

# SQV SERIES

## 10~12W DC/DC CONVERTERS Single Output



H8.5×W30×L47 (mm)

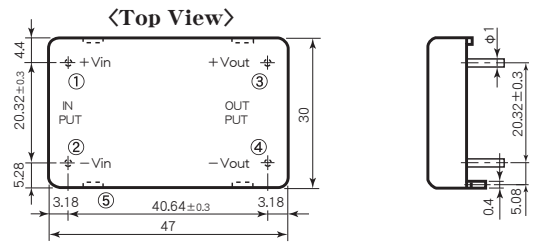
### Features

- High Efficiency 81~87%
- 8.5mm in Height
- Compact, Light Weight
- Built-in Input Filter
- Wide Input Voltage Range
- Input-Output Isolation
- Low No Load Current
- 5 Sided Metal Shielding
- High Reliability
- Operating Ambient Temperature -40°C~+85°C
- Max. Case Temperature +100°C
- Conformity to RoHS Directive
- Not built-in aluminum and tantalum electrolytic capacitor
- 高効率 81~87%
- 高さ8.5mm
- 小形、軽量
- 入力フィルタ内蔵
- 広範囲な入力電圧
- 入出力間絶縁
- 無負荷電流が少ない
- 5面メタルシールド
- 高信頼性
- 動作周囲温度 -40°C~+85°C
- 最大ケース温度 +100°C
- RoHS指令対応
- アルミ電解コンデンサ及びタンタルコンデンサ不使用

### General Characteristics

- Input Voltage, Range (at Ta : 25°C, Full Load, Nominal Vin) DC 5, 12, 24, 48V (See Table 1)
- Output Voltage, Current See Table 1
- Output Voltage Accuracy ±2% (12, 15, 24, 28V Vout) ±3% (2.5, 3.3, 5, 6V Vout)
- Efficiency See Table 1
- Line Regulation 0.3% max. (at Vin Range)
- Load Regulation ±0.5% max. (0~100% Load)
- Reflected Input Ripple, Noise (2% Vin)Vp-p max.
- Output Ripple 20mVp-p max.
- Output Noise 80mVp-p max. (0~20MHz) 150mVp-p max. (0~100MHz)
- Short Circuit Protection Built-in, Auto-restart (See Fig. 2)
- Temperature Coefficient 0.02%/°C max.
- Operating Ambient Temp. -40°C~+85°C (See Fig. 1) -30°C~+85°C (5V Vin)
- Max. Case Temperature +100°C
- Storage Temperature -40°C~+100°C
- Isolation Voltage AC500V one minute (Input-Output-Case)
- Isolation Impedance 100MΩ min. (at DC1000V) (Input-Output-Case)
- Weight 30g max.
- Humidity 20~95% RH
- Shock 490m/s<sup>2</sup> (11msec 3directions)
- Vibration 10~55Hz 98m/s<sup>2</sup> (30minutes 3directions)
- Surface Structure 5 Sided Steel Case
- Soldering Conditions Soldering DIP 260°C, for 15 seconds max. Soldering iron 360°C, for 5 seconds max.
- MTBF 1,000,000H (Ta : 25°C, 80%Load, Nominal Vin)
- Warranty 5 years

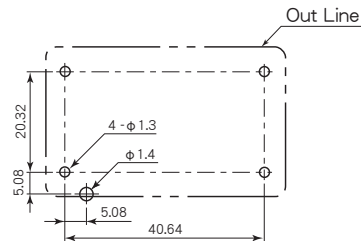
### Pin Outs & Dimensions (±0.5mm)



#### Pin Outs

|   |              |
|---|--------------|
| ① | +Vdc in      |
| ② | -Vdc in      |
| ③ | +Vdc out     |
| ④ | -Vdc out     |
| ⑤ | Frame Ground |

