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) 25mAp-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 ....10^9ohms, 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) ....1.632×10^6 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

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 chemi-con KMF series, 220μF/100V, ESR 90Mohm

2. Simulated source impedance of 12μH. 12μH 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 40ºC. (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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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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