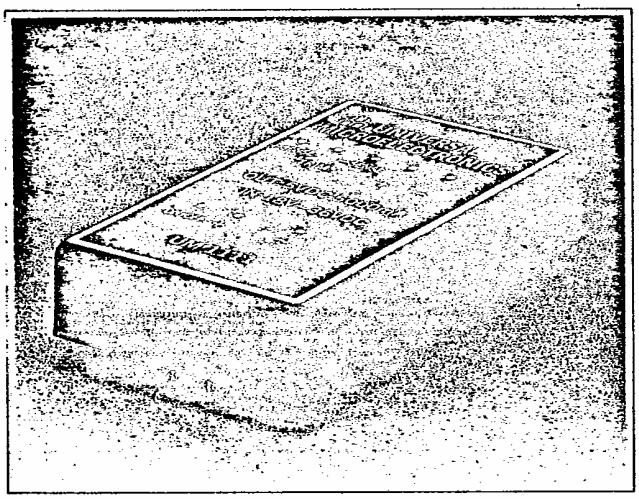
# 25 to 30 Watt DC-DC Converters

## UM 1100 SERIES



- 2:1 Input Range
- 30W Isolated Output
- Efficiency to 84%
- Remote On/Off Control
- 100 kHz Switching Frequency
- Six-Sided Shield

### SPECIFICATIONS

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

### INPUT SPECIFICATIONS

| | |
|---|---|
| Input Voltage Range, 12V | 9-18V |
| 24V | 18-36V |
| 48V | 36-72V |
| Input Filter | Pi Type |
| Reverse Voltage Protection[3] | Internal Shunt Diode Use External Fuse |

### OUTPUT SPECIFICATIONS

| | |
|---|---|
| Voltage Accuracy Single Output | ±1% max. |
| Dual + Output | ±1% max. |
| − Output | ±3% max. |
| Triple 5V | ±1% max. |
| 12V/15V | ±5% max. |
| −5V | ±2% max. |
| Voltage Balance, Dual output at Full load | ±1.0% max. |
| Transient Response, | |
| Single, 25% step load change | < 500μ sec. |
| Dual, FL-1/2L ±1% Error Band | < 500μ sec. |
| External Trim Adj. Range | ±10% |
| Ripple and Noise, 20MHz BW | 10mV RMS, max. 75mV P-P max. |
| Temperature Coefficient | ±0.02%/°C, max. |
| Short Circuit Protection | Indefinite |
| Overvoltage Protection, 5V | 6.8V |
| 12V | 15V |
| 15V | 18V |
| Line Regulation[1], Single/Dual output | ±0.2% max. |
| Tripple output | ±1% max. |
| Load Regulation[2], Single/Dual output | ±1% max. |
| Tripple output | ±5% max. |

### GENERAL SPECIFICATIONS

| | |
|---|---|
| Efficiency | See Table |
| Isolation Voltage | 500 VDC min. |
| Isolation Resistance | $10^9$ ohms min. |
| Switching Frequency | 100kHz |
| Case Grounding | Capacity Coupled to Input |
| Operating Temperature Range | −25°C to +71°C |
| Storage Temperature Range | −55°C to +105°C |
| EMI/RFI | Six-Sided Continuous Shield |
| Dimensions | 2.56 × 4.56 × 0.83 inches (65 × 115.8 × 21.1mm) |
| Case Material | Black Coated Copper with Non-Conductive Base |

NOTE:
1. Measured from High Line to Low Line.
2. Measured from Full Load to 1/4 Full Load.
3. Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load and then adding 20 to 25% to get the desired fuse size.

| REMOTED ON/OFF CONTROL | |
|---|---|
| Logic Compatibility | CMOS or Open Collector TTL |
| $E_C$-ON, | >+5.5 VDC or Open Circuit |
| $E_C$-OFF, | <1.8 VDC |
| Shutdown Idle Current | 10 mA |
| Input Resistance | ($E_{in}$ 0 VDC to 9 VDC) 100 KΩ |
| Control Common | Referenced to Input Minus |