### Hole Configurations on PCB (Top View)



### Selection Guide

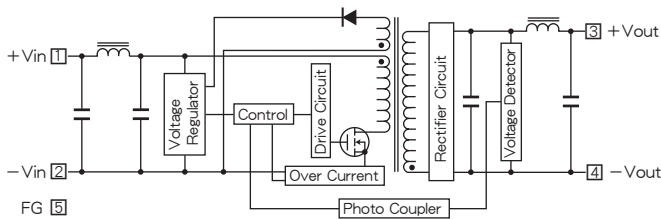
Table 1

| Model Number        | Input Volt. (Range) (V. DC) | Output Voltage (V. DC) | Output Current (mA) | Efficiency (Typical) (%) |
|---------------------|-----------------------------|------------------------|---------------------|--------------------------|
| SQV 5 - 2.5 S 3300  | 5 (4.5~9)                   | 2.5                    | 3300                | 81                       |
| SQV 5 - 3.3 S 3000  |                             | 3.3                    | 3000                | 81                       |
| SQV 5 - 5 S 2000    |                             | 5                      | 2000                | 82                       |
| SQV 5 - 6 S 1600    |                             | 6                      | 1600                | 82                       |
| SQV 5 - 12 S 800    |                             | 12                     | 800                 | 85                       |
| SQV 5 - 15 S 640    |                             | 15                     | 640                 | 83                       |
| SQV 5 - 24 S 400    |                             | 24                     | 400                 | 83                       |
| SQV 5 - 28 S 350    |                             | 28                     | 350                 | 83                       |
| SQV 12 - 2.5 S 3300 |                             | 12 (8~18)              | 2.5                 | 3300                     |
| SQV 12 - 3.3 S 3000 | 3.3                         |                        | 3000                | 83                       |
| SQV 12 - 5 S 2200   | 5                           |                        | 2200                | 85                       |
| SQV 12 - 6 S 2000   | 6                           |                        | 2000                | 85                       |
| SQV 12 - 12 S 1000  | 12                          |                        | 1000                | 87                       |
| SQV 12 - 15 S 800   | 15                          |                        | 800                 | 87                       |
| SQV 12 - 24 S 500   | 24                          |                        | 500                 | 87                       |
| SQV 12 - 28 S 400   | 28                          |                        | 400                 | 87                       |
| SQV 24 - 2.5 S 3300 | 24 (16~36)                  |                        | 2.5                 | 3300                     |
| SQV 24 - 3.3 S 3000 |                             | 3.3                    | 3000                | 83                       |
| SQV 24 - 5 S 2200   |                             | 5                      | 2200                | 85                       |
| SQV 24 - 6 S 2000   |                             | 6                      | 2000                | 85                       |
| SQV 24 - 12 S 1000  |                             | 12                     | 1000                | 87                       |
| SQV 24 - 15 S 800   |                             | 15                     | 800                 | 87                       |
| SQV 24 - 24 S 500   |                             | 24                     | 500                 | 87                       |
| SQV 24 - 28 S 400   |                             | 28                     | 400                 | 87                       |
| SQV 48 - 2.5 S 3300 |                             | 48 (32~72)             | 2.5                 | 3300                     |
| SQV 48 - 3.3 S 3000 | 3.3                         |                        | 3000                | 83                       |
| SQV 48 - 5 S 2200   | 5                           |                        | 2200                | 85                       |
| SQV 48 - 6 S 2000   | 6                           |                        | 2000                | 85                       |
| SQV 48 - 12 S 1000  | 12                          |                        | 1000                | 87                       |
| SQV 48 - 15 S 800   | 15                          |                        | 800                 | 87                       |
| SQV 48 - 24 S 500   | 24                          |                        | 500                 | 87                       |
| SQV 48 - 28 S 400   | 28                          |                        | 400                 | 87                       |

\* 上記仕様以外にも対応可能ですのでお問い合わせ下さい。  
Please consult with us about other specification.

