

## DC/DC Converter – R6-S/D1

1.5 WATT  
Single / Dual Output

### FEATURES

- 1500 Vdc Isolation (3500 Vdc Isolation available)
- Wide 2:1 Input Range
- 24 Pin DIL Package
- Regulated
- Continuous Short Circuit Protection
- Non-Conductive Plastic Case

Model Number	Input Vdc	Output Vdc	Output Current (mA)	Efficiency @FL (%)
R6-1205S1	9-18	5	300	74
R6-1209S1		9	167	77
R6-1212S1		12	125	76
R6-1215S1		15	100	78
R6-1224S1		24	63	78
R6-1205D1	9-18	±5	±150	74
R6-1209D1		±9	±84	76
R6-1212D1		±12	±63	75
R6-1215D1		±15	±50	78
R6-1224D1		±24	±32	78
R6-2405S1	18-36	5	300	74
R6-2409S1		9	167	74
R6-2412S1		12	125	76
R6-2415S1		15	100	76
R6-2424S1		24	63	77
R6-2405D1	18-36	±5	±150	75
R6-2409D1		±9	±84	76
R6-2412D1		±12	±63	77
R6-2415D1		±15	±50	78
R6-2424D1		±24	±32	78
R6-4805S1	36-72	5	300	73
R6-4809S1		9	167	75
R6-4812S1		12	125	77
R6-4815S1		15	100	77
R6-4824S1		24	63	78
R6-4805D1	36-72	±5	±150	74
R6-4809D1		±9	±84	75
R6-4812D1		±12	±63	77
R6-4815D1		±15	±50	78
R6-4824D1		±24	±32	78

1. Suffix " M " Metal Instead of Plastic case Package.  
2. Input Voltage range is from 4.5 V to 72 V and Output Voltage is from 3.3 V to 24 V.

#### Input Specifications:

Voltage Range 5Vdc, 4.5-9 Vdc, 12Vdc, 9 -18 Vdc.,  
24Vdc, 18-36 Vdc, 48Vdc, 36-72 Vdc  
Filter  $\pi$  (Pi) Network

#### Isolation Specification:

Rated Voltage 1500 Vdc, Standard  
Resistance 1000M  $\Omega$  Min.  
Capacitance 390 pF, Typ.

#### Output Specifications:

Voltage Accuracy:  $\pm 1\%$ , Max.  
Voltage Balance (Dual Outputs)  $\pm 1\%$   
Ripple and Noise (at 20 MHz BW)  $(\pm)$  60mVp-p, Max  
Short Circuit Protection Continuous  
Short Circuit Restart Automatic  
Line Voltage Regulation  $\pm 0.5\%$ , Max.  
Load Voltage Regulation  $\pm 0.5\%$ , Max.  
Temperature Coefficient  $\pm 0.02\%$  /  $^{\circ}\text{C}$

#### General Specifications:

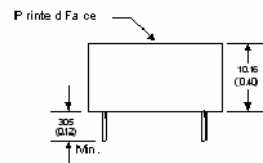
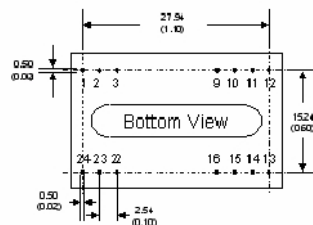
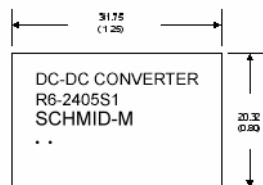
Efficiency 73% ~ 78%  
Switching Frequency 100K ~ 400 KHz, Typ.

