

RS SERIES

Rail Supply

The RS Series of "Rail Supply" DC to DC high voltage power supplies enable designers to provide a low cost nominal performance Bipolar High Voltage 10Watt power source to amplifier and pulser circuits as well as other applications.

This single device solution is available in (12) models from $\pm 50\text{VDC}$ to $\pm 700\text{VDC}$ fixed output or over a range of 50% to 100% under proportional input or analog programmable control. Together with an output center tap isolated to $\pm 2.5\text{kV}$, designers can optimize the bias voltage for their applications quickly and easily.

These PCB or chassis mount modules are designed and built utilizing state-of-the-art power-conversion topology, manufacturing process, and encapsulation techniques that provide high reliability.

Typical applications for this series include the following:

Drivers for pulse generators, PZT actuators, MEMS devices, laser & electro-optic modulation, and Electrophoresis.

Amplifiers for beam devices such as mass spectrometry, Ion Beam, and electron microscopes.



- 12 Bipolar models 0 to ± 50 to $\pm 700\text{VDC}$ or 100 to 1400VDC Unipolar
- Proportional, programmable, or fixed output voltage
- Output power of 0 to 10 Watts - No minimum load!
- Excellent accuracy $\leq \pm 1\%$
- Excellent load regulation $< 0.5\%$
- Output ripple of $\leq \pm 0.5\%$ Vpk-pk
- 2500V of isolation from input to output
- No heat sink or electrical derating required
- Complimentary to the 1.5/3Watt PXS Series
- $> 840,000$ hour MTBF per Belcor TR332

PARAMETER	CONDITIONS	MODELS						UNITS
INPUT		24V						
Voltage Range	Full Power	24VDC $\pm 5\%$ for 100% of Nominal Output Voltage (See output full scale accuracy for tolerance)						VDC
Current	Standby / Disable	< 10						mA
Current	No Load, Max Eout	< 120 (Typically 30 to 100 depending on model)						mA
Current	Max Load, Max Eout	< 650 (Typically 500 to 640 depending on model)						mA
OUTPUT (BIPOLAR)		$\pm 50\text{V}$	± 75	± 100	± 150	± 200	± 250	VDC
Voltage, Fixed	Nominal Input	50	75	100	150	200	250	VDC
Voltage Range Proportional	50% to 100%	25-50	37.5-75	50-100	75-150	100-200	125-250	VDC
Power	Nominal Input, Max Eout	10	10	10	10	10	10	W
Current	out Entire Output Voltage Range	100	66	50	33	25	20	mA
OUTPUT (BIPOLAR)		± 300	± 350	± 400	± 500	± 600	± 700	VDC
Voltage, Fixed	Nominal Input	300	350	400	500	600	700	VDC
Voltage Range Proportional	50% to 105%, Model Specific	150-300	175-350	200-400	250-500	300-600	350-700	VDC
Power	Nominal Input, Max Eout	10	10	10	10	10	10	W
Current	out Entire Output Voltage Range	16	14	12.5	10	8.3	7.1	mA
OUTPUT		ALL TYPES						
Isolation	Input to Output	100 M Ω minimum at $\pm 2,500$						VDC
Ripple	Full Load, Max Eout	$\leq \pm 0.5\%$						%V p-p
Ripple with -F-M Option	Full Load, Max Eout, 300pF bypass cap, 25% to 50% reduction	TBD						
Dynamic Load Regulation	1/2 to Full Load, Max Eout	$< \pm 0.5\%$						VDC
Line Regulation	Nom. Input, Max Eout, Full Power	Unregulated: Output directly proportional to input, Excellent tracking see TN-XX						-
Static Load Regulation	No Load to Full Load, Max Eout	$\leq \pm 0.5\%$						VDC
Stability	30 Min. warmup, per 8 hr/ per day	$< \pm 2\%$						VDC
PROGRAMMING & CONTROLS								
Enable/Disable		TTL 0 or grounded unit is enabled, TTL 1 or any voltage to +32V or floating unit is disabled						-
Adjust Logic		0 to +10VDC, 50% to 100% of Nominal HV output $\pm 1\%$ of Full Scale (proportional if no connection)						-
Reference		+10VDC @ 1mA, $\pm 1.0\%$ $< \pm 50\text{PPM } ^\circ\text{C}$						-
ENVIRONMENTAL		ALL TYPES						
Operating	Full Load, Max Eout, Case Temp.	-45 to +75						$^\circ\text{C}$
Storage	Non-Operating, Case Temp.	-55 to +105						$^\circ\text{C}$
Temperature Coefficient	Over the Specific Temperature	< 150						PPM/ $^\circ\text{C}$
Humidity	All Conditions, Standard Package	0 to 95% non-condensing						-
Shock	Mil-Std-810, Method 516.5, Proc. IV	20						G's
Vibration	Mil-Std-810, Method 514.5, Fig.514.5C-3	10						-

Specifications subject to change without notice.