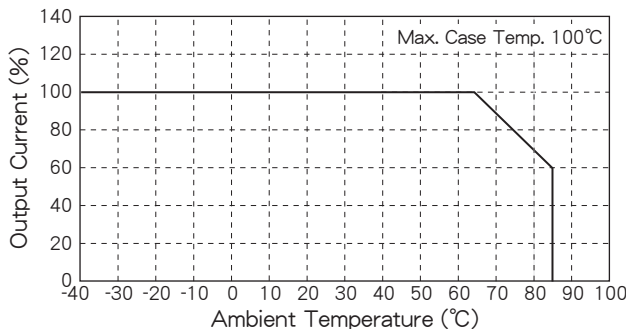
# SQV SERIES DATA SHEET

## Block Diagram

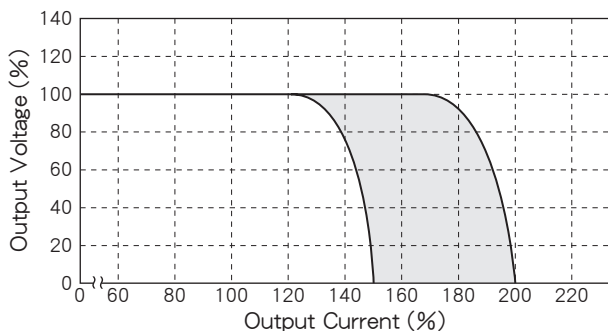


## Characteristic Curves

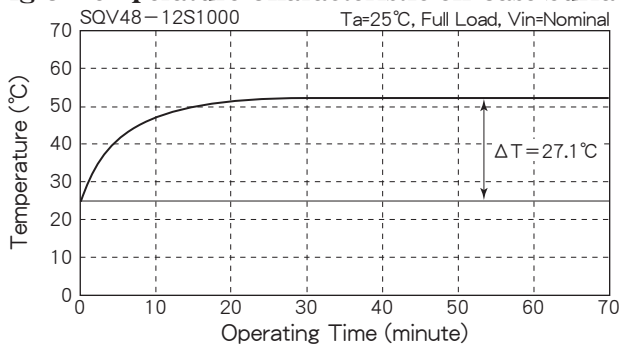
**Fig 1 Derating Curve**



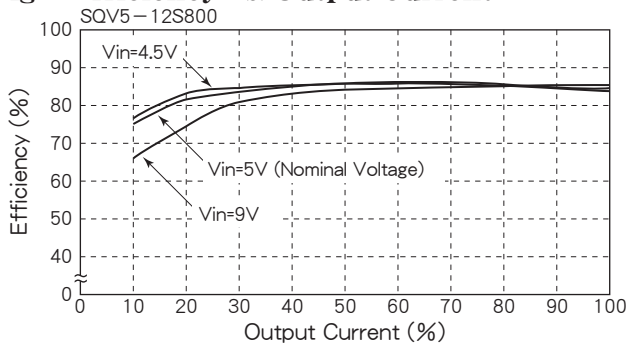
**Fig 2 Short Circuit Operating Area**



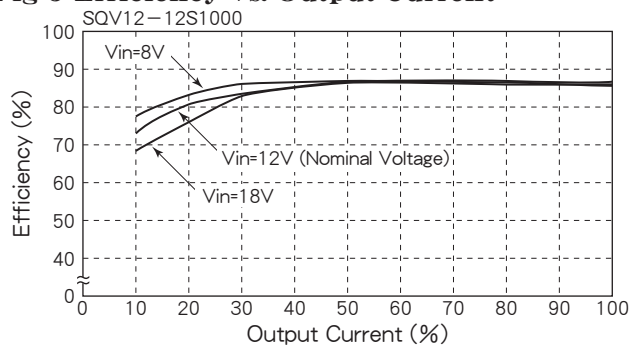
**Fig 3 Temperature Characteristic on Case Surface**



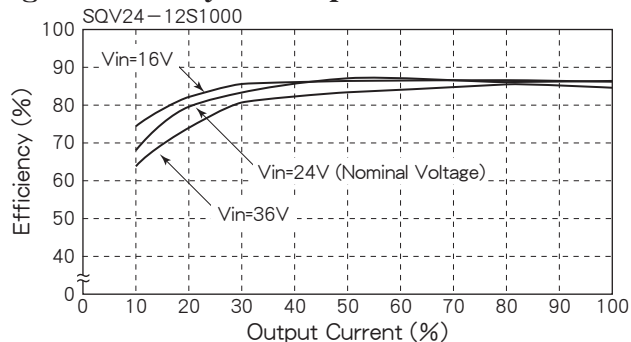
**Fig 4 Efficiency vs. Output Current**



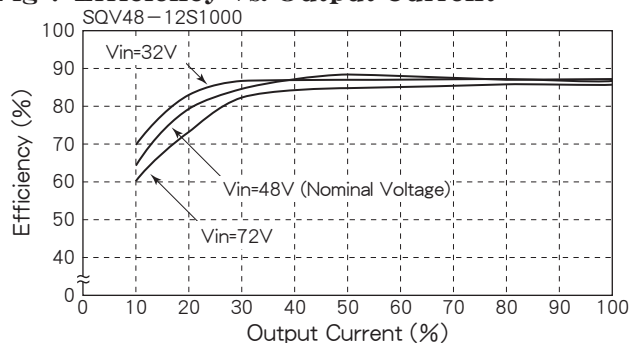
**Fig 5 Efficiency vs. Output Current**



**Fig 6 Efficiency vs. Output Current**



**Fig 7 Efficiency vs. Output Current**



**Fig 8 Efficiency vs. Output Current**

