

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	V/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		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)	300µs
Over voltage protection	2.0 & 3.3V output	V
..(Zener diode clamp)	5V output	V
	12V output	V
	15V output	V
Over load protection	% of FL at nom out	% 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	pF, max
Switching frequency	300KHz, typ
Approvals & standards	EC60950, 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.

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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

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.

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PIN CONNECTIONS

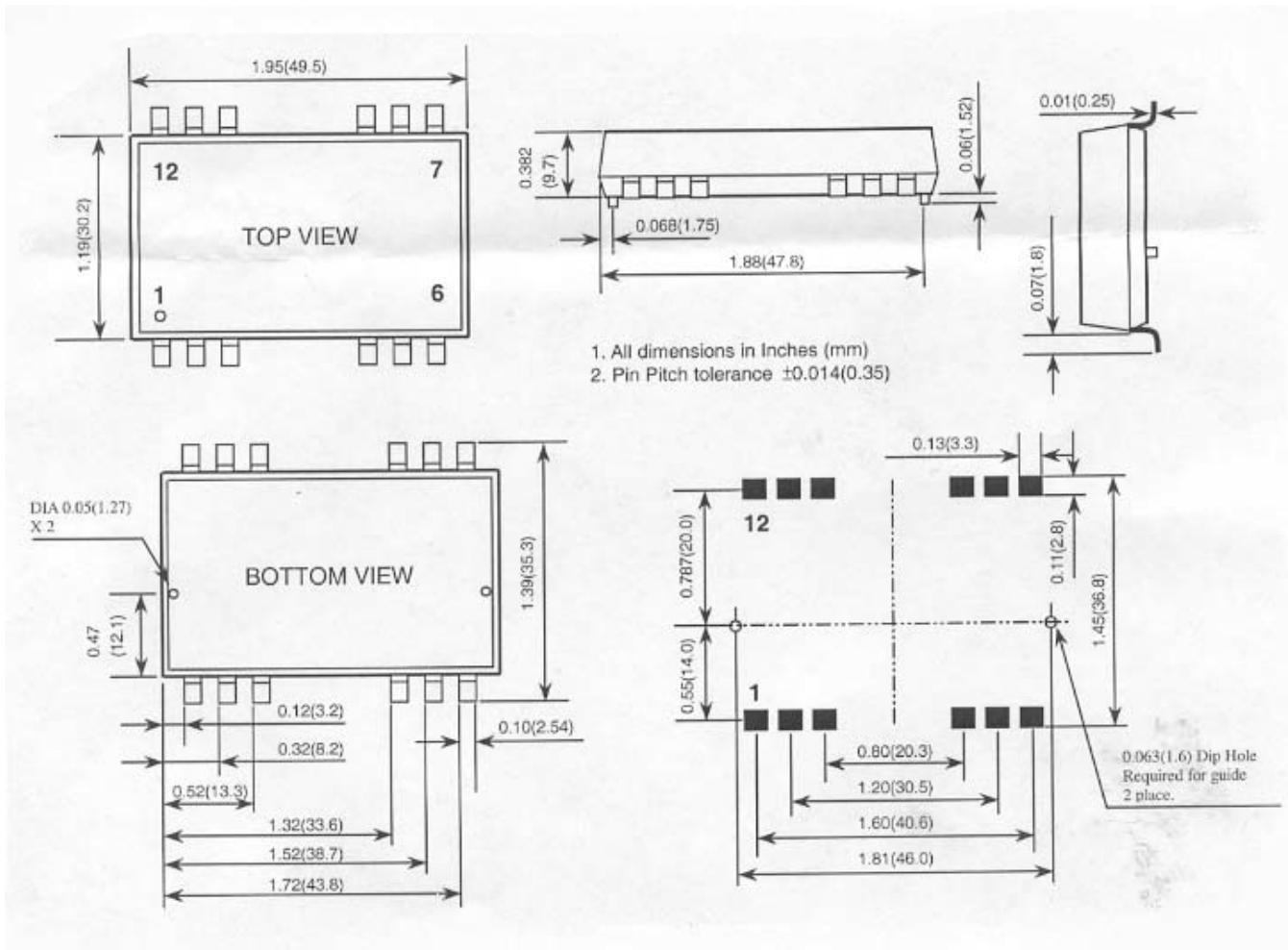
1	+Vout
2	-Vout
3	N/C (Note 7)
4	Trim
5	N/C (Note 7)
6	N/C (Note 7)
7	N/C (Note 7)
8	Remote On/Off
9	Sync
10	N/C (Note 7)
11	-Vin
12	+Vin

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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)



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COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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