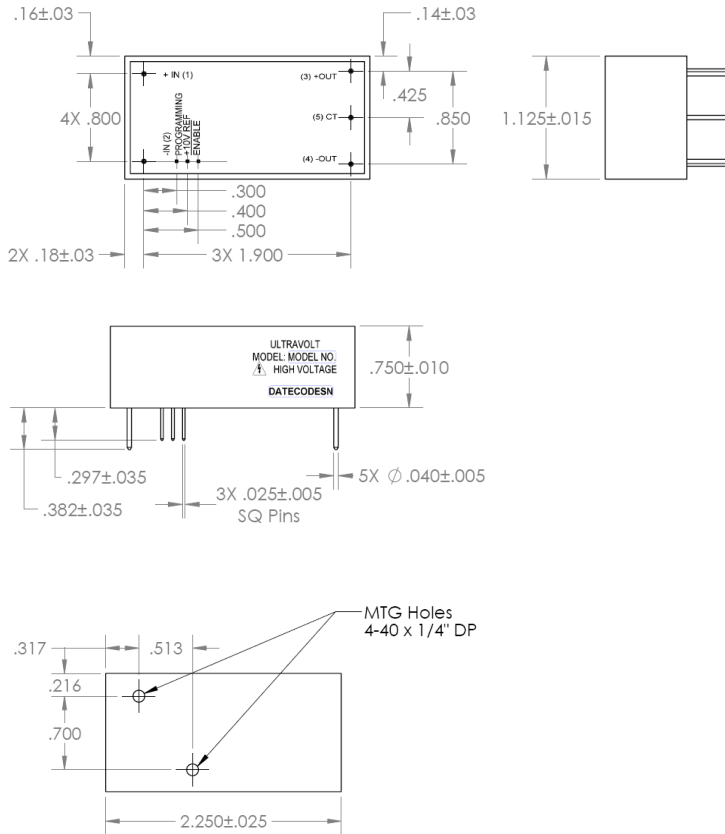
Making High Voltage Easier!®

Higher Service, Higher Performance, Higher Reliability

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CONSTRUCTION

Epoxy filled Red DAP box certified to ASTM-D-5948

SIZE

L x W x H = 2.25 (57.15mm) x 1.125 (28.58mm) x .75 (19mm)
 Volume: 1.90 in³ (31cc)
 Weight: 55.2g

TOLERANCE

All dimensions have a tolerance of ± 0.010 [0.25mm] unless otherwise specified.

PINS

Standard Thru-hole: Brass, tin over nickel plated, 0.020 [0.51mm] Round

CONNECTIONS	
PIN	FUNCTION
1	(+) Input
2	(-) Input
3	(+) Output
4	(-) Output
5	Center Tap
6	Programming
7	+10V Reference
8	Enable/Disable



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

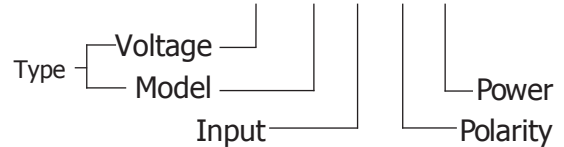
NOTE:

Output is isolated from the input by 2.5kV

ORDERING INFORMATION		
Type (Nominal)	50VDC Output	0.05RS
	75V Output	0.075RS
	100V Output	0.1RS
	150V Output	0.15RS
	200V Output	0.2RS
	250V Output	0.25RS
	300V Output	0.3RS
	350V Output	0.35RS
	400V Output	0.4RS
	500V Output	0.5RS
600V Output	0.6RS	
700V Output	0.7RS	
Input	24VDC Nominal	24
Polarity	Bipolar Output	-BP
Power	10 Watts Output	10
Options	Flying lead for HV Output	-W
	Shielded Flying Lead for HV Output	-WS
	Ripple Striper® output filter with (5) sided mu-metal shield.	-F-M

Contact the factory for preset fixed outputs or other requirements

Example: **0.05RS24-BP10**



Rev. 2 1/14



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