



Low Cost Low Ripple Miniature Regulated High Voltage Power Supply

Features:

- Encapsulated Model
- Voltage and Resistance Programmable
- Stability: <50PPM/°C
- Temperature Range: -55°C to 75°C (Case)
- Regulated Output
- Low Ripple

Electrical Characteristics:

Input Voltage:	12VDC +/-10% (Special Voltages Available Upon Request)
Input Current:	50mA NL
Input Current:	120mA FL
Load Regulation:	0.01% NL – FL
Line Regulation:	0.01%
Slew Rate:	100V/ms

TCRLR Series Description and Application Notes:

Each TCRLR is encapsulated in a high thermal conductivity epoxy resin which eliminates problems associated with moisture. All TCRLR power supplies are designed to withstand extremes of shock, vibration, acceleration, and thermal shock in accordance with MIL-STD-810. The power supply is mounted to PC boards via eight 0.045" diameter pins.

The TCRLR Series is regulated by virtue of Pulse Width Modulation topology. The normal input voltage of 12 VDC is stepped up by resonant action to a high voltage output which is referenced to the input ground (Pin 6). The output voltage of the TCRLR unit is NOT FLOATING. The output high voltage return and the input power return are internally connected together.

The output voltage may be controlled in two ways. In the voltage programming mode, a control voltage between 0 VDC and 5 VDC applied to pin 5 will adjust the output between 0 and max output. In the resistance programming mode, a resistor placed between pin 4 and pin 5 will set the output to a voltage which depends on the value of the resistance used. Typically a 10kOhm resistor will set the output voltage to 50%. Zero resistance yields zero output. The limiting output current is set for each unit to be 150% above the nominal value determined by the 1-W limit. The current limit circuitry internal to the TCRLR high voltage power supply has a reaction time constant of less than 0.01 second.

Product Selection Table

Model	Output Voltage	Output Current	Ripple
TCRLR-1	0 to 100V	0 to 10mA	0.01%
TCRLR-1N	0 to -100V	0 to 10mA	0.01%
TCRLR-2	0 to 200V	0 to 5mA	0.01%
TCRLR-2N	0 to -200V	0 to 5mA	0.01%
TCRLR-5	0 to 500V	0 to 2mA	0.01%
TCRLR-5N	0 to -500V	0 to 2mA	0.01%
TCRLR-10	0 to 1000V	0 to 1mA	0.001%
TCRLR-10N	0 to -1000V	0 to 1mA	0.001%
TCRLR-20	0 to 2000V	0 to 0.5mA	0.001%
TCRLR-20N	0 to -2000V	0 to 0.5mA	0.001%
TCRLR-30	0 to 3000V	0 to 0.33mA	0.001%
TCRLR-30N	0 to -3000V	0 to 0.33mA	0.001%

TCRLR Series Outline Drawing

