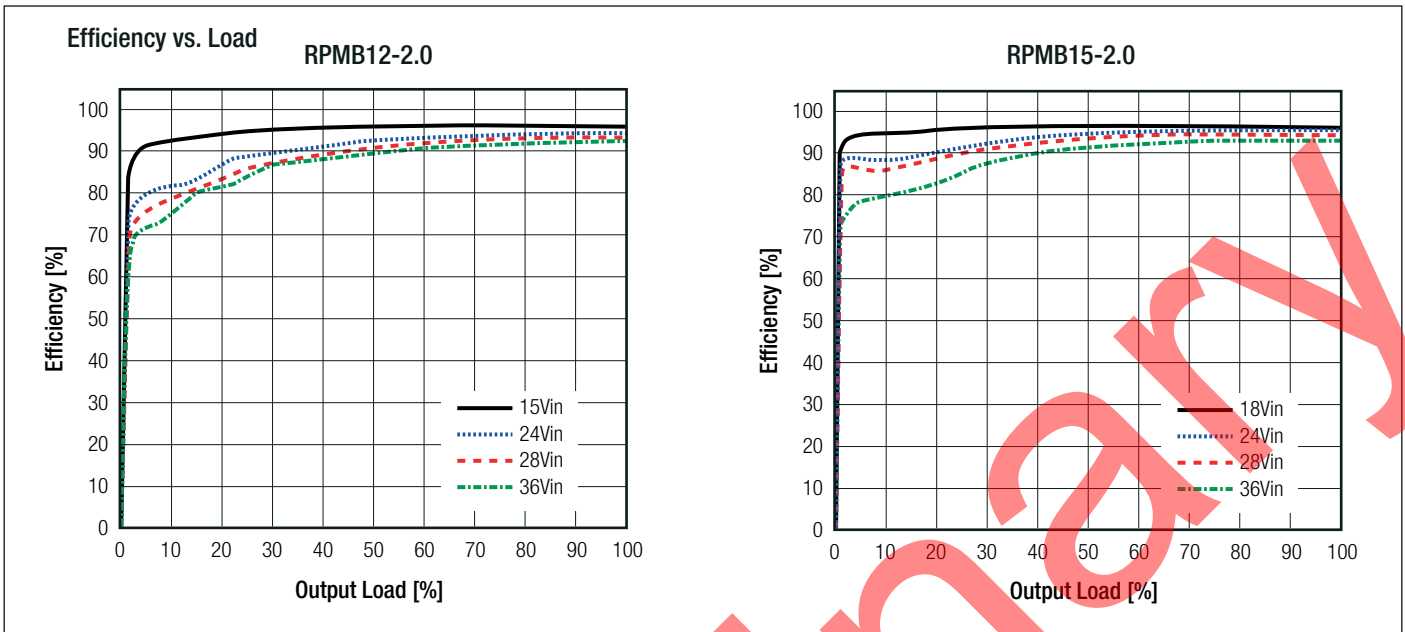
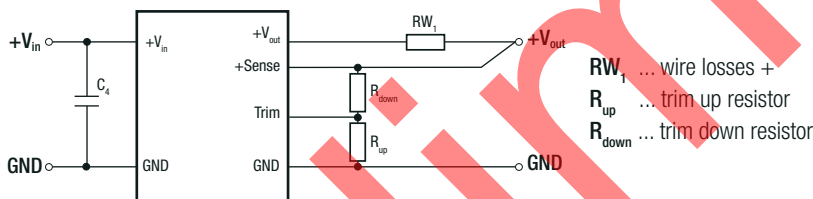


Specifications (@ Ta= 25°C, nom. Vin= 24VDC, full load, with input cap⁽⁹⁾, after warm-up unless otherwise stated)



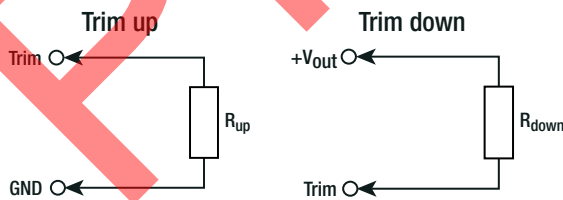
REMOTE SENSE



The output voltage can be adjusted via trim and sense functions. The maximum output voltage from trim and sense functions combined is 9V and 24V (based on models). Derating may be required when using trim and/or sense functions.