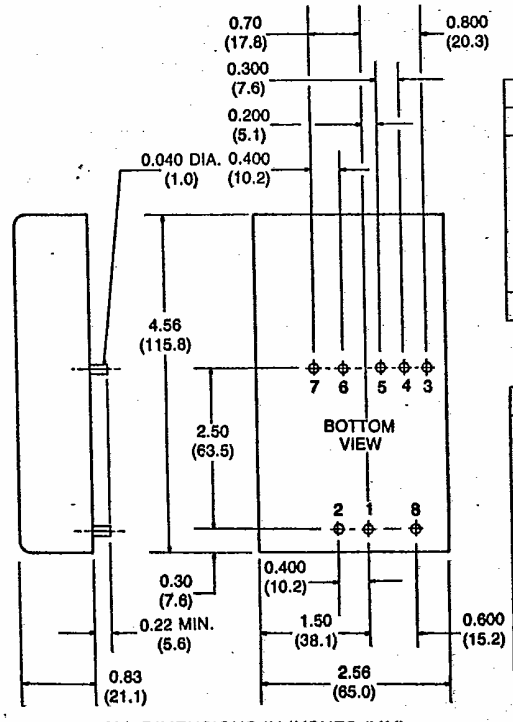
UNIVERSAL MICROELECTRONICS

# UNIVERSAL MICROELECTRONICS

| MODEL NUMBER | INPUT VOLTAGE RANGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT[1] NO LOAD | INPUT CURRENT[1] FULL LOAD | % EFF | CASE |
|---|---|---|---|---|---|---|---|
| **UM1101** | 9-18 VDC | 5 VDC | 5000 mA | 30 mA | 2800 mA | 75 | F |
| **UM1102** | 9-18 VDC | 12 VDC | 2500 mA | 30 mA | 3200 mA | 78 | F |
| **UM1103** | 9-18 VDC | 15 VDC | 2000 mA | 30 mA | 3200 mA | 78 | F |
| **UM1104** | 9-18 VDC | ±12 VDC | ±1250 mA | 25 mA | 3050 mA | 82 | F |
| **UM1105** | 9-18 VDC | ±15 VDC | ±1000 mA | 25 mA | 3050 mA | 82 | F |
| **UM1106** | 9-18 VDC | +5/±12 VDC | 3000/±450 mA | 50 mA | 2900 mA | 74 | F |
| **UM1107** | 9-18 VDC | +5/±15 VDC | 3000/±350 mA | 50 mA | 2750 mA | 77 | F |
| **UM1108** | 9-18 VDC | +5/+12/−5 VDC | 3000/450/1000 mA | 50 mA | 2850 mA | 74 | F |
| **UM1111** | 18-36 VDC | 5 VDC | 5000 mA | 20 mA | 1350 mA | 77 | F |
| **UM1112** | 18-36 VDC | 12 VDC | 2500 mA | 20 mA | 1550 mA | 80 | F |
| **UM1113** | 18-36 VDC | 15 VDC | 2000 mA | 20 mA | 1550 mA | 80 | F |
| **UM1114** | 18-36 VDC | ±12 VDC | ±1250 mA | 25 mA | 1500 mA | 84 | F |
| **UM1115** | 18-36 VDC | ±15 VDC | ±1000 mA | 25 mA | 1500 mA | 84 | F |
| **UM1116** | 18-36 VDC | +5/±12 VDC | 3000/±450 mA | 40 mA | 1350 mA | 80 | F |
| **UM1117** | 18-36 VDC | +5/±15 VDC | 3000/±350 mA | 40 mA | 1300 mA | 82 | F |
| **UM1118** | 18-36 VDC | +5/+12/−5 VDC | 3000/450/1000 mA | 40 mA | 1300 mA | 81 | F |
| **UM1121** | 36-72 VDC | 5 VDC | 5000 mA | 20 mA | 670 mA | 78 | F |
| **UM1122** | 36-72 VDC | 12 VDC | 2500 mA | 20 mA | 770 mA | 81 | F |
| **UM1123** | 36-72 VDC | 15 VDC | 2000 mA | 20 mA | 770 mA | 81 | F |
| **UM1124** | 36-72 VDC | ±12 VDC | ±1250 mA | 15 mA | 750 mA | 83 | F |
| **UM1125** | 36-72 VDC | ±15 VDC | ±1000 mA | 15 mA | 750 mA | 83 | F |
| **UM1126** | 36-72 VDC | +5/±12 VDC | 3000/±450 mA | 30 mA | 650 mA | 82 | F |
| **UM1127** | 36-72 VDC | +5/±15 VDC | 3000/±350 mA | 30 mA | 650 mA | 82 | F |
| **UM1128** | 36-72 VDC | +5/+12/−5 VDC | 3000/450/1000 mA | 30 mA | 650 mA | 81 | F |

NOTE: 1. Nominal Input Voltage 12, 24 or 48 VDC.

CASE F




ALL DIMENSIONS IN INCHES (MM)

| Pin Connections | | | |
|---|---|---|---|
| Pin | Single | Dual | Triple |
| 1 | +Input | +Input | +Input |
| 2 | −Input | −Input | −Input |
| 3 | +SENSE | +Output | +12V, 15V |
| 4 | Ouptput Trim | Common | Common |
| 5 | −SENSE | −Output | −12V, 15V, 5V |
| 6 | +Output | No Pin | +5V |
| 7 | −Output | No Pin | +5V com |
| 8 | Remote On/Off Control | | |

**EXTERNAL OUTPUT TRIMMING**

Output may optionally be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown.