Advanced Energy®

ULTRAVOLT® RS SERIES

HIGH VOLTAGE MICROSIZED RAIL SUPPLY

Single-output micro-sized **high voltage rail supplies**

The RS Series offers low-cost, nominal-performance, bipolar 10 W DC-to-DC high voltage power supplies for amplifier and pulser circuits, as well as other applications.

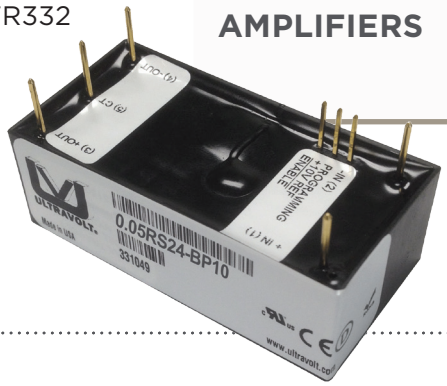
This single-device solution is PCB- or chassis-mountable, and available in 12 models, ranging from ±50 to ±700 VDC fixed output or over a range of 50 to 100% under proportional input or analog programmable control. Optimize bias voltage quickly and easily, using an RS series component with an output center tap isolated to ±2.5 kV.

State-of-the-art power-conversion technology, manufacturing processes, and encapsulation techniques deliver high product reliability.

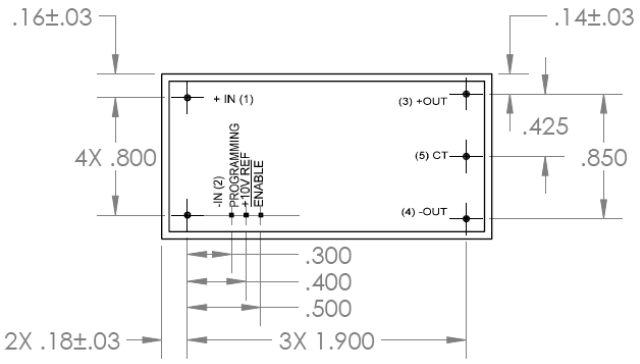
- 12 bipolar models: 0 to ±50 to ±700 VDC, or 100 to 1400 VDC unipolar
- Output voltage: proportional, programmable, or fixed
- Output power: 0 to 10 W; no minimum load
- Accuracy: ≤ ±1%
- Load regulation: < 0.5%
- Output ripple: ≤ ±0.5% Vpk to pk
- 2500 V of isolation from input to output
- No heat sink or electrical derating required
- Complimentary to the 1.5/3 W PXS Series
- > 840,000 hour MTBF per Belcor TR332

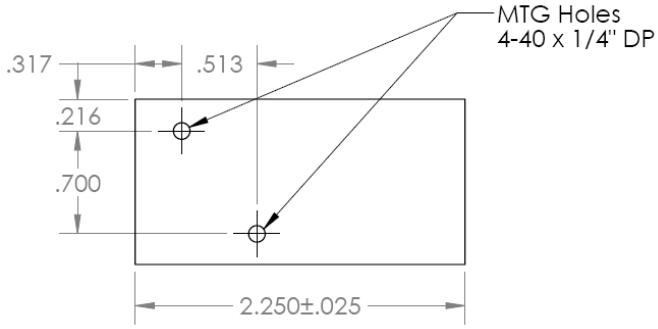
TYPICAL APPLICATIONS

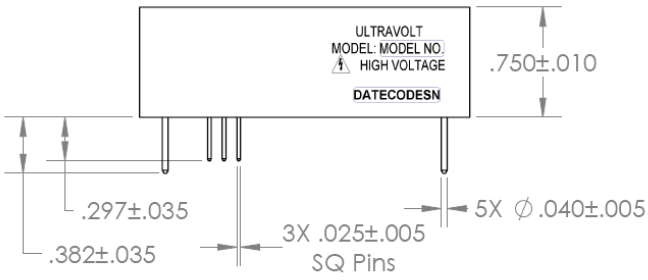
DRIVERS	*PULSE GENERATORS* *PZT ACTUATORS* *MEMS DEVICES* *LASER AND ELECTRO-OPTIC MODULATION* *ELECTROPHORESIS*
AMPLIFIERS	*BEAM DEVICES SUCH AS MASS SPECTROMETERS AND ELECTRON MICROSCOPES*



