# Features

# Regulated Converter

- 4:1 wide input range
- 3kVAC reinforced insulation for 110Vin
  2.25kVDC basic insulation for 24Vin & 48Vin
- Efficiency up to 91%
- No minimum load required
- UL60950-1, EN50155 & IEC/EN60950-1 certified

RECOM
DC/DC Converter

# RP75H-RW

## 75 Watt Half Brick Single Output

3 YEAR warranty

## Description

The half-brick RP75H series DC/DC converters are designed for railway rolling stock and high voltage battery applications. Each series has three 4:1 input voltage range options to cover all input voltages from 9VDC up to 160VDC with isolated and regulated 5V to 48VDC outputs. The converters have high efficiencies and metal baseplates to permit a wide operating temperature range from -40°C to +85°C (when mounted on a suitable heatsink). The case is fitted with threaded inserts to allow secure mounting to the PCB or bulkhead for use in high shock and vibration environments. The converters are EN50155, UL60950 and IEC/EN60950 certified. The RP75H-RW series have a three year warranty.

## Selection Guide

| Part Number | Input Voltage Range [VDC] | Output Voltage [VDC] | Output Current [mA] | Input[1] Current [mA] | Output Power [W] | Efficiency[1] typ. [%] | Max. Capacitive Load [µF] |
|---|---|---|---|---|---|---|---|
| RP75H-2405SRW | 9-36 | 5 | 15000 | 3551 | 75 | 88 | 30000 |
| RP75H-2412SRW | 9-36 | 12 | 6300 | 3579 | 75 | 88 | 5250 |
| RP75H-2415SRW | 9-36 | 15 | 5000 | 3551 | 75 | 88 | 3330 |
| RP75H-2424SRW | 9-36 | 24 | 3200 | 3678 | 76 | 87 | 1330 |
| RP75H-2448SRW | 9-36 | 48 | 1600 | 3678 | 77 | 87 | 330 |
| RP75H-4805SRW | 18-75 | 5 | 15000 | 1736 | 75 | 90 | 30000 |
| RP75H-4812SRW | 18-75 | 12 | 6300 | 1750 | 75 | 90 | 5250 |
| RP75H-4815SRW | 18-75 | 15 | 5000 | 1755 | 75 | 89 | 3330 |
| RP75H-4824SRW | 18-75 | 24 | 3200 | 1818 | 76 | 88 | 1330 |
| RP75H-4848SRW | 18-75 | 48 | 1600 | 1839 | 77 | 87 | 330 |
| RP75H-11005SRW | 43-160 | 5 | 15000 | 749 | 75 | 91 | 30000 |
| RP75H-11012SRW | 43-160 | 12 | 6300 | 755 | 75 | 91 | 5250 |
| RP75H-11015SRW | 43-160 | 15 | 5000 | 749 | 75 | 91 | 3330 |
| RP75H-11024SRW | 43-160 | 24 | 3200 | 775 | 76 | 90 | 1330 |
| RP75H-11048SRW | 43-160 | 48 | 1600 | 775 | 77 | 90 | 330 |

**Notes:**

Note1: Efficiency is tested by nominal Vin, full load and at 25°C

c UL us E196683

EN50155 certified
IEC/EN60950-1 certified
UL60950-1 certified

## Model Numbering

RP75H-___ ___SRW/___ ___

- Input Voltage
- Output Voltage
- Single
- Package[3]
- CTRL Logic[2]

**Ordering Examples**

RP75H-2405SRW/N = 24V Input, 5V Output, Single, Neg. CTRL function
RP75H-11012SRW/P = 110V Input, 12V Output, Single, Pos. CTRL function
RP75H-11012SRW/P-HC = 110V Input, 12V Output, Single, Pos. CTRL function, with premounted Heat-sink

**Notes:**

Note2: standard part is with suffix "P" for positive logic (1=ON, 0=OFF)
or add suffix "N" instead for negative logic (0=ON, 1=OFF)
Note3: add suffix "-HC" for premounted Heat-sink
(compatible with all other suffixes)

REF DESIGN available

www.recom-power.com/eval-ref-boards

SURGE PROTECTOR available

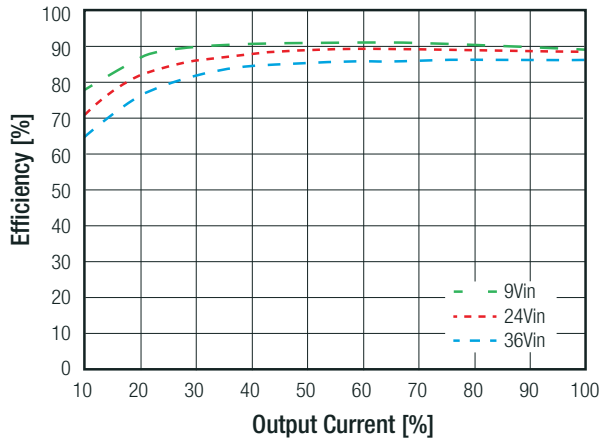
https://www.recom-power.com/pdf/Powerline_DC-DC/RSPxxx-168.pdf

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

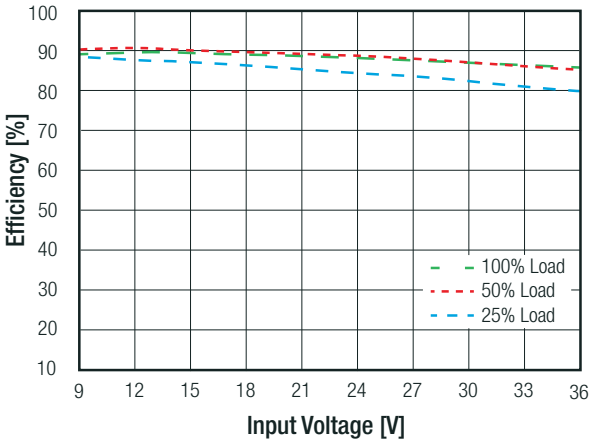
| BASIC CHARACTERISTICS | | | | | |
|---|---|---|---|---|---|
| **Parameter** | **Condition** | | **Min.** | **Typ.** | **Max.** |
| Internal Input Filter | | | | | Pi-Type |
| Input Voltage Range | nom Vin = 24V<br>nom Vin = 48V<br>nom Vin = 110V | | 9VDC<br>18VDC<br>43VDC | 24VDC<br>48VDC<br>110VDC | 36VDC<br>75VDC<br>160VDC |
| Input Surge Voltage | Vin = 24V, 1s max.<br>Vin = 48V, 1s max.<br>Vin = 110V, 1s max. | | | | 50VDC<br>100VDC<br>185VDC |
| Quiescent Current | Vin = 24V<br>Vin = 48V<br>Vin = 110V | | 85mA<br>50mA | <br><br>10mA | 185mA<br>90mA |
| Start-up time | Power up | Vin = 110V<br>Vin = 24V, Vin = 48V | | 60ms<br>25ms | |
| | Remote ON/OFF | Vin = 110V<br>Vin = 24V, Vin = 48V | | 60ms<br>25ms | |
| Internal Operating Frequency | | | 270kHz | 300kHz | 330kHz |
| Minimum Load | | | 0% | | |
| Ripple and Noise | measured by 20MHz BW<br>with a 4.7µF/50V X7R MLCC<br>with a 4.7µF/50V X7R MLCC<br>with a 4.7µF/50V X7R MLCC<br>with a 2.2µF/100V X7R MLCC | <br>5 Vout<br>12, 15Vout<br>24Vout<br>48Vout | | <br>75mVp-p<br>100mVp-p<br>200mVp-p<br>300mVp-p | <br>100mVp-p<br>125mVp-p<br>250mVp-p<br>350mVp-p |
| Under Voltage Lockout (UVLO) | Vin = 24V | DC-DC ON<br>DC-DC OFF | | <br>7.5VDC | 9VDC |
| | Vin = 48V | DC-DC ON<br>DC-DC OFF | | <br>16VDC | 18VDC |
| | Vin = 110V | DC-DC ON<br>DC-DC OFF | | <br>36VDC | 43VDC |
| ON/OFF Control | Positive Logic | DC-DC ON<br>DC-DC OFF | | | Open or 3.0V < Vr < 12V<br>Short or 0V < Vr < 1.2V |
| | Negative Logic | DC-DC ON<br>DC-DC OFF | | | Short or 0V < Vr < 1.2V<br>Open or 3.0V < Vr < 12V |
| Input Current of CTRL pin | | | -0.5mA | | 1mA |
| Standby Current | | | | 3mA | |
| Output Trim | | | -20% | | +10% |
| Remote Sense | % of set Vout | | | | 10% |

