



Wide Input Voltage Range 15 Watt Dc-Dc Converter

FEATURES:

2:1 Wide Input Voltage.

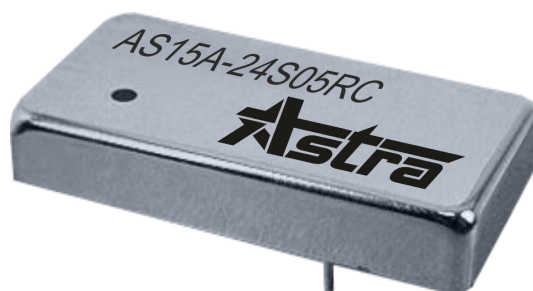
Recognized By UL 60950-1

15 Watt Package.

Efficiency To 80%

PI Input Filter. 1500Vdc 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 | Input Current | | Output Voltage | Output Current | Efficiency | Capacitor Load |
|---------------|---------------|------------------|--------------------|----------------|----------------|------------|----------------|
| | Vdc | No-Load (mA TYP) | Full Load (mA TYP) | Vdc | Full Load (mA) | %TYP | uF TYP |
| AS15A-12S05RC | 9-18 | 30 | 1524 | 5 | 3000 | 82 | 2200 |
| AS15A-12S09RC | 9-18 | 30 | 1470 | 9 | 1666 | 85 | 1000 |
| AS15A-12S12RC | 9-18 | 30 | 1470 | 12 | 1250 | 85 | 1000 |
| AS15A-12S15RC | 9-18 | 30 | 1470 | 15 | 1000 | 85 | 680 |
| AS15A-12S18RC | 9-18 | 30 | 1470 | 18 | 833 | 85 | 470 |
| AS15A-12S24RC | 9-18 | 30 | 1453 | 24 | 625 | 86 | 470 |
| AS15A-12D05RC | 9-18 | 30 | 1524 | ±5 | ±1500 | 82 | ±1000 |
| AS15A-12D09RC | 9-18 | 30 | 1488 | ±9 | ±833 | 84 | ±470 |
| AS15A-12D12RC | 9-18 | 30 | 1488 | ±12 | ±625 | 84 | ±470 |
| AS15A-12D15RC | 9-18 | 30 | 1488 | ±15 | ±500 | 84 | ±330 |
| AS15A-12D18RC | 9-18 | 30 | 1470 | ±18 | ±416 | 85 | ±220 |
| AS15A-12D24RC | 9-18 | 30 | 1470 | ±24 | ±312 | 85 | ±220 |
| AS15A-24S05RC | 18-36 | 25 | 744 | 5 | 3000 | 84 | 3300 |
| AS15A-24S09RC | 18-36 | 25 | 735 | 9 | 1666 | 85 | 1000 |
| AS15A-24S12RC | 18-36 | 25 | 735 | 12 | 1250 | 85 | 1000 |
| AS15A-24S15RC | 18-36 | 25 | 726 | 15 | 1000 | 86 | 680 |
| AS15A-24S18RC | 18-36 | 25 | 726 | 18 | 833 | 86 | 470 |
| AS15A-24S24RC | 18-36 | 25 | 718 | 24 | 625 | 87 | 470 |
| AS15A-24D05RC | 18-36 | 25 | 753 | ±5 | ±1500 | 83 | ±1000 |
| AS15A-24D09RC | 18-36 | 25 | 735 | ±9 | ±833 | 85 | ±470 |
| AS15A-24D12RC | 18-36 | 25 | 735 | ±12 | ±625 | 85 | ±470 |
| AS15A-24D15RC | 18-36 | 25 | 735 | ±15 | ±500 | 85 | ±220 |
| AS15A-24D18RC | 18-36 | 25 | 718 | ±18 | ±416 | 87 | ±220 |
| AS15A-24D24RC | 18-36 | 25 | 718 | ±24 | ±312 | 87 | ±220 |
| AS15A-48S05RC | 36-72 | 20 | 372 | 5 | 3000 | 84 | 3300 |
| AS15A-48S09RC | 36-72 | 20 | 367 | 9 | 1666 | 85 | 1000 |
| AS15A-48S12RC | 36-72 | 20 | 363 | 12 | 1250 | 86 | 1000 |
| AS15A-48S15RC | 36-72 | 20 | 359 | 15 | 1000 | 87 | 680 |
| AS15A-48S18RC | 36-72 | 20 | 359 | 18 | 833 | 87 | 470 |
| AS15A-48S24RC | 36-72 | 20 | 359 | 24 | 625 | 87 | 470 |
| AS15A-48D05RC | 36-72 | 20 | 372 | ±5 | ±1500 | 84 | ±1000 |
| AS15A-48D09RC | 36-72 | 20 | 367 | ±9 | ±833 | 85 | ±470 |
| AS15A-48D12RC | 36-72 | 20 | 363 | ±12 | ±625 | 86 | ±470 |
| AS15A-48D15RC | 36-72 | 20 | 359 | ±15 | ±500 | 87 | ±330 |
| AS15A-48D18RC | 36-72 | 20 | 359 | ±18 | ±416 | 87 | ±220 |
| AS15A-48D24RC | 36-72 | 20 | 359 | ±24 | ±312 | 87 | ±220 |

