

**UP TO 20 WATTS - DC SERIES
SURFACE MOUNT CONVERTER**

FEATURES:

- Output trim function
- Overvoltage protection
- High efficiency (to 88%)
- Six sided shield
- Undervoltage lockout
- Remote On/Off
- Short-circuit protection
- UL/CUL 1950, file #E155800

THE DC SERIES FROM WALL INDUSTRIES

The DC surface mount series offers the user a wide input range and single output with tight regulation. These converters are highly reliable and well suited for telecom applications.



SPECIFICATIONS: DC SERIES

All specifications apply at 25° C ambient unless otherwise noted.

INPUT SPECIFICATIONS

| | | |
|---------------------------------------|-----------------------------------|---|
| Input Voltage Range | 48V Nominal input | 36-75VDC |
| Input Voltage Lockout | DC-DC On..... | 36VDC |
| | DC-DC Off..... | 33VDC |
| Input Filter (Note 1)..... | | L-C type |
| Input Voltage Variation | dv/dt..... | 5V/ms, max (complies with ETS300 132 part 4.4) |
| Input Surge Voltage | 48V Input (100mS max)..... | 100VDC |
| Input Reflected Ripple (Note 2) | | 25mA-p-p (nominal Vin at full load) |
| Start Up Time | nom. Vin & const. res. load | 25mS |
| Remote On/Off (Note 3)..... | DC-DC On..... | Open or 3.5V<Vr<12V |
| | DC-DC Off..... | Short or 0V<Vr<1.2V |
| Remote off input current .. | nominal Vin..... | 2.5mA |

OUTPUT SPECIFICATIONS

| | | |
|--------------------------------|---------------------------------|----------------------------|
| Output Power | | 20 Watts, max |
| Voltage accuracy..... | full load and nominal Vin | ±1% |
| Voltage adjustability..... | | ±10% |
| Minimum load | | 0% |
| Line regulation..... | LL to HL at Full Load | ±0.2% |
| Load regulation | 10% to 100% FL..... | ±0.5% |
| Ripple and noise (Note 4)..... | 2, 3.3V: 50mV, 75mVp-p | |
| Temperature Coefficient | | ±0.02%/ °C, max |
| Transient resp rec time | (25% load step change) | 300uS |
| Over voltage protection | 2.0 & 3.3V output | 3.9V |
| ..(Zener diode clamp) | 5V output..... | 6.2V |
| | 12V output..... | 15V |
| | 15V output..... | 18V |
| Over load protection | % of FL at nom out ... | 150% max |
| Short circuit protection | | Hiccup, automatic recovery |

GENERAL SPECIFICATIONS

| | |
|---|-----------------------------|
| Efficiency (nominal input and full load)..... | see table |
| Isolation voltage | 1600VDC, min |
| Isolation resistance | 10 ⁹ ohms, min |
| Isolation capacitance | 500pF, max |
| Switching frequency..... | 300KHz, typ |
| Approvals & standards..... | IEC60950,UL1950,EN60950 |
| Potting material..... | Epoxy (UL94-V0) |
| Dimensions..... | 1.95 x 1.19 x 0.38 Inch |
| Weight..... | .32.5g (1.15 oz) |
| MTFB (Note 5) | 1.632 x 10 ⁶ hrs |

ENVIRONMENTAL SPECIFICATIONS

| | |
|----------------------------|---|
| Operating temp. range..... | -40°C ~ +85°C(w/ derating) |
| Maximum case temp. | +100°C |
| Storage temp. range | -55°C ~ +105°C |
| Thermal impedance | (natural convection).....14°C/Watt |
| Thermal shock..... | MIL-STD-810D |
| Vibration | 10~55Hz, 2G, 30 minutes along X,Y and Z |
| Relative humidity | 5% to 95% RH |

EMC CHARACTERISTICS

| | | |
|--------------------------|-------------------|-----------------|
| Conducted emissions..... | EN55022 | Level A |
| Radiated emissions | EN55022 | Level A |
| ESD | EN61000-4-2 | Perf. Criteria2 |
| Radiated immunity | EN61000-4-3 | Perf. Criteria2 |
| Fast transient | EN61000-4-4 | Perf. Criteria2 |
| Surge..... | EN61000-4-5 | Perf. Criteria2 |
| Conducted immunity | EN61000-4-6 | Perf. Criteria2 |

Due to advances in technology, specifications subject to change without notice.