**RP75H-2405SRW**

Efficiency vs. Output Current




Efficiency vs. Input Voltage

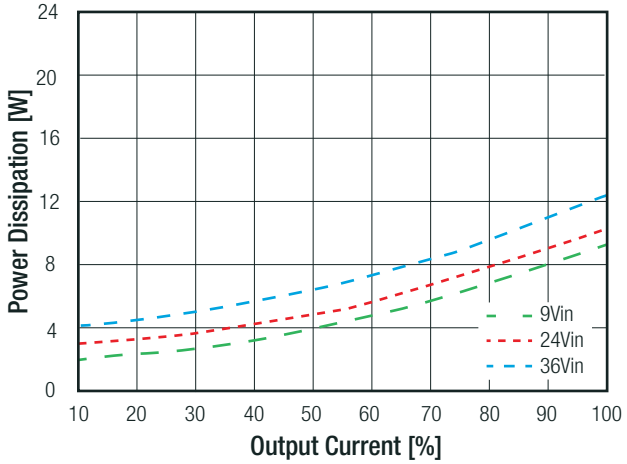



continued on next page

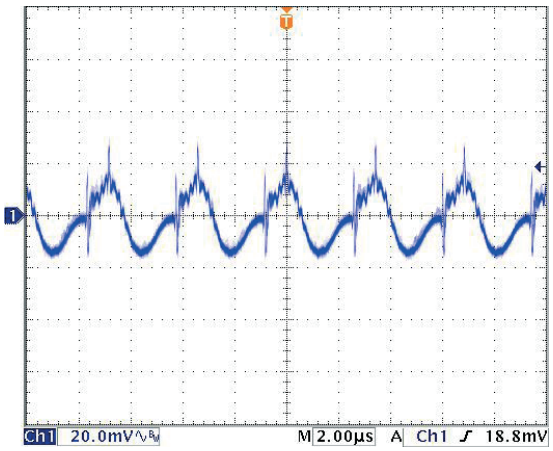
## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

### RP75H-2405SRW

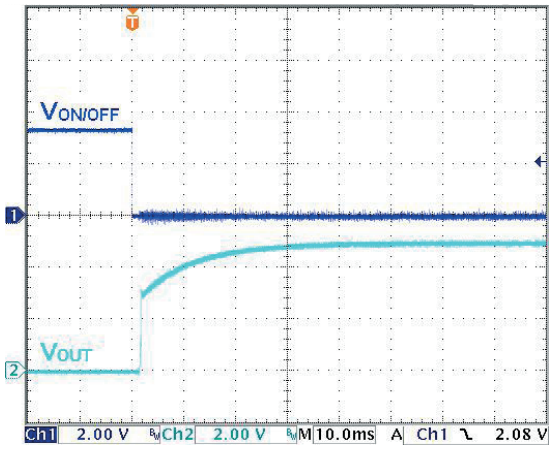
Power Dissipation vs. Output Current



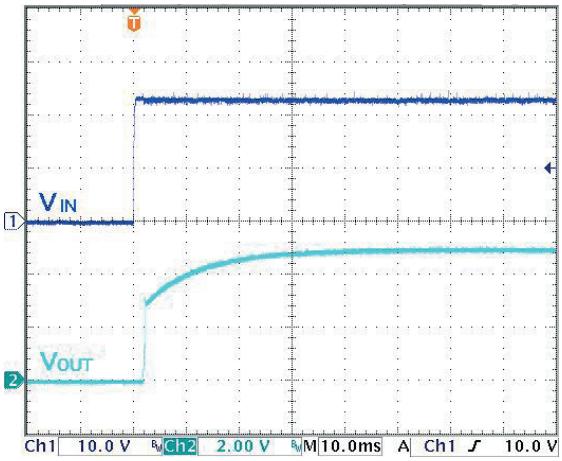

Typical Output Ripple and Noise/full load




ON/OFF Control Start-up Rise Characteristic

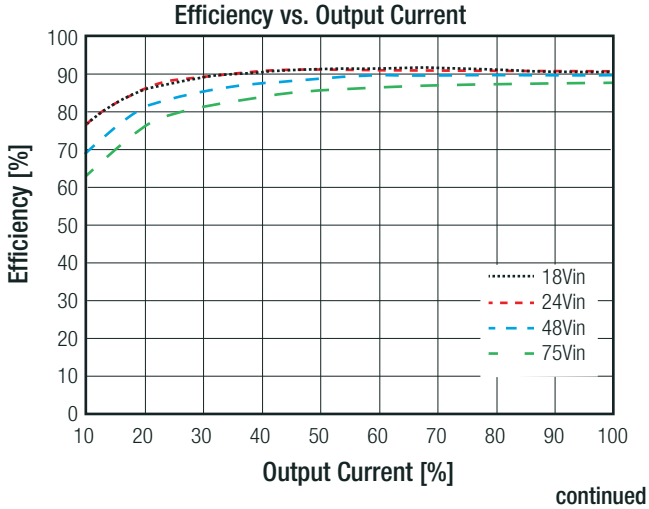



Power up Start-up Characteristic

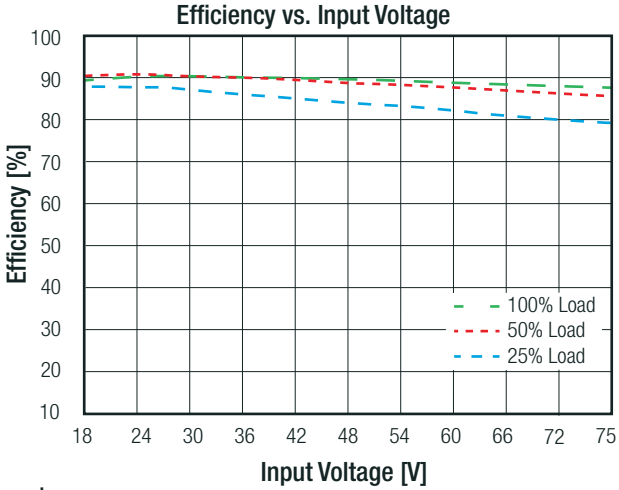



### RP75H-4805SRW

Efficiency vs. Output Current




Efficiency vs. Input Voltage

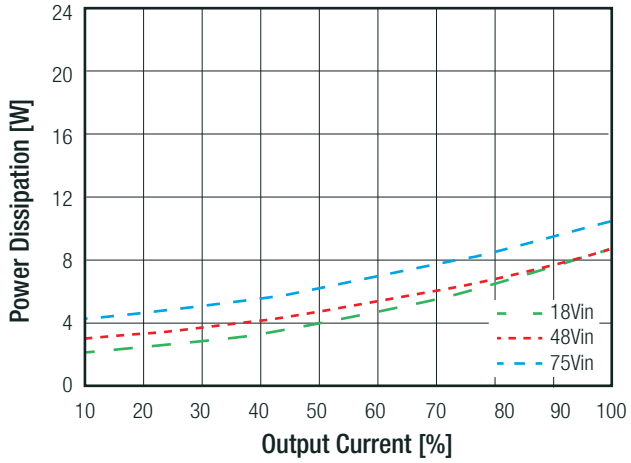



continued on next page

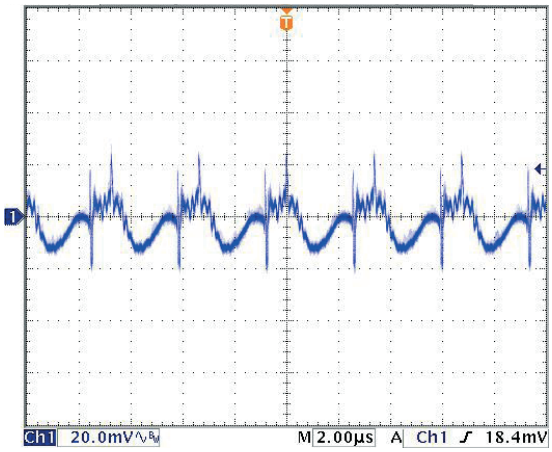
## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

