



Wide Input Voltage Range 8 Watt Dc-Dc Converter



FEATURES:

- 2:1 Wide Input Voltage.
- 8 Watt 24PIN DIL Package.
- Efficiency To 82%
- PI Input Filter.
- 1600Vdc Isolation
- MTBF:>1,500,000 hrs
- Operating Temperature:-40°C TO +100°C



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

| Part Number | Input Voltage Vdc | Input Current | | Output Voltage Vdc | Output Current Full Load (mA) | Efficiency %TYP |
|---------------|----------------------|------------------|--------------------|-----------------------|----------------------------------|--------------------|
| | | No-Load (mA TYP) | Full Load (mA TYP) | | | |
| 68D8-05S12RNL | 4.5-9 | 25 | 1927 | 12 | 666 | 83 |
| 68D8-05S15RNL | 4.5-9 | 25 | 1927 | 15 | 533 | 83 |
| 68D8-05D12RNL | 4.5-9 | 25 | 1927 | ± 12 | ± 333 | 83 |
| 68D8-05D15RNL | 4.5-9 | 25 | 1927 | ± 15 | ± 266 | 83 |
| 68D8-12S03RNL | 9-18 | 20 | 784 | 3.3 | 2424 | 85 |
| 68D8-12S05RNL | 9-18 | 20 | 784 | 5 | 1600 | 85 |
| 68D8-12S12RNL | 9-18 | 20 | 784 | 12 | 666 | 85 |
| 68D8-12S15RNL | 9-18 | 20 | 784 | 15 | 533 | 85 |
| 68D8-12D05RNL | 9-18 | 20 | 784 | ± 5 | ± 800 | 85 |
| 68D8-12D12RNL | 9-18 | 20 | 784 | ± 12 | ± 333 | 85 |
| 68D8-12D15RNL | 9-18 | 20 | 784 | ± 15 | ± 267 | 85 |
| 68D8-24S03RNL | 18-36 | 20 | 392 | 3.3 | 2424 | 85 |
| 68D8-24S05RNL | 18-36 | 20 | 392 | 5 | 1600 | 85 |
| 68D8-24S12RNL | 18-36 | 20 | 392 | 12 | 666 | 85 |
| 68D8-24S15RNL | 18-36 | 20 | 392 | 15 | 533 | 85 |
| 68D8-24D05RNL | 18-36 | 20 | 392 | ± 5 | ± 800 | 85 |
| 68D8-24D12RNL | 18-36 | 20 | 392 | ± 12 | ± 333 | 85 |
| 68D8-24D15RNL | 18-36 | 20 | 392 | ± 15 | ± 267 | 85 |
| 68D8-48S03RNL | 36-72 | 15 | 196 | 3.3 | 2424 | 85 |
| 68D8-48S05RNL | 36-72 | 15 | 196 | 5 | 1600 | 85 |
| 68D8-48S12RNL | 36-72 | 15 | 196 | 12 | 666 | 85 |
| 68D8-48S15RNL | 36-72 | 15 | 196 | 15 | 533 | 85 |
| 68D8-48D05RNL | 36-72 | 15 | 196 | ± 5 | ± 800 | 85 |
| 68D8-48D12RNL | 36-72 | 15 | 196 | ± 12 | ± 333 | 85 |

Input Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|---------------|------------|-----|-----|-----|-------|
| Voltage Types | | | | 2:1 | |
| Filter | PI TYPE | | | | |

Output Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|---------------------------------|--------------------------|-----|-----|-------|-------|
| Voltage Tolerance | | | | ± 2 | % |
| Short Circuit Protection | Continuous | | | | |
| Line Regulation | | | | ± 0.5 | % |
| Load Regulation | Single (F.L To 10% Load) | | | ± 0.5 | % |
| Load Regulation | Dual (F.L To 1/4 Load) | | | ± 1.0 | % |
| Ripple & Noise | BW=DC To 20MHz | | | 100 | mVp-p |
| Transient response setting time | 50% load step change | | 350 | | us |