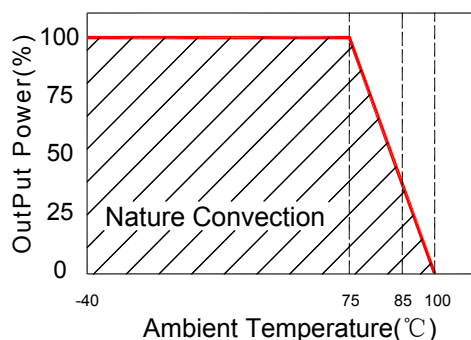
Wide Input Voltage Range 15 Watt Dc-Dc Converter

| Input Specifications | | | | | |
|----------------------|------------|-----|-----|-----|-------|
| Parameters | Conditions | Min | Typ | Max | Units |
| Voltage Types | | | | 2:1 | |
| Filter | Pi TYPE | | | | |

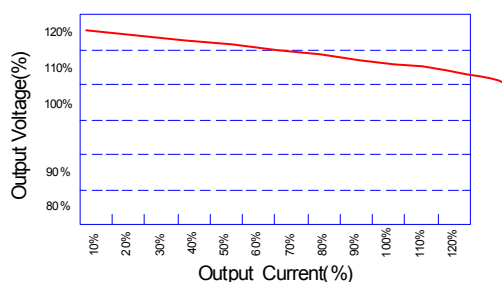
| Output Specifications | | | | | |
|---------------------------------|-------------------------|-----|-----|------|-------|
| Parameters | Conditions | Min | Typ | Max | Units |
| Voltage Tolerance | | | | ±2 | % |
| Short Circuit Protection | Continuous | | | | |
| Line Regulation | | | | ±0.5 | % |
| Load Regulation | Single(25% To 100% F.L) | | | ±1.0 | % |
| Load Regulation | Dual(25% To 100% F.L) | | | ±2.0 | % |
| 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 | | | 300 | | KHz |
| Operating Temperature | | -40 | | 100 | °C |
| Humidity | Non Condensing | | | 95 | % |
| Cooling | Free air Convection | | | | |
| Case material | Nickel Coated With Non-Conductive Base or Black Coated Copper With Non-Conductive Base | | | | |
| Weight | | | 36.5 | | g |
| Dimensions | | 50.8x25.4x10.2 | | | mm |
| Potting Material | Epoxy (UL94V-0 rated) | | | | |
| Radiated Emissions | EN55022 | CLASS A | | | |
| Radiated Emissions | FCC 47 CFR Part 15SubpartA | CLASS A | | | |

Temperature Derating Graph



Tolerance Envelope Graph



Wide Input Voltage Range 15 Watt Dc-Dc Converter

| Recommended Test Circuit | Part Number |
|---|--|
| <p style="text-align: center;">12V :Cin 100uF,25V 24V & 48V:Cin 10uF,100V</p> | <p>AS15 A - 05 S 05 R C</p> <p>1 2 3 4 5 6 7</p> <p>1:Series 2:Working temperature -40 +100 3:Input Voltage 4:(S) Single (D) Dual Output 5:Output Voltage 6:Case 7:Short Circuit Protection Continuous</p> |
| <p style="text-align: center;">12V :Cin 100uF,25V 24V & 48V:Cin 10uF,100V</p> | |

Suggest adding input external filter(C1,C2,L)to meet conducted emissions (EN55022 class A)

| Markings and dimensions | Packaging | | | | | | | | | |
|--|--|----------|--|--|---|---|---|--------|--------|-------|
| <p style="text-align: center;">UNIT:mm XX.X±0.5 XX.XX±0.25</p> | <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Size(mm)</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>210.00</td> <td>210.00</td> <td>30.00</td> </tr> </tbody> </table> | Size(mm) | | | A | B | C | 210.00 | 210.00 | 30.00 |
| Size(mm) | | | | | | | | | | |
| A | B | C | | | | | | | | |
| 210.00 | 210.00 | 30.00 | | | | | | | | |

| PIN Connection | | | | | |
|----------------|------|------|-------|--------|-------|
| PIN | 1 | 2 | 3 | 4 | 5 |
| SINGLE | +Vin | -Vin | +Vout | NO PIN | -Vout |
| DUAL | +Vin | -Vin | +Vout | COM | -Vout |