RP75H-4805SRW

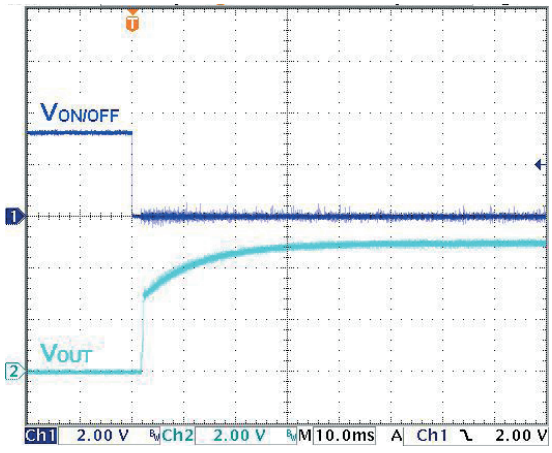
Power Dissipation vs. Output Current



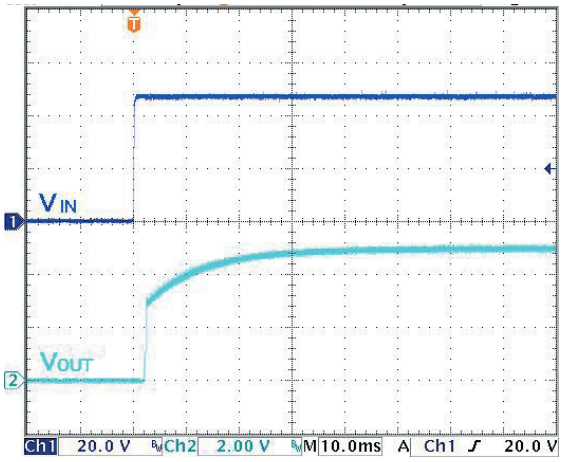

Typical Output Ripple and Noise/full load




ON/OFF Control Start-up Rise Characteristic

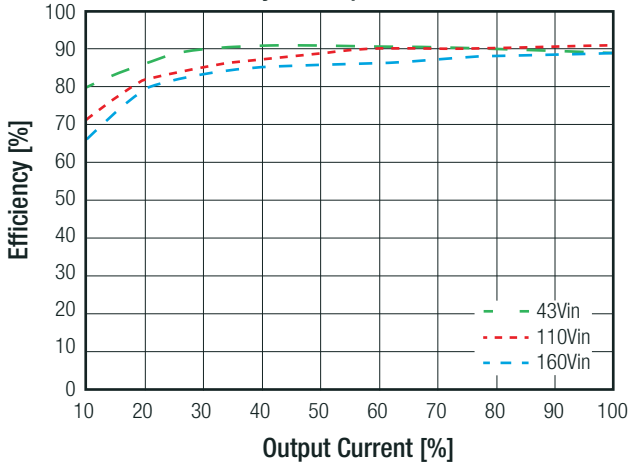



Power up Start-up Characteristic

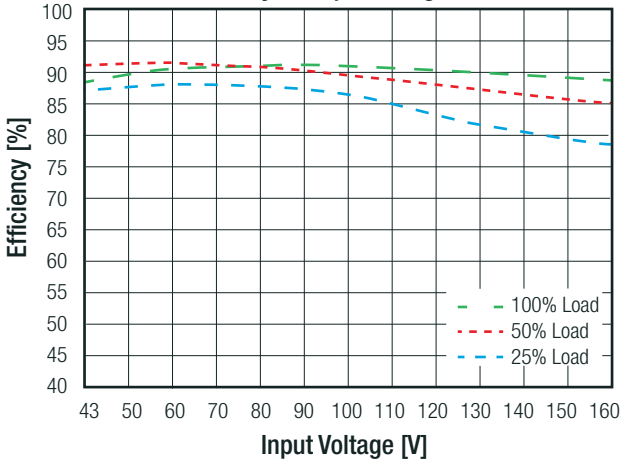



RP75H-11005SRW

Efficiency vs. Output Current




Efficiency vs. Input Voltage

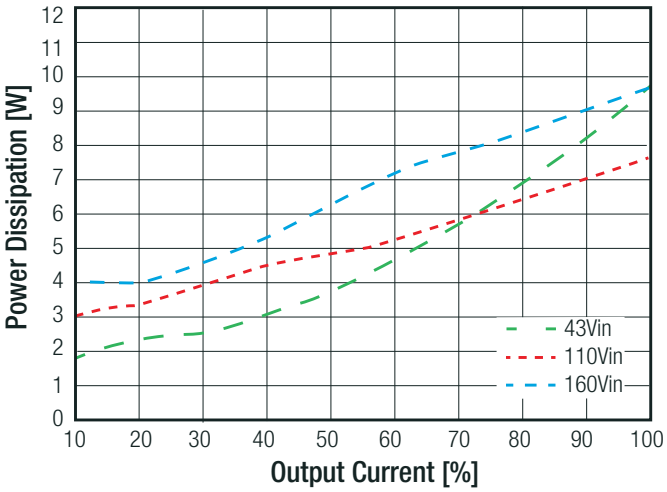



continued on next page

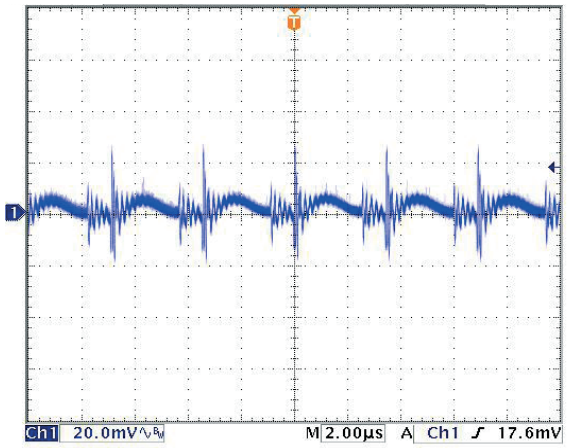
## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

RP75H-11005SRW

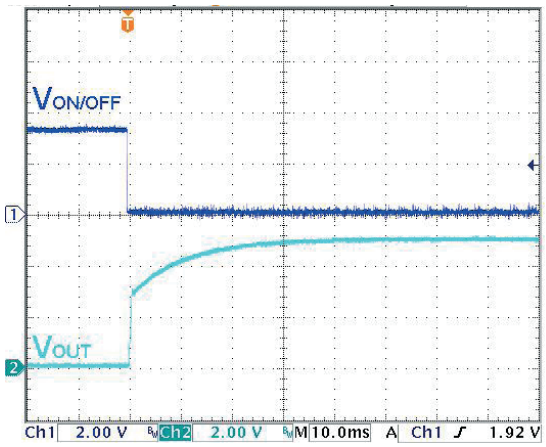
Power Dissipation vs. Output Current



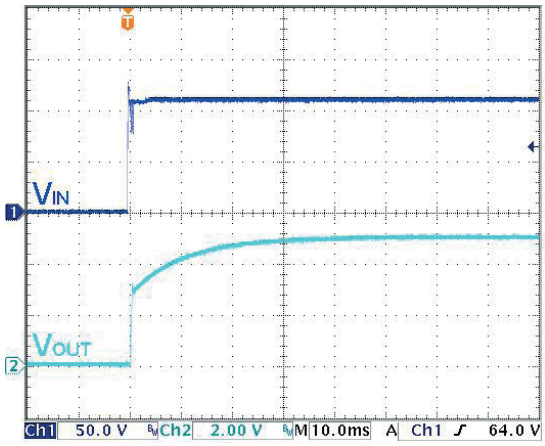

Typical Output Ripple and Noise/full load




ON/OFF Control Start-up Rise Characteristic




Power up Start-up Characteristic

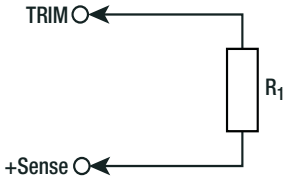



## OUTPUT TRIM

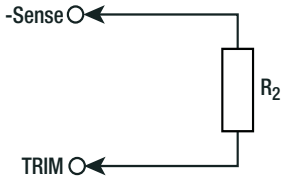
### Output Voltage Trimming

RP75H-RW converters offer the feature of trimming the output voltage over a certain range around the nominal value by using external trim resistors. The values for trim resistors shown in trim tables below are according to standard E96 values; therefore, the specified voltage may slightly vary; they also can be calculated with below shown equation.

TRIM UP




TRIM DOWN



## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

### OUTPUT TRIM

**Trim Calculation**

$$R_1 = \left[ \frac{100*Vout+\Delta Vout * Vout)}{1.225*\Delta Vout} - \frac{(100+2\Delta Vout)}{\Delta Vout} \right] k\Omega$$

$$R_2 = \left[ \frac{100}{\Delta Vout} - 2 \right] k\Omega$$

| | | |
|---|---|---|
| Vout | = | Output Voltage |
| ΔVout | = | Output Voltage Trim in % |
| R1 | = | trim up resistor |
| R2 | = | trim down resistor |

**Practical Example:**

**Trim Up:**

Vout = 5V, ΔVout = 10% (5.5V)

$$R_1 = \left[ \frac{100*Vout+\Delta Vout * Vout)}{1.225*\Delta Vout} - \frac{(100+2\Delta Vout)}{\Delta Vout} \right] k\Omega = \left[ \frac{100*5 +10*5}{1.225*10} - \frac{100+2*10}{10} \right] = 44.89 - 12 = 32.9k\Omega$$

**Trim down:**

Vout = 5V, ΔVout = -10% (4.5V)

$$R_2 = \left[ \frac{100}{\Delta Vout} - 2 \right] k\Omega = \left[ \frac{100}{10} - 2 \right] = 8.06k\Omega$$

**RP75H-xx05SRW**

| Trim up | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vout = | 5.05 | 5.10 | 5.15 | 5.20 | 5.25 | 5.30 | 5.35 | 5.4 | 5.45 | 5.50 | Volts |
| $R_1$ = | 309 | 158 | 105 | 78.7 | 63.4 | 53.6 | 46.4 | 40.2 | 36.5 | 33.2 | KOhms |

**RP75H-xx12SRW**

| Trim up | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vout = | 12.12 | 12.24 | 12.36 | 12.48 | 12.60 | 12.72 | 12.84 | 12.96 | 13.08 | 13.20 | Volts |
| $R_1$ = | 887 | 453 | 301 | 226 | 182 | 154 | 133 | 118 | 105 | 95.3 | KOhms |

**RP75H-xx15SRW**

| Trim up | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vout = | 15.15 | 15.30 | 15.45 | 15.60 | 15.75 | 15.90 | 16.05 | 16.20 | 16.35 | 16.50 | Volts |
| $R_1$ = | 1130 | 576 | 383 | 294 | 237 | 196 | 169 | 150 | 137 | 124 | KOhms |

**RP75H-xx24SRW**

| Trim up | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vout = | 24.24 | 24.48 | 24.72 | 24.96 | 25.20 | 25.44 | 25.68 | 25.92 | 26.16 | 26.40 | Volts |
| $R_1$ = | 1870 | 953 | 634 | 487 | 392 | 324 | 280 | 249 | 226 | 205 | KOhms |

