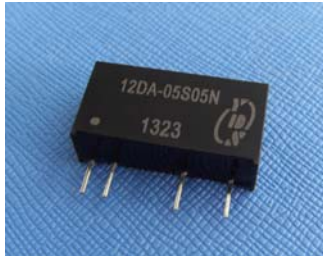




## 3000Vdc Isolation Single & Dual Output 1 Watt Dc-Dc Converter



### FEATURES:

- 7PIN SIP Package
- High Efficiency up to 88%
- Unregulated Output Types
- Internal SMD Construction
- Industry Standard Pinout
- Operating Temperature:-40°C TO +85°C



Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

| Part Number  | Output Voltage | Output Current | Ripple & Noise |            | Efficiency | Package Style |
|--------------|----------------|----------------|----------------|------------|------------|---------------|
|              | Vdc            | mA             | Typ(mVp-p)     | Max(mVp-p) | %Typ       |               |
| 12DA-05S05N  | 5              | 200            | 25             | 50         | 82         | 1             |
| 12DA-05S09N  | 9              | 112            | 25             | 50         | 82         | 1             |
| 12DA-05S12N  | 12             | 84             | 25             | 50         | 82         | 1             |
| 12DA-05S15N  | 15             | 67             | 25             | 50         | 84         | 1             |
| 12DA-12S05N  | 5              | 200            | 25             | 50         | 82         | 1             |
| 12DA-12S09N  | 9              | 112            | 25             | 50         | 84         | 1             |
| 12DA-12S12N  | 12             | 84             | 25             | 50         | 86         | 1             |
| 12DA-12S15N  | 15             | 67             | 25             | 50         | 87         | 1             |
| 12DA-15S05N  | 5              | 200            | 25             | 50         | 83         | 1             |
| 12DA-15S09N  | 9              | 112            | 25             | 50         | 86         | 1             |
| 12DA-15S12N  | 12             | 84             | 25             | 50         | 87         | 1             |
| 12DA-15S15N  | 15             | 67             | 25             | 50         | 87         | 1             |
| 12DA-24S05N  | 5              | 200            | 25             | 50         | 84         | 1             |
| 12DA-24S09N  | 9              | 112            | 25             | 50         | 85         | 1             |
| 12DA-24S12N  | 12             | 84             | 25             | 50         | 86         | 1             |
| 12DA-24S15N  | 15             | 67             | 25             | 50         | 86         | 1             |
| 12DA-48S05N2 | 5              | 200            | —              | 80         | 78         | 2             |
| 12DA-48S09N2 | 9              | 112            | —              | 80         | 81         | 2             |
| 12DA-48S12N2 | 12             | 84             | —              | 80         | 81         | 2             |
| 12DA-48S15N2 | 15             | 67             | —              | 80         | 82         | 2             |
| 12DA-05D05N  | ±5             | ±100           | 25             | 50         | 84         | 1             |
| 12DA-05D09N  | ±9             | ±56            | 25             | 50         | 86         | 1             |
| 12DA-05D12N  | ±12            | ±42            | 25             | 50         | 86         | 1             |
| 12DA-05D15N  | ±15            | ±34            | 25             | 50         | 86         | 1             |
| 12DA-12D05N  | ±5             | ±100           | 25             | 50         | 85         | 1             |
| 12DA-12D09N  | ±9             | ±56            | 25             | 50         | 87         | 1             |
| 12DA-12D12N  | ±12            | ±42            | 25             | 50         | 88         | 1             |
| 12DA-12D15N  | ±15            | ±34            | 25             | 50         | 87         | 1             |
| 12DA-15D05N  | ±5             | ±100           | 25             | 50         | 83         | 1             |
| 12DA-15D09N  | ±9             | ±56            | 25             | 50         | 86         | 1             |
| 12DA-15D12N  | ±12            | ±42            | 25             | 50         | 87         | 1             |
| 12DA-15D15N  | ±15            | ±34            | 25             | 50         | 87         | 1             |
| 12DA-24D05N  | ±5             | ±100           | 25             | 50         | 84         | 1             |
| 12DA-24D09N  | ±9             | ±56            | 25             | 50         | 85         | 1             |
| 12DA-24D12N  | ±12            | ±42            | 25             | 50         | 86         | 1             |
| 12DA-24D15N  | ±15            | ±34            | 25             | 50         | 86         | 1             |
| 12DA-48D05N2 | ±5             | ±100           | —              | 80         | 79         | 2             |
| 12DA-48D09N2 | ±9             | ±56            | —              | 80         | 81         | 2             |
| 12DA-48D12N2 | ±12            | ±42            | —              | 80         | 81         | 2             |
| 12DA-48D15N2 | ±15            | ±34            | —              | 80         | 82         | 2             |