#### Environmental Specification:

Operating Temperature (Ambient)  $-40^{\circ}\text{C}$  ~  $+85^{\circ}\text{C}$   
Case Temperature  $100^{\circ}\text{C}$  Max.  
Storage Temperature  $-40^{\circ}\text{C}$  ~  $+125^{\circ}\text{C}$   
Derating None Required  
Humidity Up to 90%, Non-condensing  
Cooling Free-air Convection

### MECHANICAL DIMENSIONS & PIN CONNECTIONS

#### 24 Pin DIL package



Pin #	STANDARD	
	Single	Dual
1	+V Input	+V Input
2	N.C	-V Output
3	N.C	Common
9	Omitted	Omitted
10	-V Output	Common
11	+V Output	+V Output
12	-V Input	-V Input
13	-V Input	-V Input
14	+V Output	+V Output
15	-V Output	Common
16	Omitted	Omitted
22	N.C	Common
23	N.C	-V Output
24	+V Input	+V Input

- Notes: 1. All dimensions are typical in millimeters (inches). Tolerance x.xx =  $\pm 0.25$  ( $\pm 0.01$ )  
2. Metal Case Dimensions are 31.75 \* 20.32 \* 10.16 mm.

## DC/DC Converter – R6-S/D3

3 WATT

Single / Dual Output

### FEATURES

- 1500 Vdc Isolation (3500 Vdc Isolation available)
- Wide 2:1 Input Range
- 24 Pin DIL Package
- Regulated
- Continuous Short Circuit Protection
- Non-Conductive Plastic Case

Model Number	Input Vdc	Output Vdc	Output Current (mA)	Efficiency @FL (%)
R6-1205S3	9-18	5	600	76
R6-1209S3		9	334	77
R6-1212S3		12	250	79
R6-1215S3		15	200	79
R6-1224S3		24	125	79
R6-1205D3	9-18	±5	±300	77
R6-1209D3		±9	±167	78
R6-1212D3		±12	±125	78
R6-1215D3		±15	±100	78
R6-1224D3		±24	±63	78
R6-2405S3	18-36	5	600	80
R6-2409S3		9	334	80
R6-2412S3		12	250	82
R6-2415S3		15	200	82
R6-2424S3		24	125	80
R6-2405D3	18-36	±5	±300	78
R6-2409D3		±9	±167	79
R6-2412D3		±12	±125	80
R6-2415D3		±15	±100	80
R6-2424D3		±24	±63	80
R6-4805S3	36-72	5	600	77
R6-4809S3		9	334	78
R6-4812S3		12	250	80
R6-4815S3		15	200	80
R6-4824S3		24	125	80
R6-4805D3	36-72	±5	±300	78
R6-4809D3		±9	±167	79
R6-4812D3		±12	±125	80
R6-4815D3		±15	±100	80
R6-4824D3		±24	±63	80

1. Suffix " M " Metal Instead of Plastic case Package.  
2. Input Voltage range is from 4.5 V to 72 V and Output Voltage is from 3.3 V to 24 V.

#### Input Specifications:

Voltage Range 5Vdc, 4.5-9 Vdc, 12Vdc, 9 -18 Vdc., 24Vdc, 18-36 Vdc, 48Vdc, 36-72 Vdc  
Filter  $\pi$  (Pi) Network

#### Isolation Specification:

Rated Voltage 1500 Vdc, Standard  
Resistance 1000M  $\Omega$  Min.  
Capacitance 390 pF, Typ.

#### Output Specifications:

Voltage Accuracy:  $\pm 1\%$ , Max.  
Voltage Balance (Dual Outputs)  $\pm 1\%$   
Ripple and Noise (at 20 MHz BW) ( $\pm$ ) 60mVp-p, Max  
Short Circuit Protection Continuous  
Short Circuit Restart Automatic  
Line Voltage Regulation  $\pm 0.5\%$ , Max.  
Load Voltage Regulation  $\pm 0.5\%$ , Max.  
Temperature Coefficient  $\pm 0.02\%$  /  $^{\circ}\text{C}$

#### General Specifications:

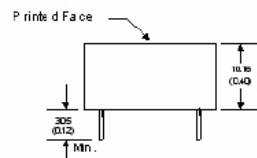
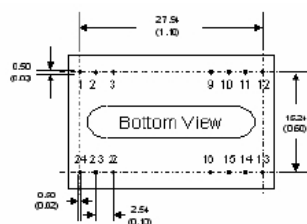
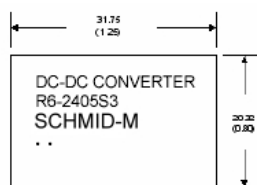
Efficiency 76% ~ 82%  
Switching Frequency 100K ~ 400 KHz, Typ.