**RP75H-xx48SRW**

| Trim up | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vout = | 48.48 | 48.96 | 49.44 | 49.92 | 50.40 | 50.88 | 51.36 | 51.84 | 52.32 | 52.80 | Volts |
| $R_1$ = | 3830 | 1960 | 1300 | 1000 | 806 | 681 | 576 | 511 | 464 | 422 | KOhms |

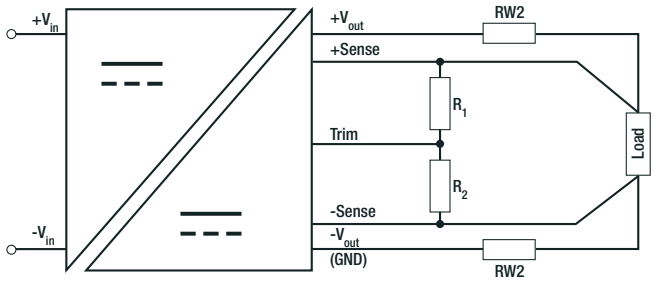
**Trim Down all Vout's**

| Trim down | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $R_2$ = | 97.6 | 47.5 | 31.6 | 23.2 | 17.8 | 14.7 | 12.1 | 10.5 | 9.09 | 8.06 | KOhms |
| Trim down | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | % |
| $R_2$ = | 7.15 | 6.34 | 5.76 | 5.11 | 4.64 | 4.22 | 3.92 | 3.57 | 3.24 | 3.01 | KOhms |

continued on next page

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

### Remote Sense




The output voltage can be adjusted by both trim and remote sense. The maximum combined adjustment range ±10%. Derate the maximum output power if using the trim or sense function.

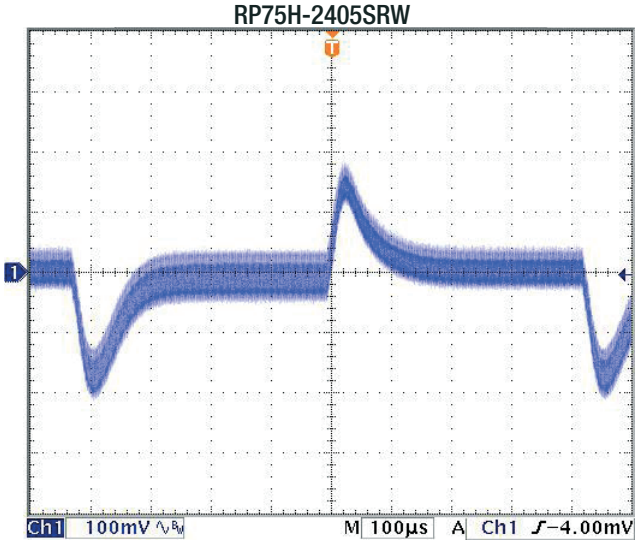
$R_{W1}$ ... wire losses +
$R_{W2}$ ... wire losses -
$R_1$ ... trim up resistor
$R_2$ ... trim down resistor

### REGULATIONS

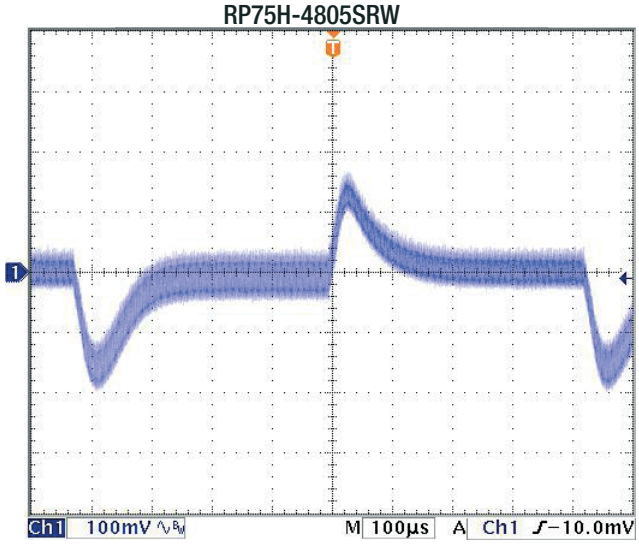
| Parameter | Condition | Value |
|---|---|---|
| Output Accuracy | | ±1.0% |
| Line Regulation | low line to high line at full load | ±0.1% |
| Load Regulation | 0% to 100% load | 0.1% |
| Transient Response | 25% load step change | 200µs typ.; 250µs max. |

**Transient Response to Dynamic Load Change from 100% to 75% to 100% of Full Load at nom.Vin**

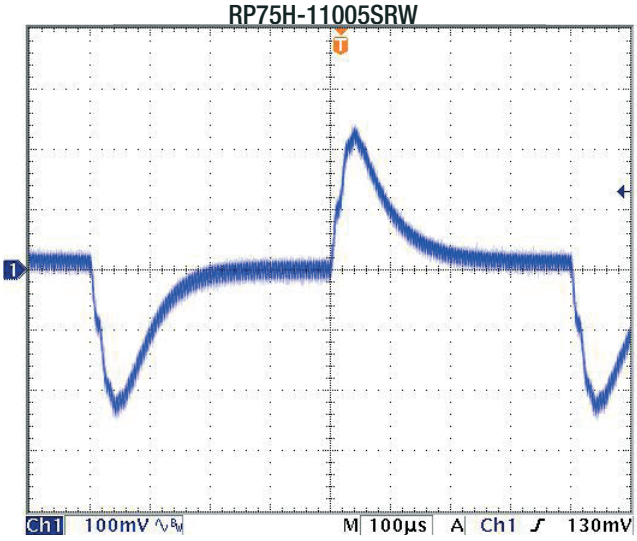
RP75H-2405SRW




RP75H-4805SRW




RP75H-11005SRW



## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

### PROTECTIONS

| Parameter | Condition | | Value |
|---|---|---|---|
| Short Circuit Protection (SCP) | below 100mΩ | | continuous, automatic recovery |
| Over Voltage Protection (OVP) | % of nom. Vout | | 115%-130%, Hiccup Mode |
| Over Load Protection (OLP) | % Iout rated | 24Vin, 48Vin<br>110Vin | 120%-150%, Hiccup Mode<br>150% typ. , Hiccup Mode |
| Over Temperature Protection (OTP) | | | +115°C |
| Isolation Voltage | 110Vin | I/P to O/P<br>I/P or O/P to Baseplate | 3kVAC/1minute<br>1.5kVAC/1minute |
| | 24Vin, 48Vin | I/P to O/P<br>I/P or O/P to Baseplate | 2.25kVDC/1minute<br>1.6kVDC/1minute |
| Isolation Resistance | 500 VDC | | 1GΩ min. |
| Isolation Capacitance | | | 2500pF max. |
| Isolation Grade | 24Vin, 48 Vin<br>110Vin | | basic Insulation<br>reinforced Insulation |

**Notes:**

Note4: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: T30A slow blow

### ENVIRONMENTAL

| Parameter | Condition | | Value |
|---|---|---|---|
| Operating Case Temperature Range | Baseplate | | refer to derating graph |
| Maximum Case Temperature | | | 105°C |
| Temperature Coefficient | | | ±0.02%/°C max. |
| Thermal Impedance | vertical direction by natural convection (0.1m/s) without Heat-sink<br>vertical direction by natural convection (0.1m/s) with Heat-sink | | 6.7°C/W<br>4.7°C/W |
| Operating Humidity | | | 5% - 95% RH |
| Pollution Degree | 24Vin, 48Vin<br>110Vin | | PD1<br>PD2 |
| Shock | | | according to EN61373 standard |
| Thermal Shock | | | according to MIL-STD-810F standard |
| Vibration | | | according to EN61373 standard |
| Fire protection on railway vehicles | | | according to EN45545-2, 2013 standard |
| MTBF | according to MIL-HDBK-217F, G.B. | +25°C | 336.2 x $10^3$ hours |

### Thermal Calculation

$R_{thcase\text{-}ambient}$ = 6.7°C/W (vertical)
$R_{thcase\text{-}ambientHC}$ = 4.7°C/W (vertical)

$$R_{thcase\text{-}ambient} = \frac{T_{case} - T_{ambient}}{P_{dissipation}}$$

$$P_{dissipation} = P_{IN} - P_{OUT} = \frac{P_{OUTapp}}{\eta} - P_{OUTapp}$$

$T_{case}$ = Case Temperature
$T_{ambient}$ = Environment Temperature
$P_{dissipation}$ = Internal losses
$P_{IN}$ = Input Power
$P_{OUT}$ = Output Power
$\eta$ = Efficiency under given Operating Conditions
$R_{thcase\text{-}ambient}$ = Thermal Impedance

**Practical Example:**

Take the RP75H-2405SRW with 9V input Voltage and 50% load. What is the maximum ambient operating temperature? Use converter vertical in application without airflow.