PARAMETER	CONDITIONS	MODELS						UNITS
Input		24 V						
Voltage Range	Full Power	24 VDC ±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)		**±50**	**±75**	**±100**	**±150**	**±200**	**±250**	**VDC**
Voltage, Fixed	Nominal Input	50	75	100	150	200	250	VDC
Voltage Range Proportional	50 to 100%	25 to 50	37.5 to 75	50 to 100	75 to 150	100 to 200	125 to 250	VDC
Power	Nominal Input, Max Eout	10	10	10	10	10	10	W
Current	Iout 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 to 300	175 to 350	200 to 400	250 to 500	300 to 600	350 to 700	VDC
Power	Nominal Input, Max Eout	10	10	10	10	10	10	W
Current	Iout Entire Output Voltage Range	16	14	12.5	10	8.3	7.1	mA
Output		All Types						
Isolation	Input to Output	100 MΩ minimum at ±2500						VDC
Ripple	Full Load, Max Eout	≤ ±0.5%						%V pk-pk
Ripple with -F-M Option	Full Load, Max Eout, 300 pF bypass cap, 25% to 50% reduction	TBD						
Dynamic Load Regulation	½ to Full Load, Max Eout	< ±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	≤ ±0.5%						VDC
Stability	30 Min. Warmup, Per 8 hr/Per Day	< ±2%						VDC
Programming & Controls								
Enable/Disable	TTL 0 or grounded unit is enabled, TTL 1 or any voltage to +32 V or floating unit is disabled							-
Adjust Logic	0 to +10 VDC, 50 to 100% of nominal HV output ±1% of full scale (proportional if no connection)							-
Reference	+10 VDC at 1 mA, ±1.0% < ±50 ppm °C							-
Environmental		All Types						
Operating	Full Load, Max Eout, Case Temp.	-45 to +75						°C
Storage	Non-Operating, Case Temp.	-55 to +105						°C
Temperature Coefficient	Over the Specific Temperature	< 150						PPM/°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						-







PHYSICAL SPECIFICATIONS	
Construction	Epoxy-filled red DAP box certified to ASTM-D-5948
Dimensions (L x Wx H)	2.25″ x 1.125″ x 0.75″
	57.15 mm x 28.58 mm x 19 mm
Volume	31 cc (1.90 in^3)
Weight	55.2 g (1.95 oz)
Tolerance	
All Dimensions	All dimensions have a tolerance of ±0.010″ [0.25 mm] unless otherwise specified.
Pin	
Standard Thru-hole	Brass, tin over nickel plated, 0.020″ (0.51 mm) round

CONNECTIONS

Pins	Function
1	(+) Input
2	(-) Input
3	(+) Output
4	(-) Output
5	Center tap
6	Programming
7	+10 V reference
8	Enable/disable

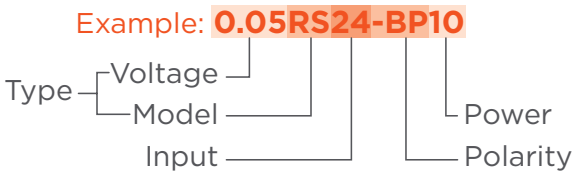
NOTE: Output is isolated from the input by 2.5kV

ORDERING INFORMATION

Type (Nominal)	50 VDC Output	0.05RS
	75 V Output	0.075RS
	100 V Output	0.1RS
	150 V Output	0.15RS
	200 V Output	0.2RS
	250 V Output	0.25RS
	300 V Output	0.3RS
	350 V Output	0.35RS
	400 V Output	0.4RS
	500 V Output	0.5RS
	600 V Output	0.6RS
	700 V Output	0.7RS
Input	24 VDC Nominal	24
Polarity	Bipolar Output	-BP
Power	10 W Output	10
Options	Flying lead for HV Ouput	Flying lead for HV Ouput
	-W	-W
	Shielded Flying Lead for HV Output	Shielded Flying Lead for HV Output

Contact AE for pre-set fixed outputs or other requirements.

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



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