

T-57-11



## LWM & WF SERIES

### Single Output

- Up to 8 Watt/Cubic Inch
- Ultra-Wide Input Range
- Efficiencies to 89%
- Constant Switching Frequency 75 kHz
- Economically Priced
- Six-Sided Shield

The New LWM Series of Switching Regulators offer many advantages over the older WM Series. Using a 75 kHz fixed frequency controller our engineers were able to significantly improve the performance, while reducing case sizes to  $2.56 \times 3.0 \times 0.38$  inches high and  $2.56 \times 3.0 \times 0.83$  inches high with power densities to 8 watts per cubic inch. There are two output power levels available in the LWM Series covered by six different models. Key features of the LWM Series include an input filter to suppress input reflected ripple current, output over-voltage protection by clamping, input surge protection to 60V, and output short circuit protection. Output voltage can be externally adjusted by  $\pm 10\%$ . Other features on the higher power LWM series are logic on/off control and remote sensing capability. For lower power applications the WF Series offers similar features in a compact  $2.0 \times 2.0 \times 0.38$  inches size case.

COMPUTER PRODUCTS™  
STEVENS-ARNOLD INC.

(617) 268-1170

## SPECIFICATIONS

All Specifications Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

### OUTPUT SPECIFICATIONS

|                                |                            |
|--------------------------------|----------------------------|
| Voltage Accuracy, LWM          | ±1.0%, max.                |
| WF                             | ±2.0%, max.                |
| External Trim Range            | ±10.0%                     |
| Temperature Coefficient, LWM   | ±0.02%, max.               |
| WF                             | ±0.1%, max.                |
| Voltage Stability, 24 Hr., LWM | ±0.05%, max.               |
| WF                             | ±0.5%, max.                |
| Short Circuit Protection       |                            |
| Output to Common               | Continuous                 |
| Overvoltage Protection         | All Models                 |
| Ripple/Noise, 20 MHz BW        |                            |
| LWM                            | 60 mV P-P, 15 mV RMS, max. |
| WF                             | 60 mV P-P, 10 mV RMS, max. |

### INPUT SPECIFICATIONS

|                     |               |
|---------------------|---------------|
| Input Voltage Range | See Table     |
| Input Filter, WF    | Low ESR Cap.  |
| LWM, XA Case        | Low ESR Cap.  |
| LWM, XC Case        | Pi Network    |
| Voltage Reversal    | Not Protected |

### GENERAL SPECIFICATIONS

|                                    |                           |
|------------------------------------|---------------------------|
| Efficiency                         | See Table                 |
| Isolation                          | Not Galvanically Isolated |
| Minus Input Connected Minus Output |                           |
| Switching Frequency, LWM           | 75 kHz                    |
| WF                                 | 100 kHz                   |
| Input Idle Current During Shutdown | 10 mA                     |

### ENVIRONMENTAL SPECIFICATIONS

|                             |                     |
|-----------------------------|---------------------|
| Operating Temperature Range | −25°C to +71°C      |
| Derating                    | None                |
| Storage Temperature Range   | −55°C to +105°C     |
| Cooling                     | Free-Air Convection |

### PHYSICAL SPECIFICATIONS

|               |                                              |
|---------------|----------------------------------------------|
| Weight        |                                              |
| XA Package    | 4 oz. (114 grams)                            |
| XC Package    | 7.5 oz. (213 grams)                          |
| Z Package     | 3.5 oz. (99 grams)                           |
| Case Material | Black Coated Copper with Non-Conductive Base |
| Mating Socket | MS-X, MS-Z                                   |

### REMOTE ON/OFF CONTROL, LWM XC Models

|                                |                            |
|--------------------------------|----------------------------|
| Logic Compatibility            | CMOS or Open Collector TTL |
| E <sub>c</sub> -ON, 5V Models  | 4.2 VDC or Open Circuit    |
| 12 & 15 V Models               | 9.6 VDC or Open Circuit    |
| E <sub>c</sub> -OFF, 5V Models | 3.5 VDC                    |
| 12 & 15 V Models               | 9.0 VDC                    |
| Control Input Resistance       | 100k ohms                  |