$Eff_{min}$ = 90% @ $V_{nom}$

$P_{OUT}$ = 75W

$P_{OUTapp}$ = 75 x 0.5 = 37.5W

$\eta$ = 92% (Efficiency vs. Load Graph)

$$P_{dissipation} = \frac{37.5}{0.92} - 37.5 = 3.26W$$

**without Heat-sink**

$$R_{th} = \frac{T_{casemax} - T_{amb}}{P_{dissipation}} \text{ --> } 6.7°C/W = \frac{105 - T_{amb}}{3.26W}$$

$T_{amb}$ = **83°C**

**with Heat-sink**

$$R_{thHC} = \frac{T_{casemax} - T_{amb}}{P_{dissipation}} \text{ --> } 4.7°C/W = \frac{105 - T_{amb}}{3.26W}$$

$T_{ambHC}$ = **89°C**

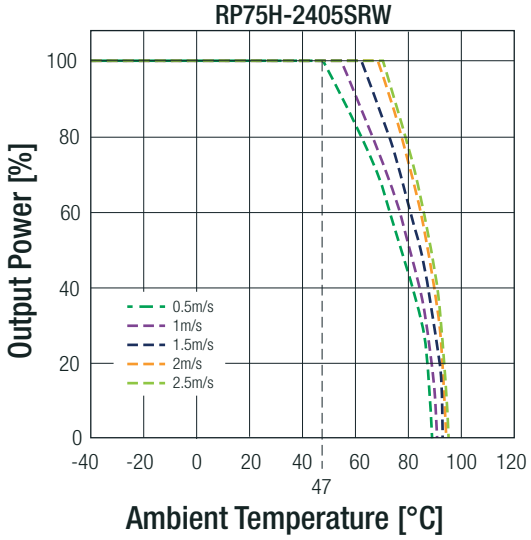
**continued on next page**

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

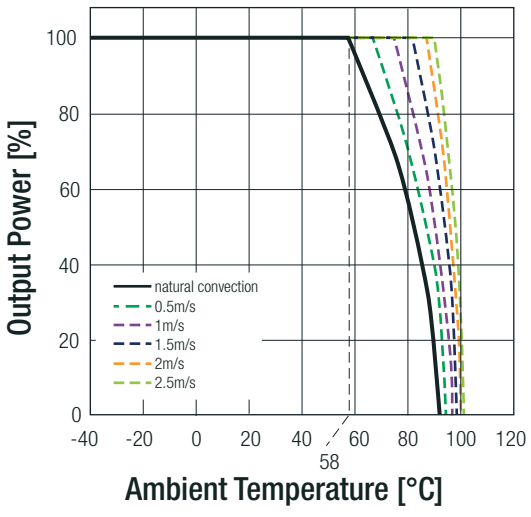
### Derating Graph[5]

(@ Chamber and natural convection 0.1m/s)

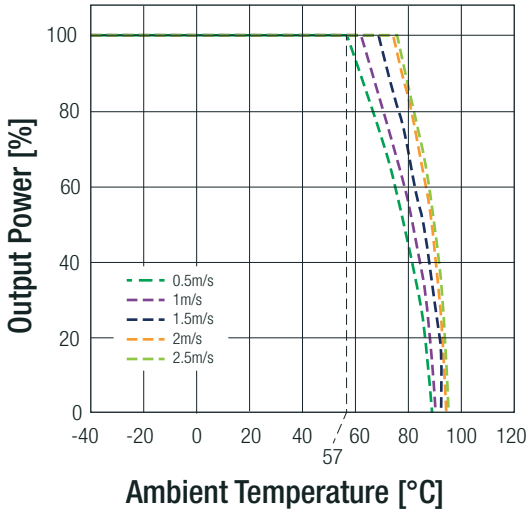
RP75H-2405SRW



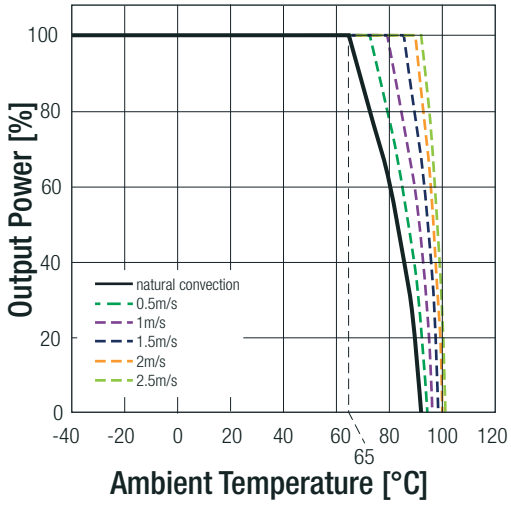

RP75H-2405SRW-HC



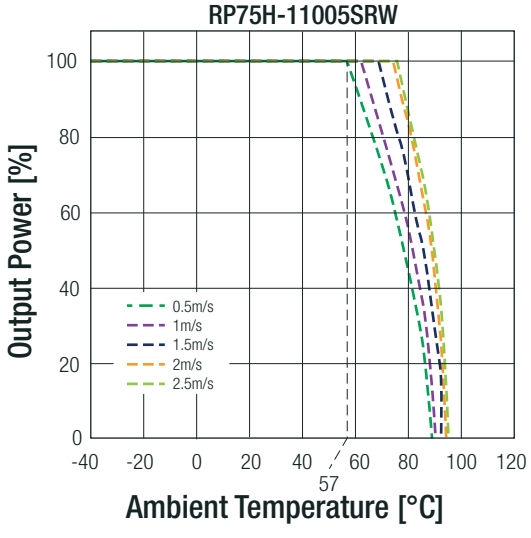

RP75H-4805SRW



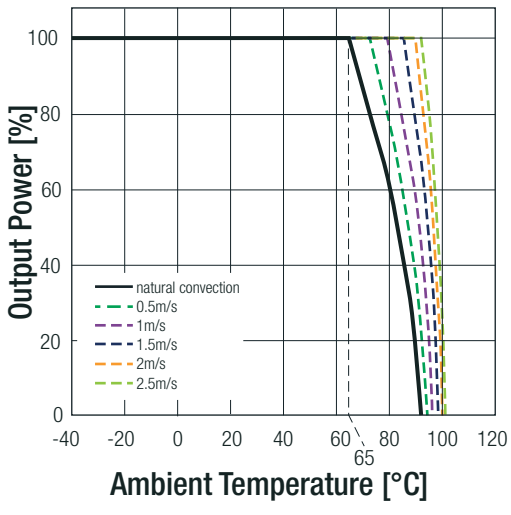

RP75H-4805SRW-HC




RP75H-11005SRW




RP75H-11005SRW-HC




**Notes:**

Note5: Derating graphs are valid only for the shown part numbers. If you need detailed derating-information about a part-number not shown here please contact our technical support service at techsupportAT@recom-power.com

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

| SAFETY AND CERTIFICATIONS | | |
|---|---|---|
| **Certificate Type (Safety)** | **Report / File Number** | **Standard** |
| Information Technology Equipment, General Requirements for Safety | E196683 | UL60950-1, 2nd Edition, 2014<br>CSA C22.2 No. 60950-1-07, 2nd Edition, 2014 |
| IEC/EN Information Technology Equipment - General Requirments for Safety | TW1608034-001, TW1608035-001 | IEC60950-1, 2nd Edition, 2005<br>EN60950-1, 2nd Edition, 2006 |
| Railway Applications - Electrical Equipment used on rolling stock | 16A081501E-C | EN50155, 2007 |
| EAC | RU-AT.49.09571 | TP TC 004/2011 |
| RoHS 2+ | | RoHS 2011/65/EU |

| EMI Compliance | Condition | Standard / Criterion |
|---|---|---|
| Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement | 110Vin<br>with external components | EN55022, Class A and Class B |
| Industrial, scientific and medical equipment - Radio frequency disturbance characteristics - Limits and methods of measurement | | EN55011, Class A and Class B |
| Low-voltage power supplies DC output - Part 3: Electromagnetic compatibility (EMC) | 24Vin, 48Vin<br>with external components | EN61204-3, Class B |
| ESD Electrostatic discharge immunity test | Air ±8kV and Contact ±6kV | EN61000-4-2, Criteria A |
| Radiated, radio-frequency, electromagnetic field immunity test | 20V/m (110Vin), 10V/m (24Vin,48Vin) | EN61000-4-3, Criteria A |
| Fast Transient and Burst Immunity(6) | ±2kV | EN61000-4-4, Criteria A |
| Surge Immunity(6) | EN55024 & EN50155 ±2kV (±1kV, 24Vin, 48Vin) | EN61000-4-5, Criteria A |
| Immunity to conducted disturbances, induced by radio-frequency fields | 10 Vr.m.s | EN61000-4-6, Criteria A |

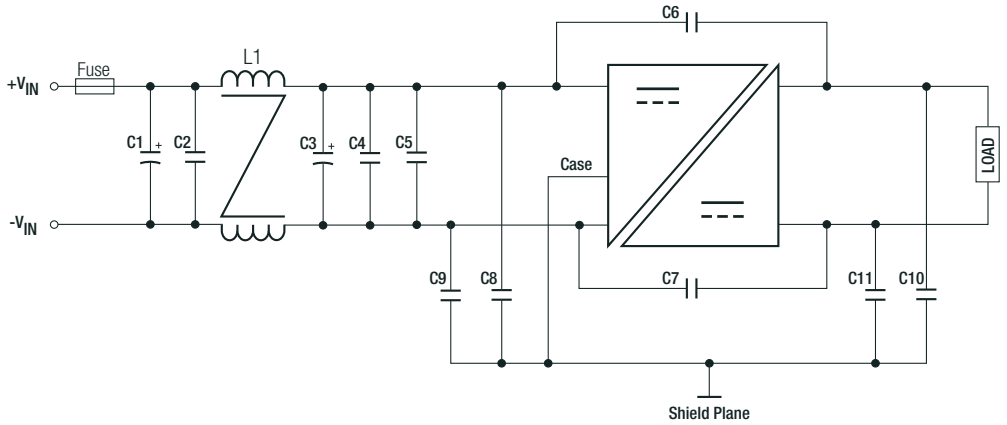
**Notes:**

Note6: An external input filter capacitor is required if the module has to meet EN61000-4-4 and EN61000-4-5.

