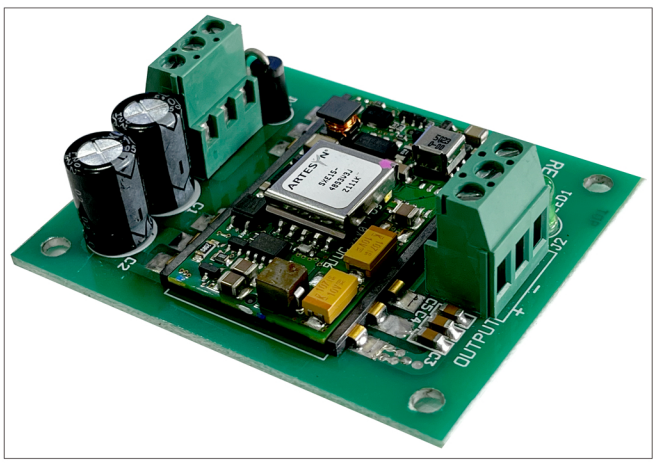
# DC-DC CONVERTERS 10.8-15 W HIGH EFFICIENCY DC-DC CONVERTERS

| OUTPUT POWER (MAX.) | INPUT VOLTAGE | OVP | OUTPUT VOLTAGE | OUTPUT CURRENT (MIN.) | OUTPUT CURRENT (MAX.) | EFFICIENCY (TYP.) | REGULATION | | MODEL NUMBER (8,14,15) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LINE | LOAD | |
| 15 W | 33-75 Vdc | 4 Vdc | 3.3 V | 0 A | 4.5 A | 86% | 0.1% | 0.5% | SXE15-48S3V3J |



- HIGH EFFICIENCY TOPOLOGY, 87% TYPICAL AT 5 V
- WIDE OPERATING TEMPERATURE, UP TO AND EXCEEDING 70 °C (NATURAL CONVECTION)
- 90% TO 110% OUTPUT TRIM
- NO MINIMUM LOAD
- OVERVOLTAGE PROTECTION
- REMOTE ON/OFF CONTROL
- AVAILABLE ROHS COMPLIANT

## OUTPUT SPECIFICATIONS

| | | |
|---|---|---|
| Voltage adjustability | | 90% to 110% |
| Total error band | (See Note 13) | ±4% max. |
| Line regulation<br>Low line to high line | 1.8 V and 2.5 V models<br>3.3 V and 5 V models | 0.5% max.<br>0.1% max. |
| Load regulation<br>Full load to min. load | 1.8 V model<br>2.5 V model<br>3.3 V and 5 V models | 2.0% max.<br>1.5% max.<br>0.5% max. |
| Minimum load | (See Note 12) | 0% |
| Overshoot<br>At turn-on and turn-off | 1.8 V and 2.5 V models<br>3.3 V and 5 V models | 4% max.<br>None |
| Undershoot | | None |
| Ripple and noise<br>(See Note 1)<br>5 Hz to 20 MHz | 1.8 V and 2.5 V models<br><br>3.3 V and 5 V models | 40 mV pk-pk<br>14 mV rms<br>70 mV pk-p<br>20 mV rms |
| Transient response<br>(See Note 2)<br>Typical deviation | 1.8 V and 2.5 V models<br>3.3 V and 5 V models | 150 mV<br>100 mV<br>400 µs recovery to within total error band |

## INPUT SPECIFICATIONS

| | | |
|---|---|---|
| Input voltage range | 48 Vin nominal | 33-75 Vdc |
| Input current | No load<br>Remote OFF | 35 mA max.<br>25 mA max. |
| Input current (max.) | (See Note 4) | 0.55 A max. @ Io max. and Vin = 33-75 Vdc |
| Input reflected ripple | (See Note 6) | 5 mA (pk-pk) typ. |
| Active high remote ON/OFF<br>Logic compatibility<br>ON<br>OFF | | (See Note 8)<br>Open collector ref to -input<br>Open circuit or >2 Vdc<br><1.2 Vdc |
| Undervoltage lockout | Power up<br>Power down | 33 V (typ.)<br>30 V (typ.) |
| Start-up time<br>(See Note 7) | Power up<br>Remote ON/OFF | 1.5 ms (typ.)<br>2.5 ms (typ.) |