TWO-YEAR WARRANTY

# 5 & 15 to 45 Watt DC/DC Converters

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| INPUT VOLTAGE <sup>1</sup> | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT <sup>1</sup> |           | % EFF | REGULATION <sup>2</sup> |                   | CASE | MODEL NUMBER    |
|----------------------------|----------------|----------------|----------------------------|-----------|-------|-------------------------|-------------------|------|-----------------|
|                            |                |                | NO LOAD                    | FULL LOAD |       | LINE <sup>3</sup>       | LOAD <sup>4</sup> |      |                 |
| 7-40 VDC                   | 5 VDC          | 3000 mA        | 20 mA                      | 1570 mA   | 80    | ± 0.5%                  | ± 0.5%            | XA   | LWM12S05/3000XA |
| 7-40 VDC                   | 5 VDC          | 5000 mA        | 20 mA                      | 2600 mA   | 80    | ± 0.5%                  | ± 0.5%            | XC   | LWM12S05/5000XC |
| 14-40 VDC                  | 12 VDC         | 2000 mA        | 20 mA                      | 1180 mA   | 85    | ± 0.5%                  | ± 0.5%            | XA   | LWM24S12/2000XA |
| 14-40 VDC                  | 12 VDC         | 3500 mA        | 20 mA                      | 2010 mA   | 87    | ± 0.5%                  | ± 0.5%            | XC   | LWM24S12/3500XC |
| 17-40 VDC                  | 15 VDC         | 1500 mA        | 20 mA                      | 1080 mA   | 87    | ± 0.5%                  | ± 0.5%            | XA   | LWM24S15/1500XA |
| 17-40 VDC                  | 15 VDC         | 3000 mA        | 20 mA                      | 2110 mA   | 89    | ± 0.5%                  | ± 0.5%            | XC   | LWM24S15/3000XC |
| 7-32 VDC                   | 5 VDC          | 1000 mA        | 16 mA                      | 555 mA    | 75    | ± 0.5%                  | ± 1.0%            | Z    | WF12S05/1000Z   |

NOTES: For Remote On/Off Control in XA Package, Consult Factory.

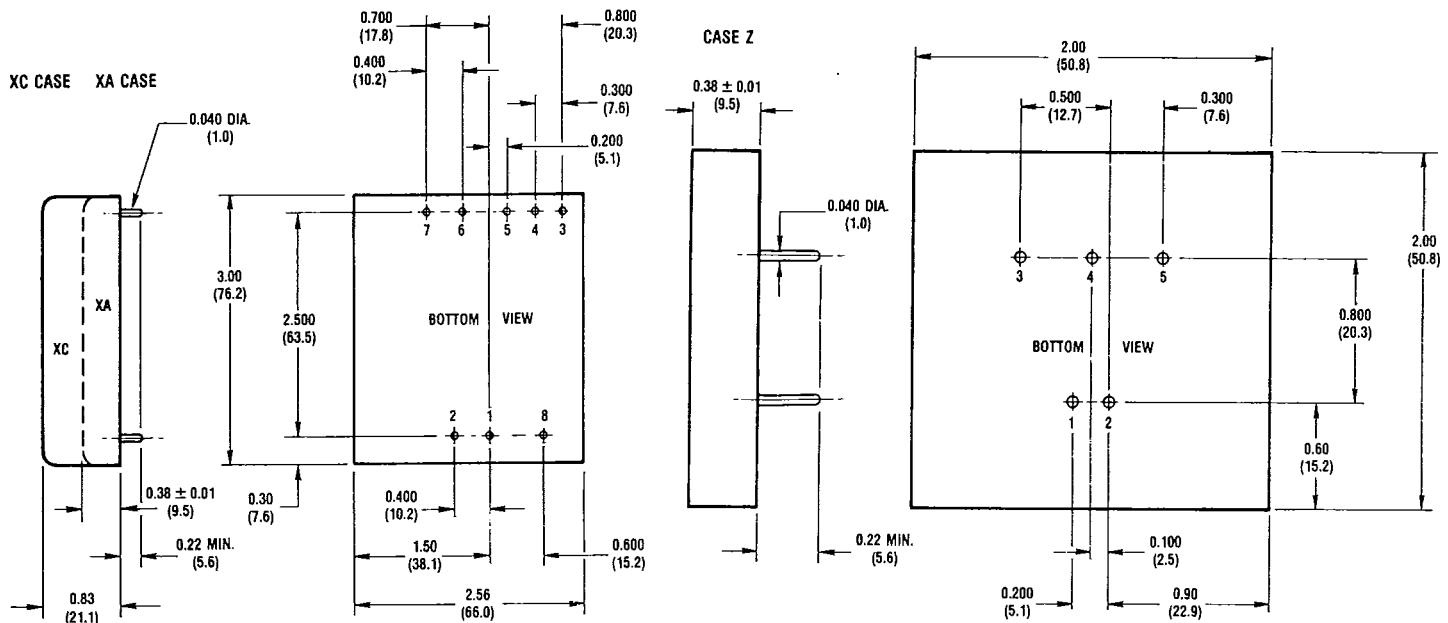
Other Input/Output Combinations Available. Consult Factory.

1. Nominal input 12, 24 VDC.

2. Maximum.

3. Measured from High Line to Low Line.

4. Measured from Full Load to No Load.



ALL DIMENSIONS IN INCHES (mm)

| Pin Connections |                |                  |             |
|-----------------|----------------|------------------|-------------|
| Pin             | XC Case        | XA Case          | Z Case      |
| 1               | + Input        | + Input          | + Input     |
| 2               | - Input        | - Input          | - Input     |
| 3               | Output Sense + | Output Trim Down | + Output    |
| 4               | Output Trim    | Output Trim      | Output Trim |
| 5               | Output Sense - | Output Trim up   | - Output    |
| 6               | + Output       | + Output         | No Pin      |
| 7               | - Output       | - Output         | No Pin      |
| 8               | Remote On/Off  | No Pin           | No Pin      |

Tolerance .xx = ± 0.04  
.xxx = ± 0.005

