F - W
1 2 3 4 5 6 7

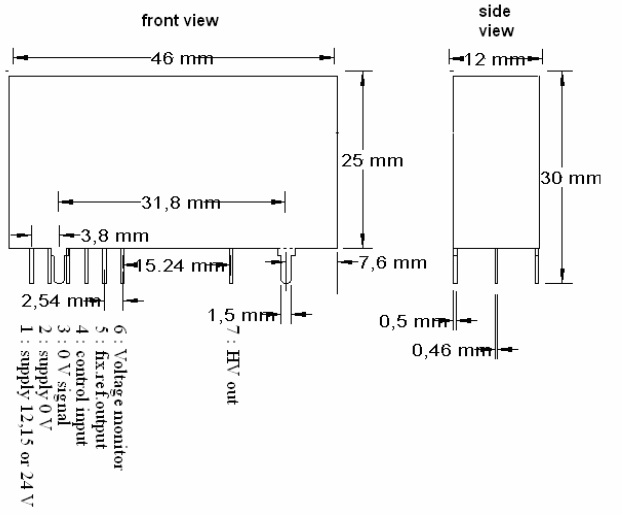
1. series type: MT
2. nominal input voltage: 12 or 15 or 24 Vdc
3. polarity: P for positive or N for negative
4. maximum output voltage:
   601= 600 V
   102= 1000 V
   122= 1250 V
   152= 1500 V
5. nominal output curent:
   301= 0.3 mA
   401= 0.4 mA
   501= 0.5 mA
   601= 0.6 mA
   701= 0.7 mA
   801= 0.8 mA
   102= 1.0 mA
6. package : R for raised mounting or F for flat mounting
7. option : W for collecting the HV output through a flying wire

Mechanical Dimensions

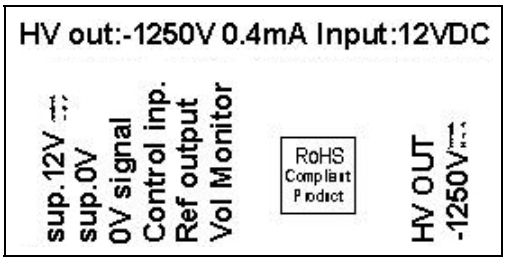
MT Series
Flat mounting model



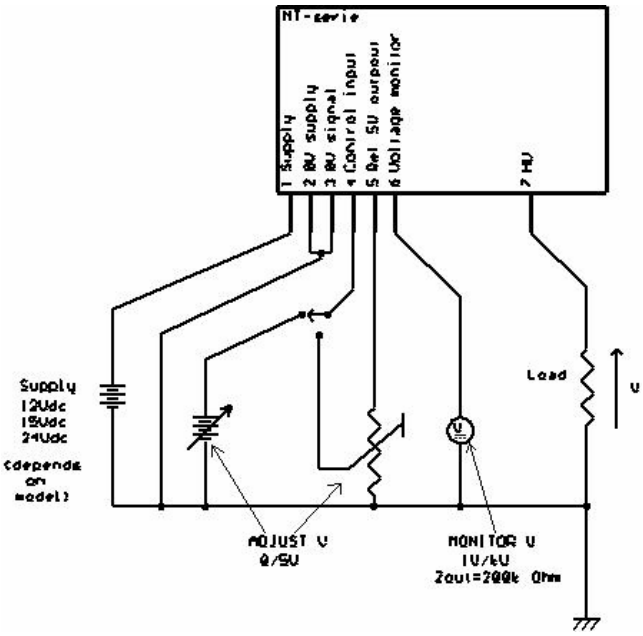
MT Series
Raised mounting model



Marking



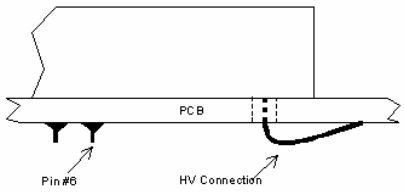
Functional Diagram



Optional

MT Series
With High Voltage Output Wire

Side view



This High Voltage power supply satisfies the requirements of EC Directives Safety EN 61010-1 2001 Edition & EMC EN 61326-1: 1977 + A1: 1998 + A2: 2001 + A3 : 2004

RoHS COMPLIANT 2002/95/EC

Our Web Site : www.sdshv.com
Our e-mail : contact@sdshv.com
5, bvd de Créteil 94100 Saint-Maur-des-Fossés – France
Tel : 33(0)1 43 97 65 04 Fax : 33(0)1 48 85 82 70