

## Features

- 3 x 2 x 0.75 Inches Form factor
- 40 Watts Convection
- Approval to IEC 60950
- Efficiencies 85% Typical
- -40 to 70 degree operating temperature\*
- 2m Hours, Telcordia -SR332-issue 3 MTBF
- Standby Power < 0.3W

## Electrical Specifications

|                                    |   |                     |
|------------------------------------|---|---------------------|
| Input Voltage                      | 85-264 VAC/390 VDC, Universal   |                     |
| Input Frequency                    | 47-63 Hz  |                     |
| Input Current                      | 115 VAC: 0.8 A max.   | 230 VAC: 0.4 A max. |
| No Load Power                      | less than 0.3W typical  |                     |
| Inrush Current                     | 115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A  |                     |
| Leakage Current                    | 300 uA Typical, (N.A. For Class II Option)  |                     |
| Efficiency                         | 85% Typical   |                     |
| Hold-up Time                       | 40W:6 ms @230VAC  |                     |
| Output Power                       | 40W Convection Cooling  |                     |
| Line Regulation                    | +/-0.5%   |                     |
| Load Regulation                    | +/-1%   |                     |
| Transient Response                 | 25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4% ,<br>recovery time < 5 ms |                     |
| Rise Time                          | 50ms typical  |                     |
| Set Point Tolerance                | 2% (3% for 5V model)  |                     |
| Over Current Protection            | >110%   |                     |
| Over Voltage Protection            | 110 to 140%   |                     |
| Short Circuit Protection           | Hiccup mode   |                     |
| Switching Frequency                | 65 KHz Typical  |                     |
| Operating Temperature <sup>4</sup> | -40 to +70°C  |                     |
| Storage Temperature                | -40 to +85°C  |                     |
| Relative Humidity                  | 5% to 95%, noncondensing  |                     |
| Altitude                           | Operating: 16,000 ft.; Nonoperating: 40,000 ft.   |                     |
| MTBF                               | 2m Hours, Telcordia -SR332-issue 3  |                     |
| Isolation Voltage                  | Input to Output – 4242 VDC  |                     |

### Option 1

| Model Number                        | Description | Voltage | Max. Load | Min. Load | Ripple <sup>1</sup> |
|-------------------------------------|-------------|---------|-----------|-----------|---------------------|
| ULP40-1305                          | with Header | 5 V     | 5A        | 0.0 A     | 1.5%                |
| ULP40-1312                          | with Header | 12 V    | 3.33A     | 0.0 A     | 1%                  |
| ULP40-1315                          | with Header | 15 V    | 2.67A     | 0.0 A     | 1%                  |
| ULP40-1324                          | with Header | 24 V    | 1.67A     | 0.0 A     | 1%                  |
| ULP40-1330                          | with Header | 30 V    | 1.33A     | 0.0 A     | 1%                  |
| ULP40-1348                          | with Header | 48 V    | 0.83A     | 0.0 A     | 1%                  |
| ULP40-1358                          | with Header | 58 V    | 0.69A     | 0.0 A     | 1%                  |
| MULP40-CK metal cover kit accessory |             |         |           |           |                     |

### Option 2

| Model Number | Description       | Voltage | Max. Load | Min. Load | Ripple <sup>1</sup> |
|--------------|-------------------|---------|-----------|-----------|---------------------|
| ULP40-1205   | with PCB Mounting | 5 V     | 5A        | 0.0 A     | 1.5%                |
| ULP40-1212   | with PCB Mounting | 12 V    | 3.33A     | 0.0 A     | 1%                  |
| ULP40-1215   | with PCB Mounting | 15 V    | 2.67A     | 0.0 A     | 1%                  |
| ULP40-1224   | with PCB Mounting | 24 V    | 1.67A     | 0.0 A     | 1%                  |
| ULP40-1230   | with PCB Mounting | 30 V    | 1.33A     | 0.0 A     | 1%                  |
| ULP40-1248   | with PCB Mounting | 48 V    | 0.83A     | 0.0 A     | 1%                  |
| ULP40-1258   | with PCB Mounting | 58 V    | 0.69A     | 0.0 A     | 1%                  |

### Option 3

| Model Number                        | Description         | Voltage | Max. Load | Min. Load | Ripple <sup>1</sup> |
|-------------------------------------|---------------------|---------|-----------|-----------|---------------------|
| ULP40-1005                          | with Screw Terminal | 5 V     | 5A        | 0.0 A     | 1.5%                |
| ULP40-1012                          | with Screw Terminal | 12 V    | 3.33A     | 0.0 A     | 1%                  |
| ULP40-1015                          | with Screw Terminal | 15 V    | 2.67A     | 0.0 A     | 1%                  |
| ULP40-1024                          | with Screw Terminal | 24 V    | 1.67A     | 0.0 A     | 1%                  |
| ULP40-1030                          | with Screw Terminal | 30 V    | 1.33A     | 0.0 A     | 1%                  |
| ULP40-1048                          | with Screw Terminal | 48 V    | 0.83A     | 0.0 A     | 1%                  |
| ULP40-1058                          | with Screw Terminal | 58 V    | 0.69A     | 0.0 A     | 1%                  |
| MULP40-CK metal cover kit accessory |                     |         |           |           |                     |

#### Connectors

|                 |         |            |
|-----------------|---------|------------|
| J1 Option 1 & 3 | Pin 1   | AC LINE    |
|                 | Pin 2   | NOT FITTED |
|                 | Pin 3   | AC NEUTRAL |
| J2 Option 1 & 3 | Pin 1,2 | V1 +VE     |
|                 | Pin 3,4 | V1 -VE     |