#### Environmental Specification:

Operating Temperature (Ambient)  $-40^{\circ}\text{C}$  ~  $+85^{\circ}\text{C}$   
Case Temperature  $100^{\circ}\text{C}$  Max.  
Storage Temperature  $-40^{\circ}\text{C}$  ~  $+125^{\circ}\text{C}$   
Derating None Required  
Humidity Up to 90%, Non-condensing  
Cooling Free-air Convection

### MECHANICAL DIMENSIONS & PIN CONNECTIONS

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	Single	Dual
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9	Omitted	Omitted
10	-V Output	Common
11	+V Output	+V Output
12	-V Input	-V Input
13	-V Input	-V Input
14	+V Output	+V Output
15	-V Output	Common
16	Omitted	Omitted
22	N.C	Common
23	N.C	-V Output
24	+V Input	+V Input

- Notes: 1. All dimensions are typical in millimeters (inches). Tolerance x.xx =  $\pm 0.25$  ( $\pm 0.01$ )  
2. Metal Case Dimensions are 31.75 \* 20.32 \* 10.16 mm.

## DC/DC Converter – R6-S/D6

6 WATT

Single / Dual Output

### FEATURES

- 1500 Vdc Isolation (3500 Vdc Isolation available)
- Wide 2:1 Input Range
- 24 Pin DIL Package
- Regulated
- Continuous Short Circuit Protection
- Non-Conductive Plastic Case

Model Number	Input Vdc	Output Vdc	Output Current (mA)	Efficiency @FL (%)
R6-1205S6	9-18	5	1200	77
R6-1209S6		9	667	75
R6-1212S6		12	500	80
R6-1215S6		15	400	80
R6-1224S6		24	250	80
R6-1205D6	9-18	±5	±600	77
R6-1209D6		±9	±334	75
R6-1212D6		±12	±250	80
R6-1215D6		±15	±200	80
R6-1224D6		±24	±125	80
R6-2405S6	18-36	5	1200	80
R6-2409S6		9	667	83
R6-2412S6		12	500	83
R6-2415S6		15	400	83
R6-2424S6		24	250	83
R6-2405D6	18-36	±5	±600	80
R6-2409D6		±9	±334	83
R6-2412D6		±12	±250	83
R6-2415D6		±15	±200	83
R6-2424D6		±24	±125	83
R6-4805S6	36-72	5	1200	80
R6-4809S6		9	667	83
R6-4812S6		12	500	83
R6-4815S6		15	400	83
R6-4824S6		24	250	83
R6-4805D6	36-72	±5	±600	80
R6-4809D6		±9	±334	83
R6-4812D6		±12	±250	83
R6-4815D6		±15	±200	82
R6-4824D6		±24	±125	82

1. Suffix " M " Metal Instead of Plastic case Package.  
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#### General Specifications:

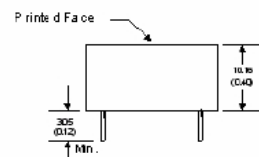
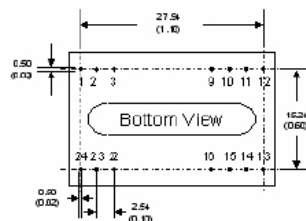
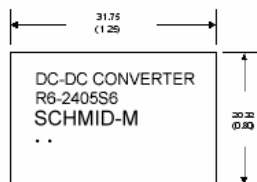
Efficiency 75% ~ 83%  
Switching Frequency 100K ~ 400 KHz, Typ.

#### Environmental Specification:

Operating Temperature (Ambient)  $-40^{\circ}\text{C}$  ~  $+71^{\circ}\text{C}$   
Case Temperature  $100^{\circ}\text{C}$  Max.  
Storage Temperature  $-40^{\circ}\text{C}$  ~  $+125^{\circ}\text{C}$   
Derating None Required  
Humidity Up to 90%, Non-condensing  
Cooling Free-air Convection

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15	-V Output	Common
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- Notes: 1. All dimensions are typical in millimeters (inches). Tolerance x.xx =  $\pm 0.25$  ( $\pm 0.01$ )  
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