3/18/04

| Input Voltage (VDC) | Output Voltage (VDC) | Output Current (A) | Model Number | Efficiency (%) |
|---------------------|----------------------|--------------------|--------------|----------------|
| 36-75 | 2.0 | 4 | DC48S2.0-8 | 82 |
| | 3.3 | 4 | DC48S3.3-13 | 84 |
| | 5 | 4 | DC48S5-20 | 88 |
| | 12 | 1.67 | DC48S12-20 | 88 |
| | 15 | 1.33 | DC48S15-20 | 87 |

| PIN CONNECTIONS | |
|-----------------|---------------|
| 1 | +Vout |
| 2 | -Vout |
| 3 | N/C (Note 7) |
| 4 | Trim |
| 5 | N/C (Note 7) |
| 6 | N/C (Note 7) |
| 7 | N/C (Note 7) |
| 8 | Remote On/Off |
| 9 | Sync |
| 10 | N/C (Note 7) |
| 11 | -Vin |
| 12 | +Vin |

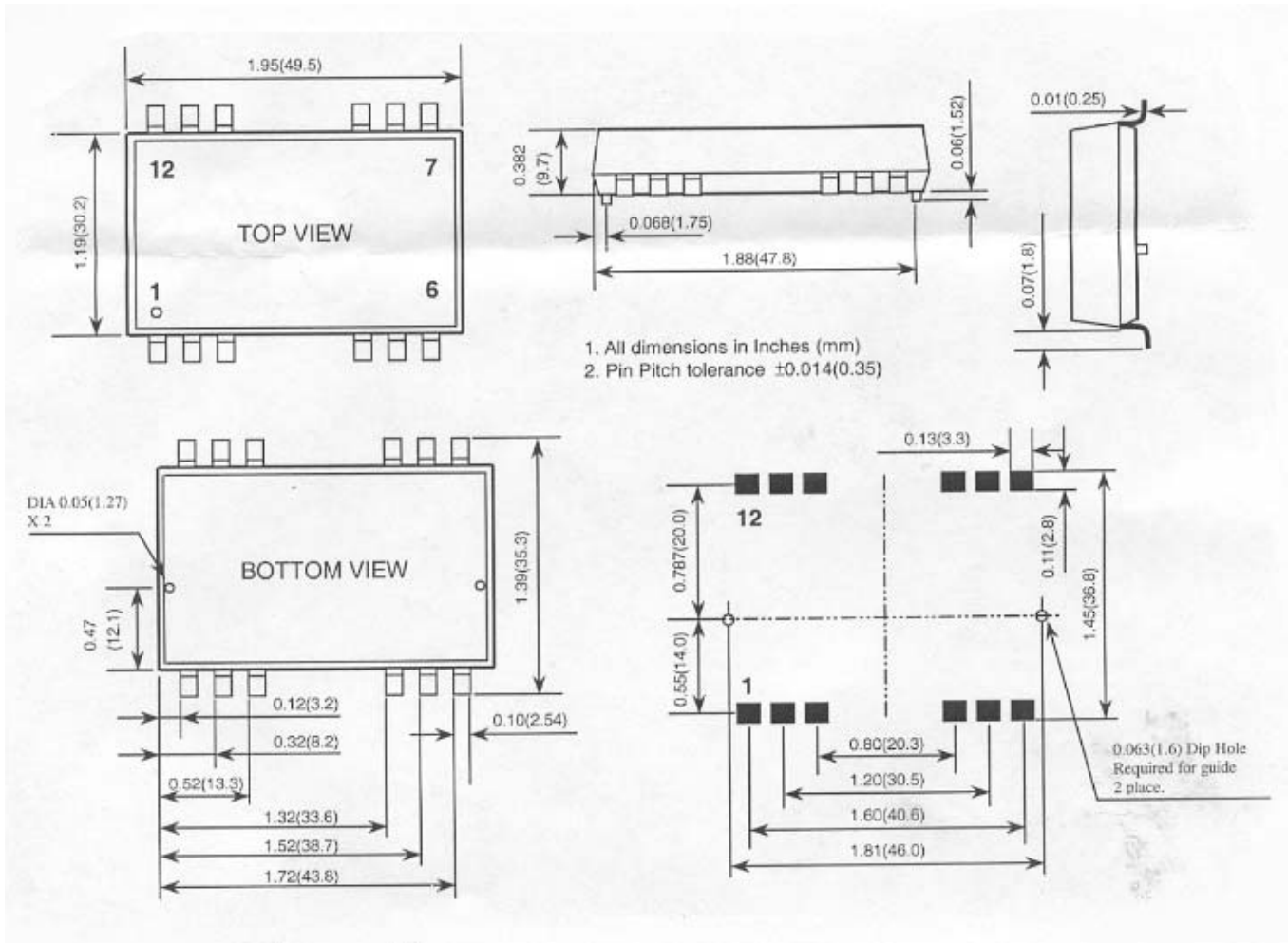
NOTES:

1. An external filter capacitor is required for normal operation. The capacitor should be capable of handling 1A ripple current. We suggest: Nippon chemicon KMF series, 220 μ F/100V, ESR 90Mohm
2. Simulated source impedance of 12 μ H. 12 μ H inductor in series with +Vin.
3. Remote On/Off is referenced to the negative input (-Vin).
4. Measured with 104pF/50V MLCC. Test conditions: nominal input and full load.
5. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
6. We recommend solder paste volume of 2.8 cubic mm (170,000 cubic mills/pin).
7. N/C pins may be used internally by the module and should not be connected by the customer.

OUTLINE DIAGRAM

Dimensions are in inches and (millimeters).

Tolerances: x.x ±0.02 in. (0.5 mm) - x.xx ±0.015 in. (0.4 mm)



3/18/04