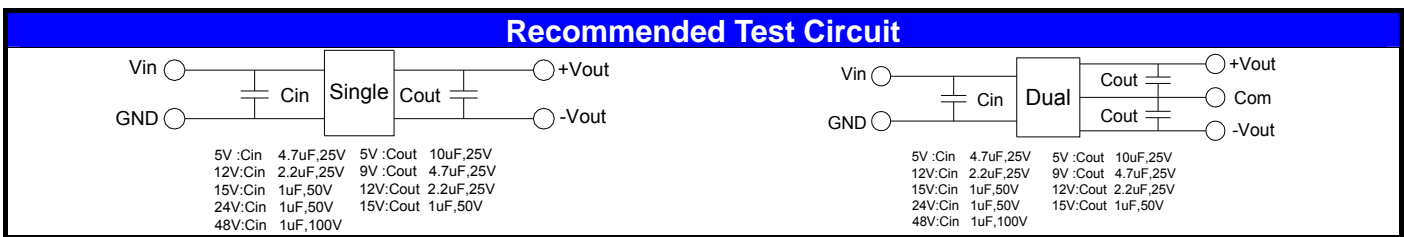
### Input Specifications

| Parameters        | Conditions | Min | Typ | Max | Units |
|-------------------|------------|-----|-----|-----|-------|
| Voltage Tolerance | Vo, Io Nom |     |     | ±10 | %     |
| Filter            | Capacitor  |     |     |     |       |

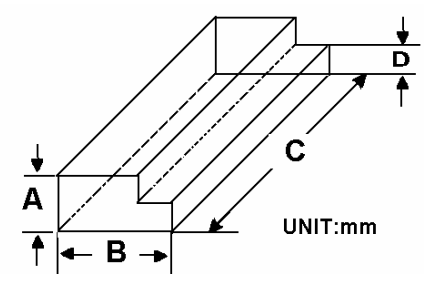
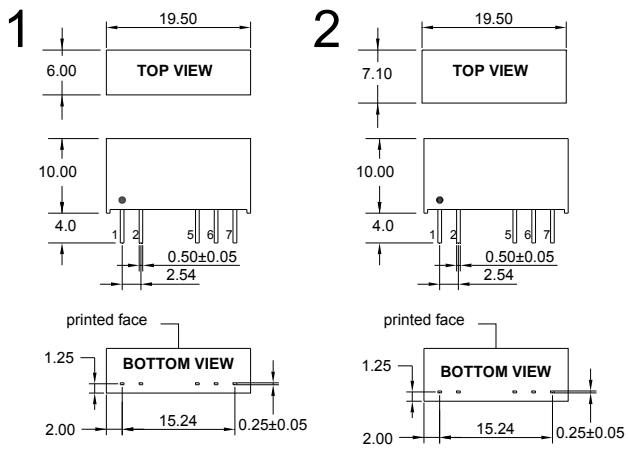
**3000Vdc Isolation Single & Dual Output 1 Watt Dc-Dc Converter**

| Output Specifications    |                             |     |     |       |       |
|--------------------------|-----------------------------|-----|-----|-------|-------|
| Parameters               | Conditions                  | Min | Typ | Max   | Units |
| Voltage Tolerance        | 100% full load              |     |     | ±5    | %     |
| Short Circuit Protection | Short Term                  |     |     | 1 Sec |       |
| Line Regulation          | For 1.0% OF Vin             |     | 1.2 |       | %     |
| Load Regulation          | 5V,9V (10% To 100% F.L)     |     |     | 7     | %     |
| Load Regulation          | 12V,15V (10% To 100% F.L)   |     |     | 5     | %     |
| Load Regulation          | ±5V,±9V (10% To 100% F.L)   |     |     | 7     | %     |
| Load Regulation          | ±12V,±15V (10% To 100% F.L) |     |     | 5     | %     |

| General Specifications |                         |                                |            |     |       |
|------------------------|-------------------------|--------------------------------|------------|-----|-------|
| Parameters             | Conditions              | Min                            | Typ        | Max | Units |
| Isolation Resistance   | 500Vdc                  | 1000                           |            |     | MΩ    |
| Switching Frequency    | Full load,nominal input |                                | 100        |     | KHz   |
| Operation Temperature  |                         | -40                            |            | +85 | °C    |
| Humidity               | Non Condensing          |                                |            | 95  | %     |
| Cooling                | Free air Convection     |                                |            |     |       |
| Case material          | DAP                     |                                |            |     |       |
| MTBF                   | MIL-HDBK-217F@25°C      | 3500000                        |            |     | Hours |
| Weight                 | Package1 or Package2    |                                | 2.1 or 2.7 |     | g     |
| Dimensions             | Package1 or Package2    | 19.5x6.0x10.0 or 19.5x7.1x10.0 |            |     | mm    |



**Markings and dimensions** **Packaging**



UNIT:mm Unless otherwise specified,all tolerances are ±0.25

| PIN Connection |      |      |       |        |       |
|----------------|------|------|-------|--------|-------|
| PIN            | 1    | 2    | 5     | 6      | 7     |
| Single         | +Vin | -Vin | -Vout | No Pin | +Vout |
| Dual           | +Vin | -Vin | -Vout | Com    | +Vout |

| Size(mm) |      |     |     |
|----------|------|-----|-----|
| A        | B    | C   | D   |
| 9.5      | 16.5 | 522 | 5.0 |