The **24Vin** and **48Vin** version recommend 2pcs of aluminium elecrolytic capacitor to connect in parallel.
Recom suggest: 220µF/100V.

The **110Vin** version recommend 2pcs of aluminium electrolytic capacitor to connect in parallel.
Recom suggest: 150µF/200V

### EMI Filtering according to EN61204-3 Class A and EN50121-1 (24Vin and 48Vin)



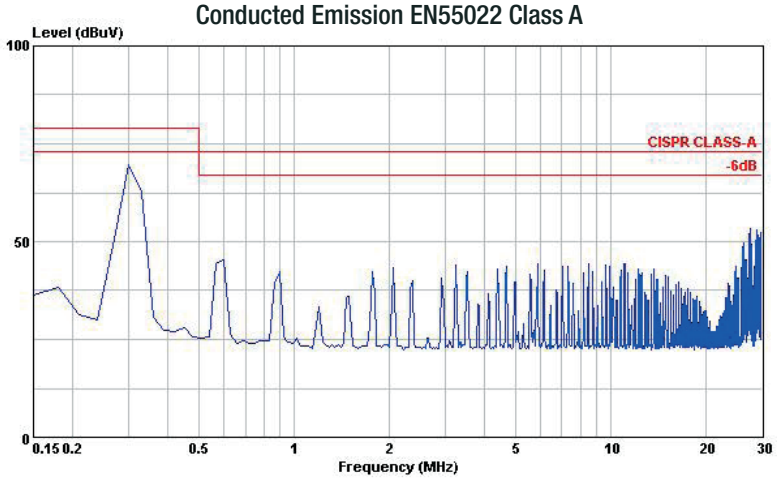

| MODEL | C1, C3 | C2, C4, C5 | C6 to C11 | L1 |
|---|---|---|---|---|
| RP75H-24xxSRW | 100µF, 50V<br>Al Cap. Chemi-con KY Series | 4.7µF, 50V<br>1812 MLCC | 1000pF, 3kV<br>1808 MLCC | 156µH<br>CMC |
| RP75H-48xxSRW | 100µF, 100V<br>Al Cap. Chemi-con KY Series | 2.2µF, 100V<br>1812 MLCC | 1000pF, 3kV<br>1808 MLCC | 620µH<br>CMC |

continued on next page

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

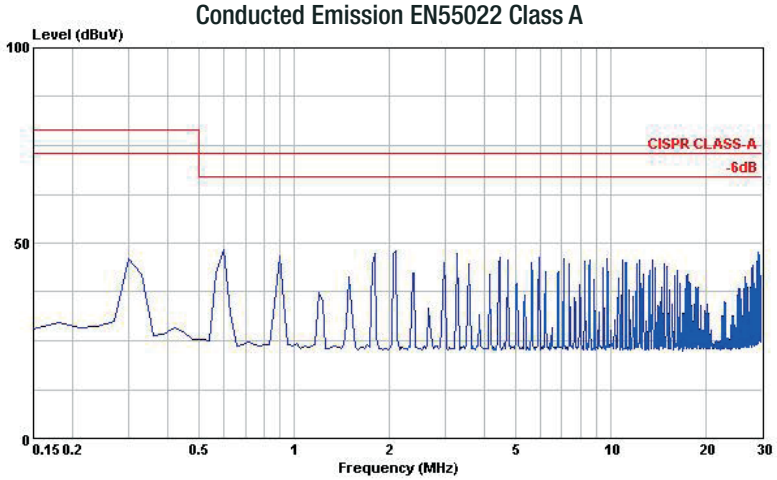
RP75H-2405SRW

Conducted Emission EN55022 Class A

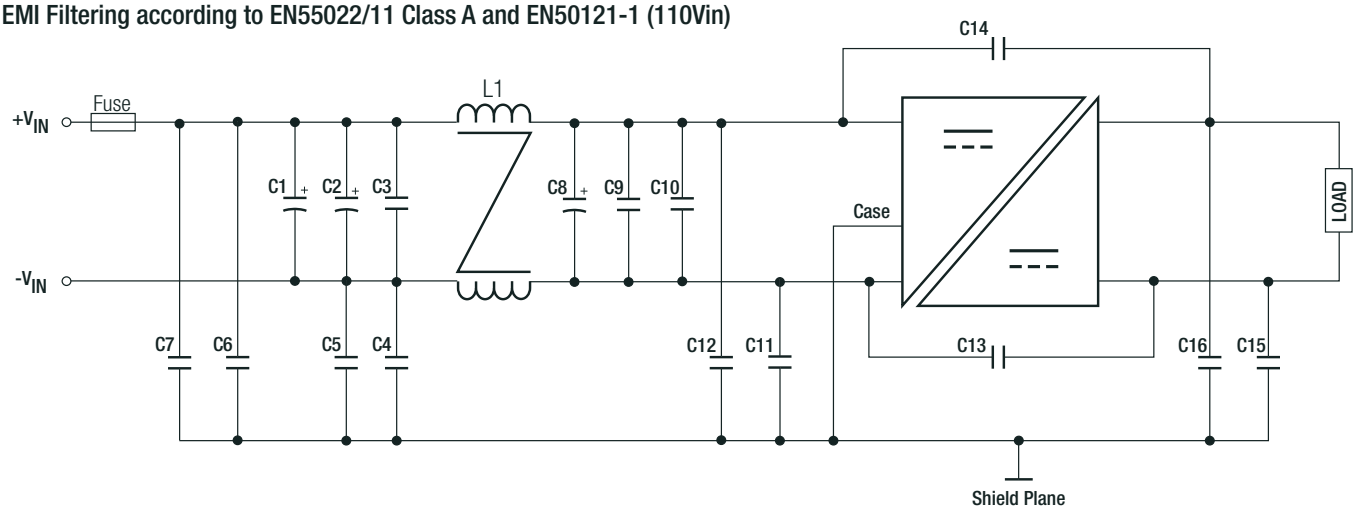



RP75H-4805SRW

Conducted Emission EN55022 Class A




EMI Filtering according to EN55022/11 Class A and EN50121-1 (110Vin)



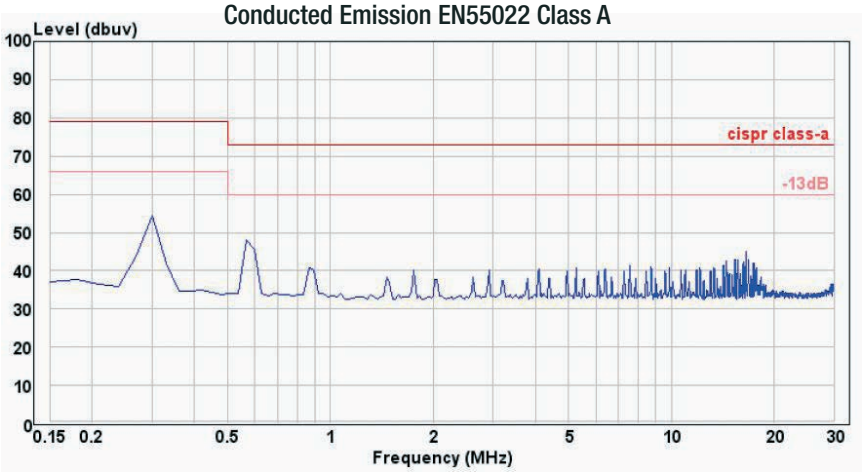

| MODEL | C1, C8 | C10 | C13, C14 | C5, C15, C16 | L1 |
|---|---|---|---|---|---|
| RP75H-110xxSRW | 150µF, 200V<br>Al Capacitor (lie down) Chemi-con KXJ | 1µF, 250V<br>1812 MLCC | 1000pF, 400VAC<br>TDK CD Series | 1000pF, 5kV<br>1808 MLCC | 521µH<br>CMC |
| **C2, C3, C4, C6, C7, C9, C11, C12**: N/A | | | | | |