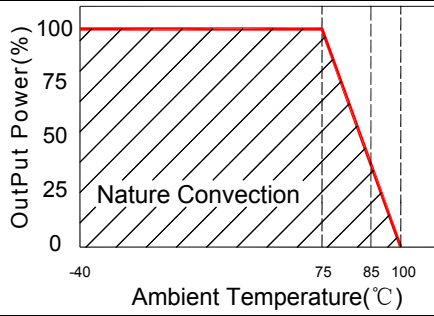
General Specifications

| Parameters | Conditions | Min | Typ | Max | Units |
|-----------------------|--|------|------|-----|---------|
| Isolation Resistance | 500Vdc | 1000 | | | MΩ |
| Switching Frequency | | | 400 | | KHz |
| Operating Temperature | | -40 | | 100 | °C |
| Humidity | Non Condensing | | | 95 | % |
| Cooling | Free air Convection | | | | |
| Case material | Nickel Coated With Non-Conductive Base | | | | |
| Weight | | | 16.2 | | g |
| Dimensions | 31.6x20.1x10.0 | | | | |
| Potting Material | Epoxy (UL94V-0 rated) | | | | |
| Radiated Emissions | EN55022 | | | | CLASS A |
| Radiated Emissions | FCC 47 CFR Part 15 subpart A | | | | CLASS A |

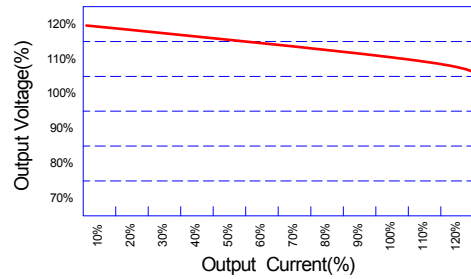


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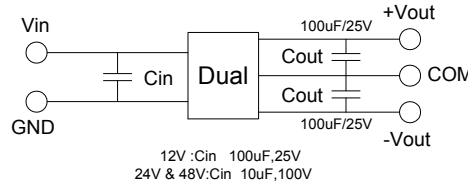
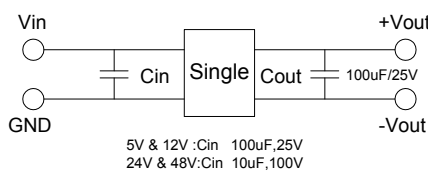
Temperature Derating Graph



Tolerance Envelope Graph



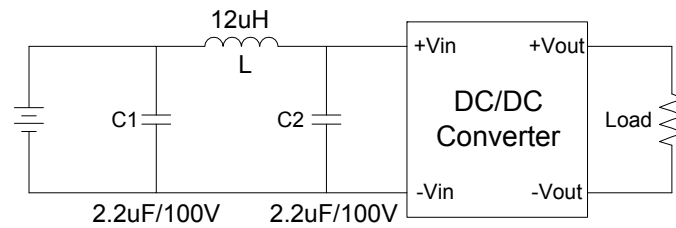
Recommended Test Circuit



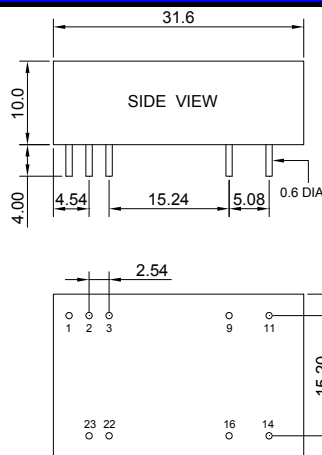
Part Number

68D8 - 12 S 03 R NL
A B C D E F
A:Series
B:Input Voltage
C:Single(S)Dual(D)
D:Output Voltage
E:Regulated(R)
F:RoHS Version

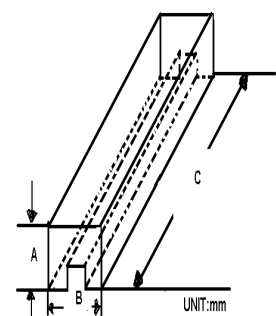
Suggest adding input external filter(C1,C2,L)to meet conducted emissions(En55022 class A)



Markings and dimensions



Packaging



| SIZE(mm) | | |
|----------|-------|-----|
| A | B | C |
| 18.71 | 23.00 | 522 |

UNIT:mm XX.X±0.5 XX.XX±0.25

PIN Connection

| PIN | 1 | 2,3 | 9 | 11 | 14 | 16 | 22,23 |
|--------|---------------|------|--------|-------|-------|--------|-------|
| SINGLE | Remote On/Off | -Vin | NC | NC | +Vout | -Vout | +Vin |
| DUAL | Remote On/Off | -Vin | Common | -Vout | +Vout | Common | +Vin |

NOTE:Pin Size is Tolerance 0.6Φ ±0.05mm