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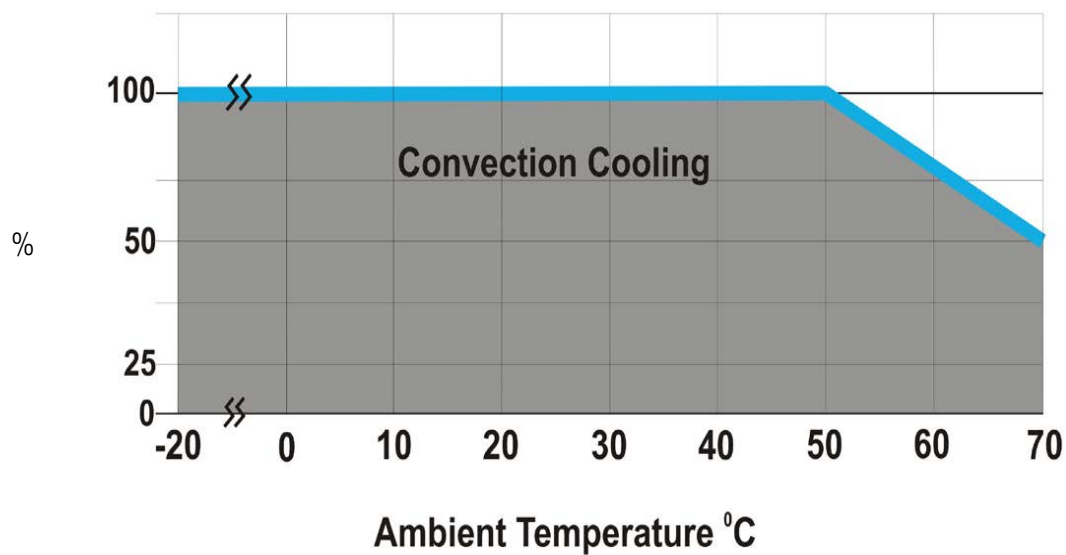
## Notes

1. Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Tantalum capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges.
2. Class II means without input Earth pin.
3. Specifications are for nominal input voltage, 25°C unless otherwise stated.
4. -40 to 0°C startup is guaranteed with spec deviation in output ripple and voltage regulation.

| Mechanical Specifications         |   |
|-----------------------------------|---|
| AC Input Connector (J1) Option 1  | Tyco: 640445-3<br>Mating: 647402-3; Pins: 3-647409-1  |
| DC Output Connector (J2) Option 1 | Tyco: 640445-4<br>Mating: 647402-4; Pins: 3-647409-1  |
| Dimensions                        | 3 x 2 x 0.75 inches<br>(76.20 x 50.8 x 19.05 mm)  |
| Weight                            | 100 gm approx   |
| EMC                               |   |
| CE Mark                           | Complies with LVD Directive   |
| Conducted Emissions               | EN55022-B, CISPR22-B, FCC PART15-B  |
| Static Discharge                  | EN61000-4-2, Level-3  |
| RF Field Susceptibility           | EN61000-4-3, Level-3  |
| Fast Transients/Bursts            | EN61000-4-4, Level-3  |
| Radiated Emissions                | Level A radiated,<br>Level B radiated with external core (King core K5B RC 25x12x15-M in input cable (5 turns)) |
| Surge Susceptibility              | EN61000-4-5, Level-3  |
| Safety                            |   |
| Safety Standard(s)                | IEC 60950-1 (ed.2), EN60950-1, UL 60950-1(2 <sup>nd</sup> ed.)<br>CSA C22.2 No. 60950-1 (2nd ed.) Class 1 SELV  |
| Approval Agency                   | Nemko, UL, C-UL   |
| Safety File Number(s)             | Nemko: Certificate No: P17221712, CB Test Certificate No : N095863,<br>UL: Certificate No: 20161121-E150565     |

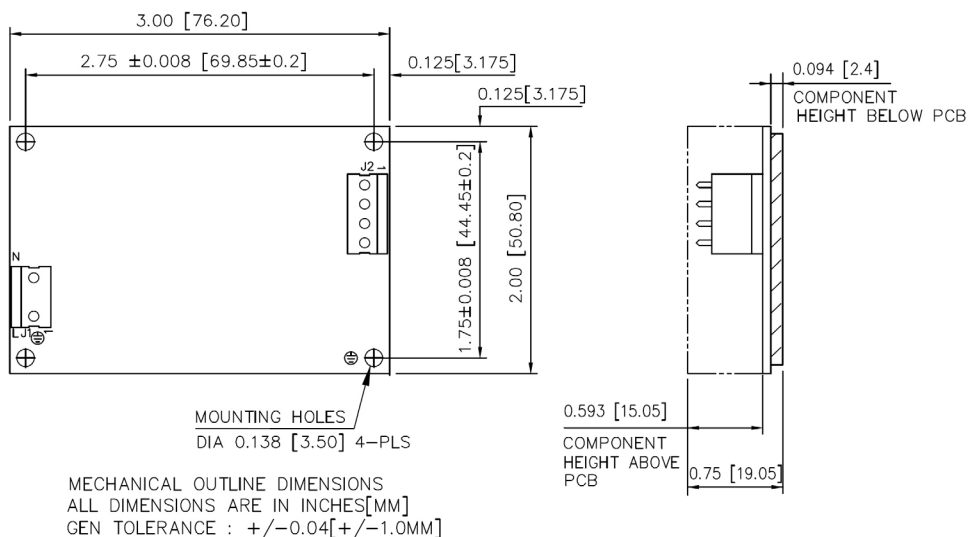
## Derating Curve

All Outputs



## Mechanical Drawing

Option 1 & 3



Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.



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# Mechanical Drawing

## Option 2