**International Safety Standard Approvals**

c UL us UL/cUL 1950 3rd edition. File No. E135734

TÜV TÜV Rheinland. File No. 10401-3336-35841. Licence No. 40004290

## EMC CHARACTERISTICS

| | | |
|---|---|---|
| Conducted emissions | EN55022 (See Note 3)<br>EN55022 (See Note 3) | Level A<br>Level B |
| Radiated emissions | EN55022 (See Longform Datasheet) | Level B |
| Immunity: | | |
| ESD air | EN61000-4-2 | 8 kV, 15 kV |
| ESD contact | EN61000-4-2 | 6 kV, 8 kV |
| Radiated field enclosure | EN61000-4-3 | 10 V/m |
| Conducted (dc power) | EN61000-4-6 | 10 V |
| Conducted (signal) | EN61000-4-6 | 10 V (See Note 11) |
| Input transients | ETS 300 132-2, ETR 283 | |

## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| Efficiency | | See table |
| Operational insulation | Input/output | 1500 Vdc |
| Switching frequency | Fixed | 265 kHz typ. |
| Approvals and standards | (See Notes 5) | UL/cUL1950, EN60950<br>TÜV Rheinland |
| Material flammability | | UL94V-0 |
| Weight | | 12 g (0.42 oz) |
| Coplanarity | | 150 µm |
| MTBF<br>Representative model: | MIL-HDBK-217F<br>48S05J @ 48 Vin, 40 °C, 100% load ground benign<br>BELLCORE 332 | 1,790,000 hours<br><br>>1,500,000 hours |