OUTPUT VOLTAGE TRIMMING

The RPMB-series offers the feature of trimming the output voltage 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. Refer to "Selection Guide" for applicable Vout Adjust Range.



$V_{out_{nom}}$ = nominal output voltage [VDC]
 $V_{out_{set}}$ = trimmed output voltage [VDC]
 R_{up} = trim up resistor [Ω]
 R_{down} = trim down resistor [Ω]
 R_3, R_4 = internal resistors [Ω]

$V_{out_{nom}}$	R_3	R_4
3.3VDC	100kΩ	43.2kΩ
5VDC	100kΩ	24.9kΩ
12VDC	100kΩ	9.09kΩ
15VDC	90.9kΩ	6.49kΩ

Calculation:

$$R_{up} = \frac{R_4 \times (V_{out_{set}} - 1) - R_3 \times (R_4 + 1)}{R_3 - R_4 \times (V_{out_{set}} - 1)}$$

$$R_{down} = \frac{R_4 \times (V_{out_{set}} - 1) \times (R_3 + 1) - R_3}{R_3 - R_4 \times (V_{out_{set}} - 1)}$$

continued on next page

Specifications (@ Ta= 25°C, nom. Vin= 24VDC, full load, with input cap⁽⁹⁾, after warm-up unless otherwise stated)

Practical Example RPMB12-2.0

Vout_{set} = 15VDC

$$R_{up} = \frac{9.09 \times (15 - 1) - 100 \times (9.09 + 1)}{100 - 9.09 \times (15 - 1)}$$

R_{up} according to E96 ≈ **32k4Ω**

RPMB3.3-2.0

Trim up

Vout _{set} =	5	[VDC]
R _{up} (E96) ≈	57k6	[Ω]

Trim down

Vout _{set} =	2.5	1.8	1.5	1.1	[VDC]
R _{down} (E96) ≈	182k	52k3	26k7	3k48	[Ω]

RPMB5.0-2.0

Trim up

Vout _{set} =	5.5	9	[VDC]
R _{up} (E96) ≈	205k	23k7	[Ω]

Trim down

Vout _{set} =	3.3	2.5	[VDC]
R _{down} (E96) ≈	133k	59k	[Ω]

Practical Example RPMB12-2.0

Vout_{set} = 9VDC

$$R_{down} = \frac{9.09 \times (9 - 1) \times (100 + 1) - 100}{100 - 9.09 \times (9 - 1)}$$

R_{down} according to E96 ≈ **267kΩ**

RPMB12-2.0

Trim up

Vout _{set} =	15	24	[VDC]
R _{up} (E96) ≈	32k4	7k32	[Ω]

Trim down

Vout _{set} =	10	9	[VDC]
R _{down} (E96) ≈	453k	267k	[Ω]

RPMB15-2.0

Trim up

Vout _{set} =	20	24	[VDC]
R _{up} (E96) ≈	16k9	9k09	[Ω]

Trim down

Vout _{set} =	12	9.99	[VDC]
R _{down} (E96) ≈	332k	162k	[Ω]

REGULATIONS

Parameter	Condition	Value
Output Accuracy		±1% typ. / ±3% max.
Line Regulation	low line to high line, full load	0.25±% typ. / ±0.5% max.
Load Regulation	10% to 100% load	0.05% typ.
Transient Response	25% load step change recovery time	200mV 100µs

PROTECTIONS

Parameter	Condition	Value
Short Circuit Protection (SCP)	less than 50mΩ	hiccup mode, automatic recovery
Over Current Protection (OCP)		120% min.
Over Temperature Protection (OTP)	case temperature (measured on tc point)	DC-DC OFF DC-DC ON 105°C min., auto restart after cool down 100°C typ.

ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range ⁽⁶⁾	@ natural convection 0.1m/s with derating (refer to "Derating Graph")	-40°C to +100°C
Maximum Case Temperature	measured on tc point (refer to "Dimension Drawing")	105°C
Temperature Coefficient		0.02%/°K
Thermal Impedance ⁽⁶⁾	0.1m/s, horizontal (T _{CASE} to T _{AMB})	12K/W
Operating Altitude ⁽⁷⁾	with derating @ natural convection 0.1m/s	5000m
Operating Humidity	non-condensing	5% - 95% RH max.

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