continued on next page

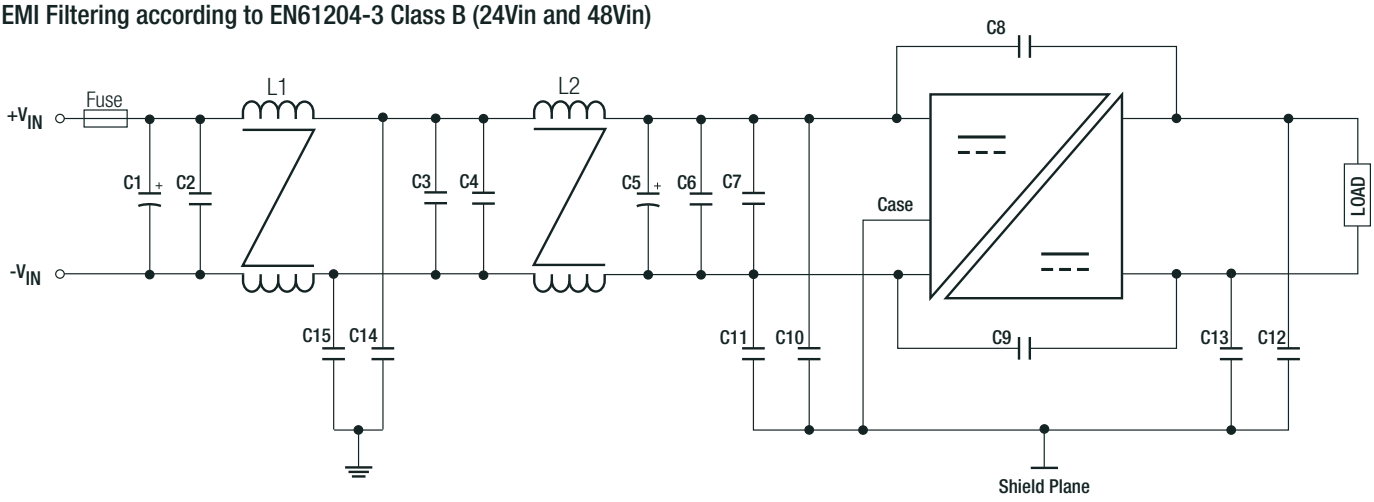
## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

RP75H-11005SRW

Conducted Emission EN55022 Class A



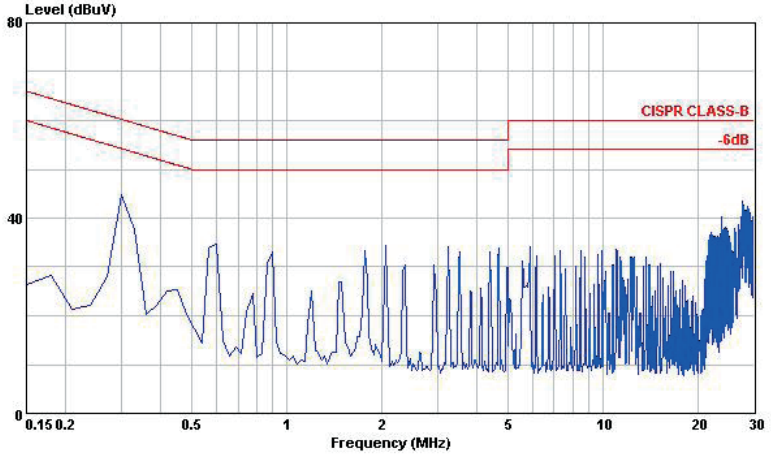

EMI Filtering according to EN61204-3 Class B (24Vin and 48Vin)




| MODEL | C1, C5 | C2, C3, C4, C6, C7 | C8, C14, C15 | C9 | C10 to C13 | L1 | L2 |
|---|---|---|---|---|---|---|---|
| RP75H-24xxSRW | 100µF, 50V<br>Al Cap. (lie down) Chemi-con KY | 4.7µF, 50V<br>1812 MLCC | 1000pF, 3kV<br>1808 MLCC | 1000pF, 3kV<br>1808 MLCC | 10nF, 2kV<br>1812 MLCC | 305µH<br>CMC | 305µH<br>CMC |
| RP75H-48xxSRW | 100µF, 100V<br>Al Cap. (lie down) Chemi-con KY | 2.2µF, 100V<br>1812 MLCC | 1000pF, 3kV<br>1808 MLCC | 4700pF, 3kV<br>1812 MLCC | 10nF, 2kV<br>1812 MLCC | 1186µH<br>CMC | 156µH<br>CMC |

RP75H-2405SRW

Conducted Emission EN55022 Class B

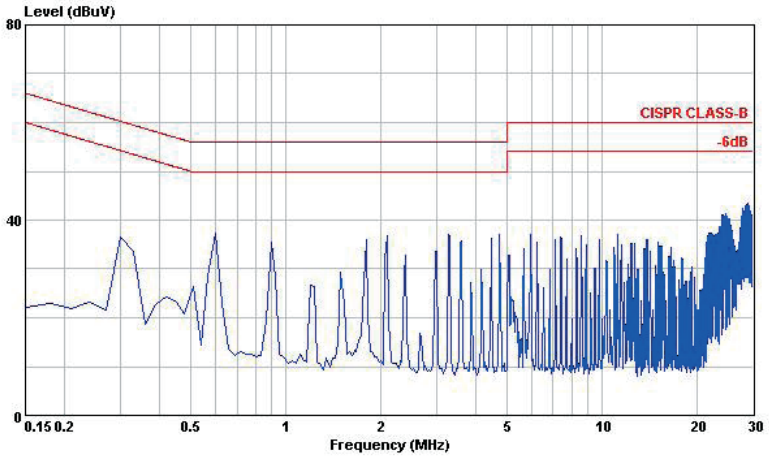



continued on next page

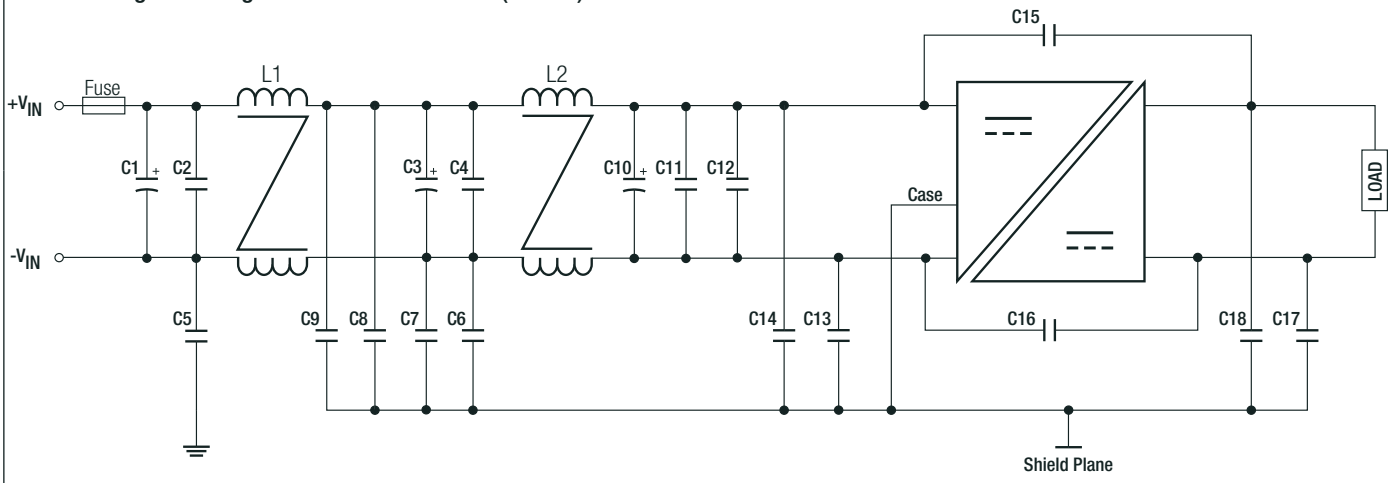
## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

RP75H-4805SRW

Conducted Emission EN55022 Class B



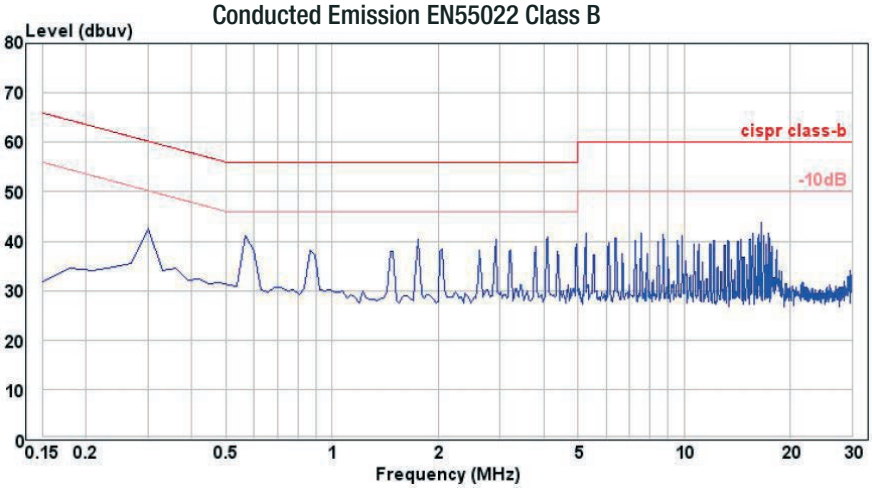

EMI Filtering according to EN55022/11 Class B (110Vin)




| MODEL | C1, C3, C10 | C11, C12 | C13 | C15, C16 | C6, C7, C8, C9, C17, C18 | L1 | L2 |
|---|---|---|---|---|---|---|---|
| RP75H-110xxSRW | 150µF, 200V Al Cap. (lie down) Chemi-con KXJ | 1µF, 250V 1812 MLCC | 330pF, 5kV 1808 MLCC | 1000pF, 400VAC TDK CD Series | 1000pF, 5kV 1808MLCC | 305µH CMC | 806µH CMC |
| **C2, C4, C5, C14:** N/A | | | | | | | |