## ENVIRONMENTAL SPECIFICATIONS

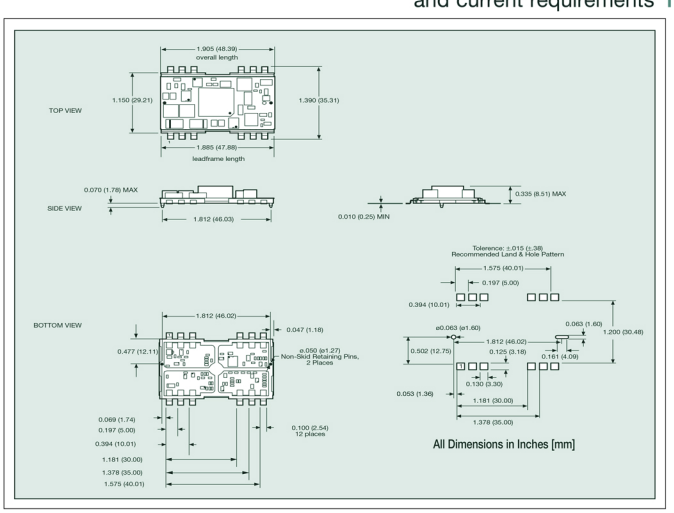
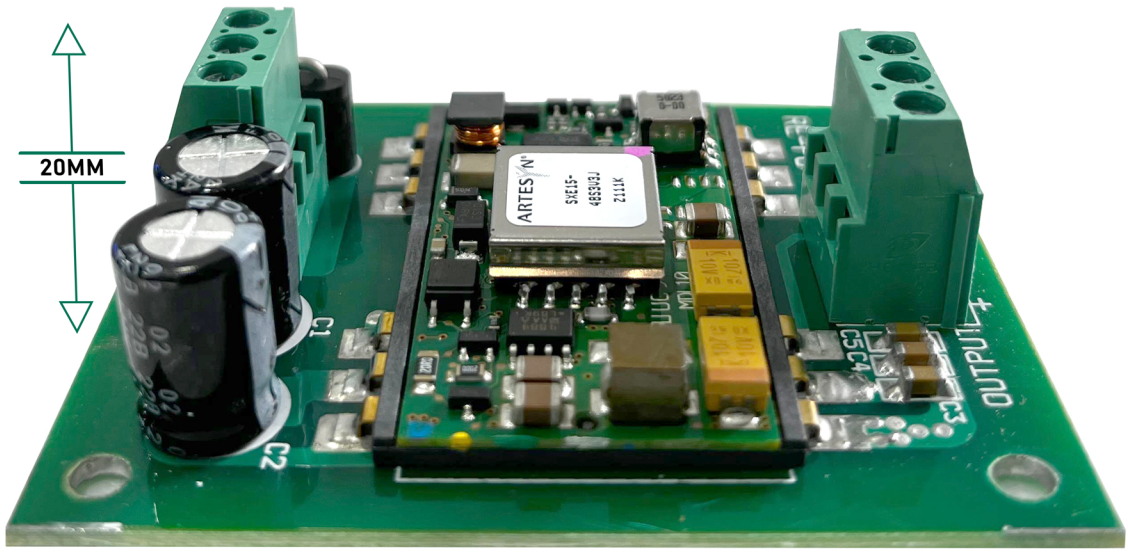
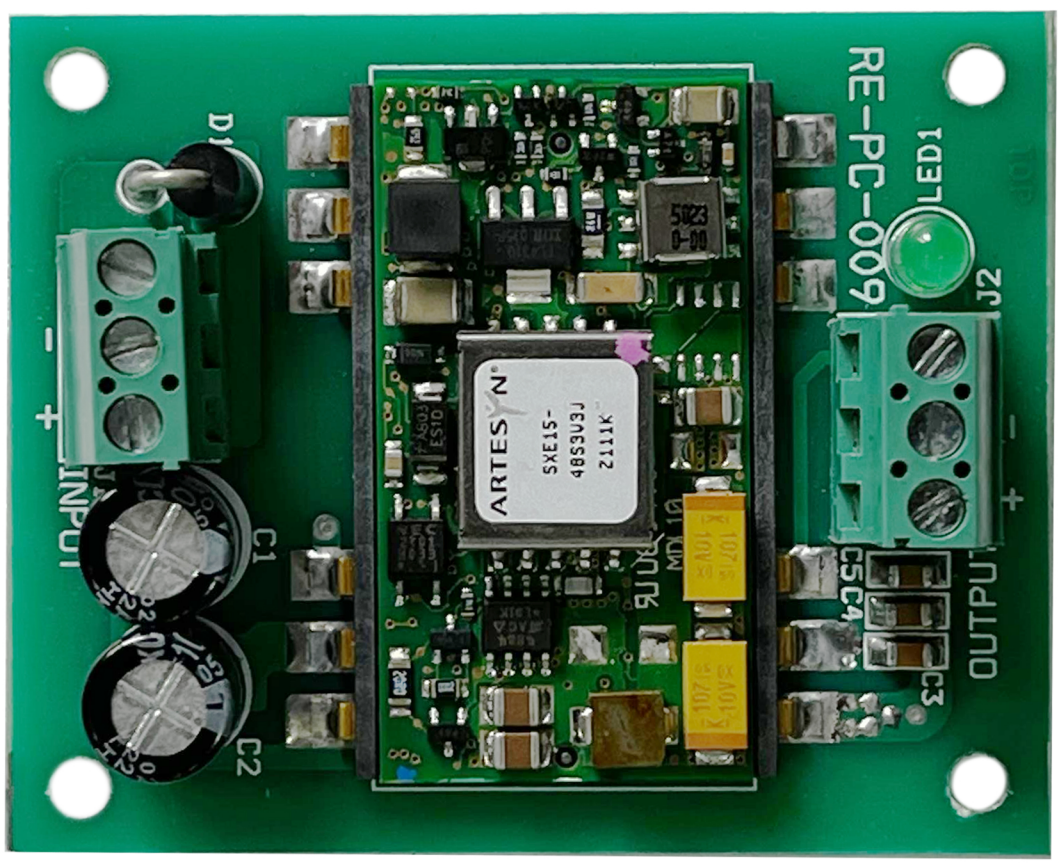
| | | |
|---|---|---|
| Thermal performance<br>(See Note 9) | Operating ambient temp. (3.3 V and 5 V)<br>Operating ambient temp. (1.8 V, 2.5 V and 12 V)<br>Non-operating (All models) | -40 °C to +65 °C<br>-40 °C to +70 °C<br>-40 °C to +120 °C |

## PROTECTION

| | |
|---|---|
| Short circuit | Continuous |
| Overvoltage | Latching clamp |

## TELECOM SPECIFICATION

| | |
|---|---|
| Central office interface A | ETS300-132-2, input voltage and current requirements |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