

# EC1SC

## 20 WATT 4:1 INPUT RANGE DC-DC CONVERTERS



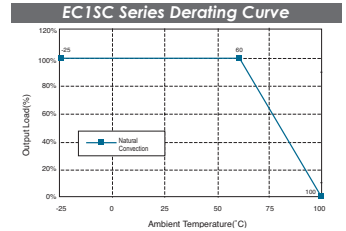
### Features

- 20W Isolated Output
- 2" x 1.6" Case
- 4 : 1 Input Range
- Regulated Outputs
- Efficiency to 84%
- Pi Input Filter
- Continuous Short Circuit Protection
- Meets EN55022 Class A, Conducted
- Remote On/Off Control

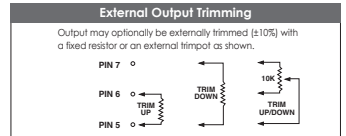
| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT |           | % EFF. | SIZE      |
|--------------|---------------|----------------|----------------|---------------|-----------|--------|-----------|
|              |               |                |                | NO LOAD       | FULL LOAD |        |           |
| EC1SC01      | 9-36VDC       | 5 VDC          | 4000mA         | 15 mA         | 1029 mA   | 81     | 2" x 1.6" |
| EC1SC02      |               | 12 VDC         | 1670mA         | 15 mA         | 1006 mA   | 83     |           |
| EC1SC03      |               | 15 VDC         | 1330mA         | 15 mA         | 1004 mA   | 83     |           |
| EC1SC04      |               | ±12 VDC        | ±833mA         | 20 mA         | 1004 mA   | 83     |           |
| EC1SC05      |               | ±15 VDC        | ±666mA         | 20 mA         | 1004 mA   | 83     |           |
| EC1SC06      |               | ±5 VDC         | ±2000mA        | 20 mA         | 1004 mA   | 83     |           |
| EC1SC07      |               | 3.3 VDC        | 4000mA         | 15 mA         | 705 mA    | 78     |           |
| EC1SC11      | 18-72VDC      | 5 VDC          | 4000mA         | 10 mA         | 508 mA    | 82     | 2" x 1.6" |
| EC1SC12      |               | 12 VDC         | 1670mA         | 10 mA         | 497 mA    | 84     |           |
| EC1SC13      |               | 15 VDC         | 1330mA         | 10 mA         | 496 mA    | 84     |           |
| EC1SC14      |               | ±12 VDC        | ±833mA         | 15 mA         | 496 mA    | 84     |           |
| EC1SC15      |               | ±15 VDC        | ±666mA         | 15 mA         | 496 mA    | 84     |           |
| EC1SC16      |               | ±5 VDC         | ±2000mA        | 15 mA         | 496 mA    | 84     |           |
| EC1SC17      |               | 3.3 VDC        | 4000mA         | 10 mA         | 353 mA    | 78     |           |

NOTE: 1. Nominal Input Voltage 24 or 48 VDC

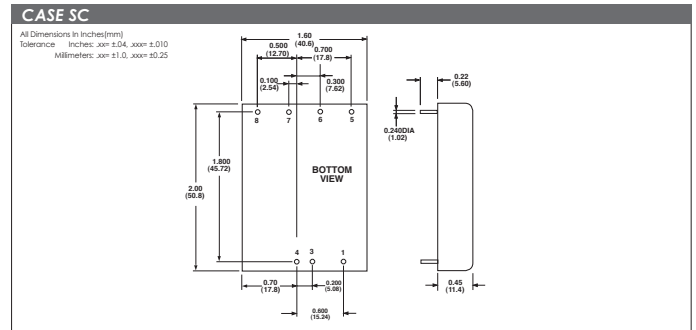
| Specifications                                 |   |
|--|---|
| <b>INPUT SPECIFICATIONS:</b>                   |   |
| Input Voltage Range.....                       | 24V.....9.36V                                       |
| .....  | 48V.....18.72V                                      |
| Input Filter.....                              | 48V.....PI Type                                     |
| Positive Logic Remote ON/OFF Control.....      | See Note3   |
| <b>OUTPUT SPECIFICATIONS:</b>                  |   |
| Voltage Accuracy Single Output.....            | ±1.0% max.  |
| Voltage Accuracy Dual + Output.....            | ±1.0% max.  |
| Voltage Accuracy Dual - Output.....            | ±2.0% max.  |
| Voltage Balance, Dual Output at Full Load..... | ±1.0% max.  |
| Transient Response                             |   |
| Single 25% Step Load Change.....               | <500µ sec.  |
| Dual -P/-L/2L ±1% Error Band.....              | <500µ sec.  |
| External Trim Adj. Range.....                  | ±10%  |
| Ripple & Noise, 20MHz BW.....                  | 20mV RMS, max.                                      |
| .....  | 75mV p-p, max.                                      |
| Temperature Coefficient.....                   | ±0.02%/°C max.                                      |
| Short Circuit Protection.....                  | Continuous  |
| Line Regulation, Single / Dual Output.....     | ±0.5% max.  |
| Load Regulation, Single / Dual Output.....     | ±0.5% max.  |
| <b>GENERAL SPECIFICATIONS:</b>                 |   |
| Efficiency.....                                | See Table   |
| Isolation Voltage.....                         | 1500 VDC min.                                       |
| Isolation Resistance.....                      | 10 <sup>9</sup> Ohms min.                           |
| Switching Frequency.....                       | 300KHz Typ.   |
| Operating Ambient Temperature Range.....       | -25°C to +71°C                                      |
| Derating Above 60°C.....                       | Linearly to Zero Power at 100°C                     |
| Case Temperature.....                          | 100°C max.  |
| Cooling.....                                   | Natural Convection                                  |
| Storage Temperature Range.....                 | -55°C to +105°C                                     |
| EMI / RFI.....                                 | Six Sided Continuous Shield                         |
| Dimensions.....                                | 2.00 x 1.60 x 0.45 inches<br>(50.8 x 40.6 x 11.4mm) |
| Case Material.....                             | Black Coated Copper with Non-Conductive Base        |
| Weight.....                                    | 0.53g   |



**NOTE:**  
 1. Measured from High Line to Low Line.  
 2. Measured from Full Load to 1/4 Load.  
 3. Remote On/Off Control: Logic Compatibility.....CMOS or Open Collector TTL. EC-ON.....+5.5VDC or Open Circuit. EC-OFF.....Referenced to Input Minus. Control Common.....  
 4. Maximum case temperature under any operating condition should not exceed 100°C.



| PIN CONNECTION |                |                |
|----------------|----------------|----------------|
| Pin            | Single Output  | Dual Output    |
| 1              | On/Off Control | On/Off Control |
| 3              | -V Input       | -V Input       |
| 4              | +V Input       | +V Input       |
| 5              | Trim           | Trim           |
| 6              | -V Output      | -V Output      |
| 7              | +V Output      | Common         |
| 8              | No Pin         | +V Output      |



All Specifications Typical At Nominal Line, Full Load and 25°C Unless Otherwise Noted.