RP75H-11005SRW

Conducted Emission EN55022 Class B

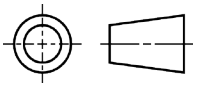


## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

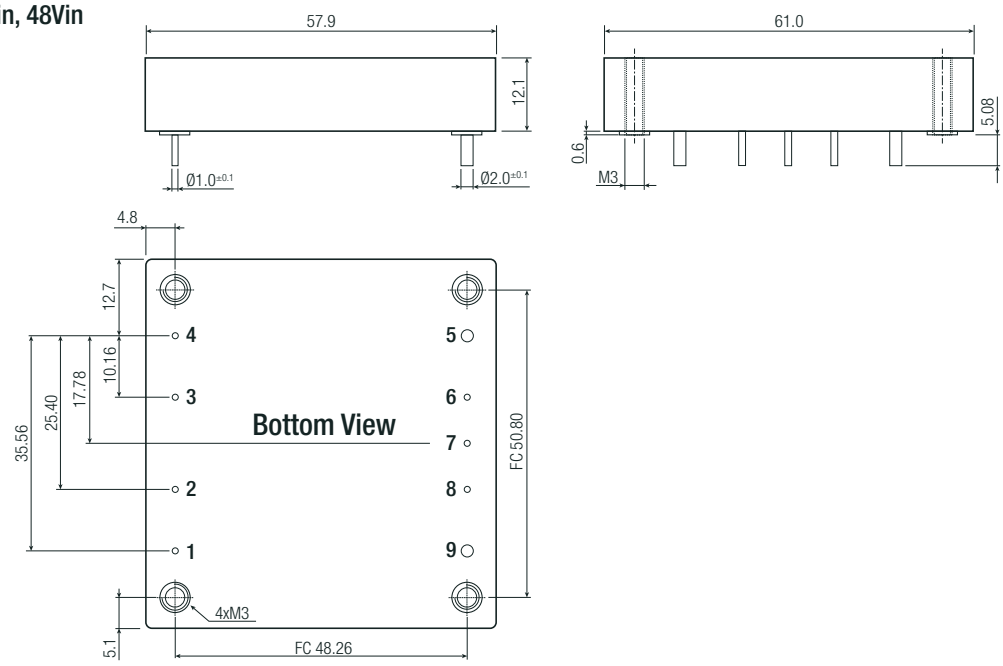
### DIMENSIONS and PHYSICAL CHARACTERISTICS

| Parameter | Type | | Value |
|---|---|---|---|
| Material | case | 24Vin, 48Vin<br>110Vin | Metal<br>Plastic |
| | baseplate | 24Vin, 48Vin<br>110Vin | FR4 PCB<br>Aluminium |
| | potting | | Silicone (UL94 V-0) |
| Packaging Dimension (LxWxH) | without Heat-sink<br>with Heat-sink | | 61.0 x 57.9 x 12.7mm<br>61.0 x 57.9 x 24.13mm |
| Packaging Weight | without Heat-sink<br>with Heat-sink | | 105g<br>157g |

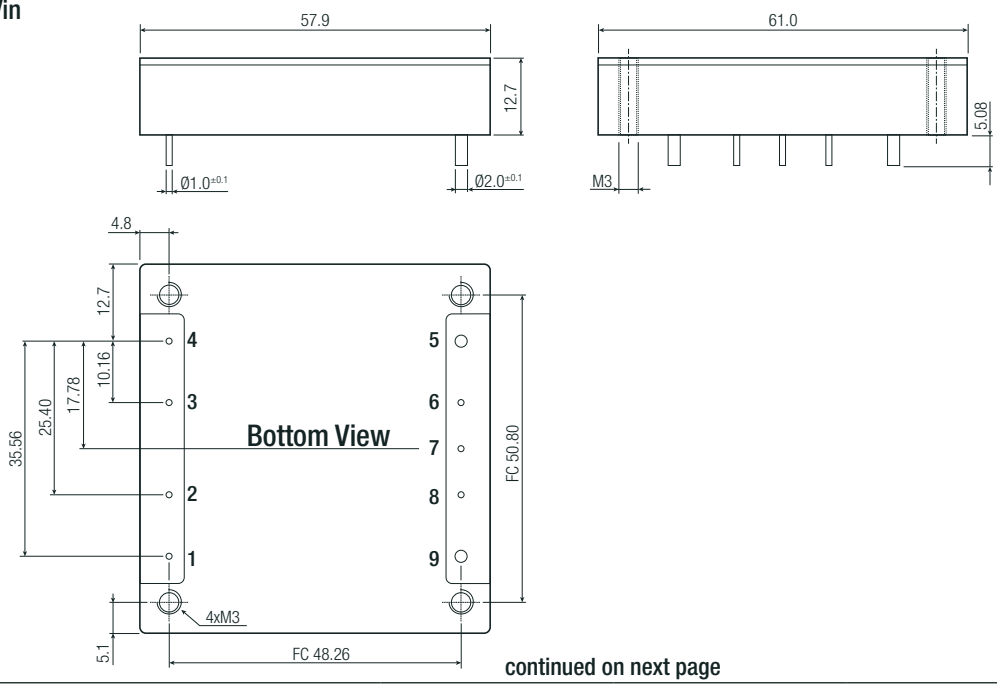
**Dimension Drawing (mm)**



**24Vin, 48Vin**




**110Vin**




**Pin Connections**

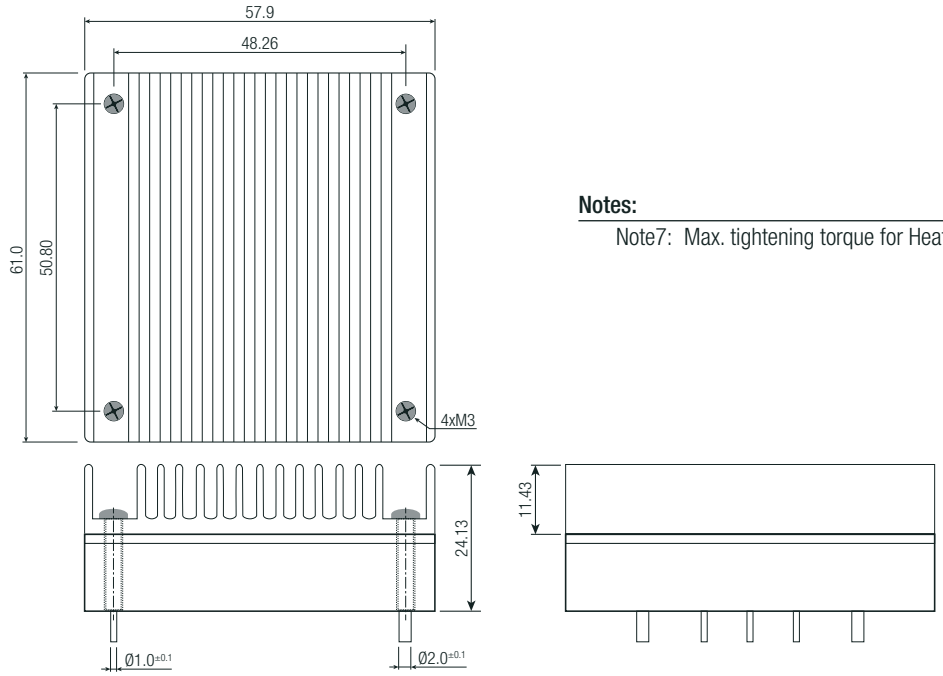
| Pin # | Single |
|---|---|
| 1 | +Vin |
| 2 | CTRL |
| 3 | Case |
| 4 | -Vin |
| 5 | -Vout |
| 6 | -Sense |
| 7 | Trim |
| 8 | +Sense |
| 9 | +Vout |

FC= Fixing Centers for Heat-sink
Pin Pitch Tolerance ±0.25mm
Pin Dimension Tolerance ±0.1mm
XX.X ± 0.5mm
XX.XX ± 0.25mm

continued on next page

## Specifications (measured @Ta = 25°C, resistive load, nominal Vin and rated Iout unless otherwise noted)

### 110Vin with Heat-sink




**Notes:**

Note7: Max. tightening torque for Heat-sink: 0.34Nm

| PACKAGING INFORMATION | | | |
|---|---|---|---|
| **Parameter** | **Type** | | **Value** |
| Packaging Dimension | Tray | without Heat-sink | 157.0 x 88.0 x 12.8mm |
| | | with Heat-sink | 157.0 x 88.0 x 24.8mm |
| Packaging Quantity | | | 2pcs. |
| Storage Temperature Range | | | -55°C to +125°C |
| Storage Humidity | | | 5% - 95% RH |

The product information and specifications may be subject to changes even without prior written notice.The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

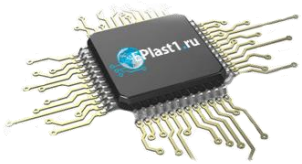
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

**Телефон:** 8 (812) 309 58 32 (многоканальный)
**Факс:** 8 (812) 320-02-42
**Электронная почта:** org@eplast1.ru
**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.