EPM25-2V 40 W

40 Watt isolated DC-DC converter

Product features

- 40 Watt isolated DC-DC converter
- Input voltage: 9 Vdc - 36 Vdc
  18 Vdc - 75 Vdc
- 2.0" x 1.0 " package
- Efficiency up to 92%
- Isolation voltage: 1.6 kVdc
- EMI class A without external circuit
- Operating ambient temperature from -40 °C to +105 °C
- No minimum load required
- EN62368-1/ IEC62368-1 certified
- Remote On/OFF

Applications

- Computing/telecom
- Distributed power architectures
- Servers and workstations
- LAN / WAN applications
- Data processing applications
- Industrial IoT equipment, sensors
- Power supply, battery backup
- Wireless TX/RX modules
- Renewable energy products

Environmental compliance

RoHS

Ordering part number

EPM 25 36 2V 3R3 10R S

- Eaton converter
- Package type/size code
- Maximum rated input voltage
- Version code
- Output voltage (maximum, R=decimal point)
- Output current (maximum, in mA)
- S = single output, D = dual output

Powering Business Worldwide

Specifications

	Parameter	Conditions	Minimum	Typical	Maximum	Unit
Input	Input filter			Pi type		
	Input voltage range	Vin = 24 Vdc	9		36	

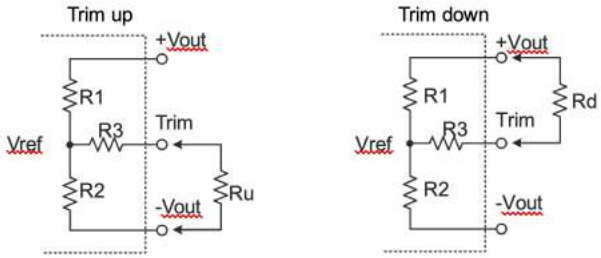
Specifications

	Parameter	Conditions	Minimum	Typical	Maximum	Unit
Function	Isolation voltage					

Part number	Input voltage (Vdc)	Output voltage (Vdc)	Output current @ full load (mA)	Efficiency[1] minimum	Efficiency[1] typical	Capacitive load[2] maximum (µF)
EPM25362V-3R3-10RS	9-36 Nominal 24	3.3	10000	88%	89%	26600
EPM25362V-05R-8R0S	9-36 Nominal 24	5	8000	89%	90%	20000
EPM25362V-12R-3R3S	9-36 Nominal 24	12	3333	91%	92%	3900
EPM25362V-15R-2R6S	9-36 Nominal 24	15	2666	91%	92%	2600
EPM25362V-12R-1R6D	9-36 Nominal 24	±12	±1666	89%	90%	±2600
EPM25362V-15R-1R3D	9-36 Nominal 24	±15	±1333	89%	90%	±1600
EPM25752V-3R3-10RS	18-75 Nominal 48	3.3	10000	88%	89%	26600

Application information

Single external output voltage trimming



Formula for trim resistor:

UP: $Ru=\frac{aR_2}{R_2-a}-R_3 \quad a=\frac{V_{ref}}{V_o'-V_{ref}}\cdot R_1$

DOWN: $Rd=\frac{bR_1}{R_1-b}-R_3 \quad b=\frac{V_o'-V_{ref}}{V_{ref}}\cdot R_2$

1. Ru, Rd is mean trim resistor, please check the formula.
2. a & b: user define parameter, no actual meanings.
3. V_o' is mean trim up/down voltage.
4. Value for R1, R2, R3 and V_{ref}. Refer to the table below.

Output voltage	R1	R2	R3	Vref
3.3 V	8.5 kΩ	5.1 kΩ	27 kΩ	1.24 V
5 V	15.47 kΩ	5.1 kΩ	33 kΩ	1.24 V
12 V	12.62 kΩ	3.3 kΩ	22 kΩ	2.5 V
15 V	15.1 kΩ	3 kΩ	22 kΩ	2.5 V

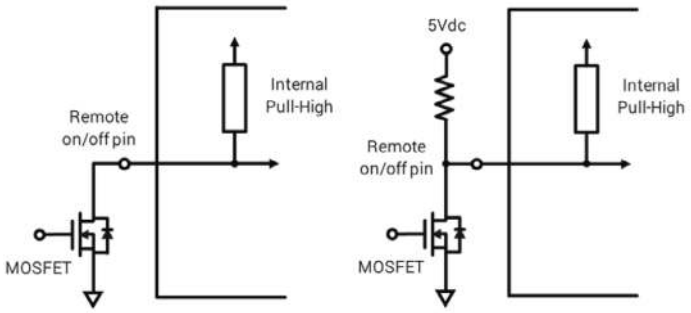
7	8	9	10
3.531	3.564	3.597	3.63
19.98	13.96	9.3	5.6

	8	9	10
.35	5.4	5.45	5.5

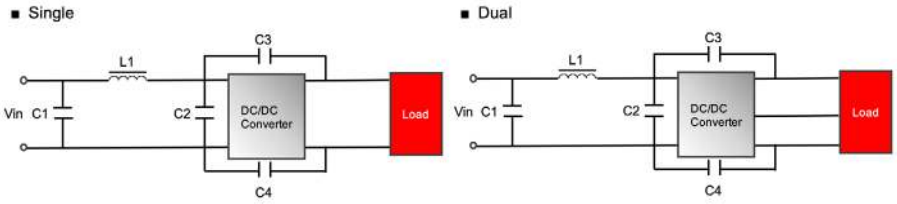
CTRL pin setting

Remote ON/OFF	DC-DC ON	Open or 3 - 12 Vdc
	DC-DC OFF	Short or 0 - 1.2 Vdc

If not using CTRL function, leave CTRL pin floating.
If using CTRL pin to control module to turn on and off; use either external circuit as shown below.

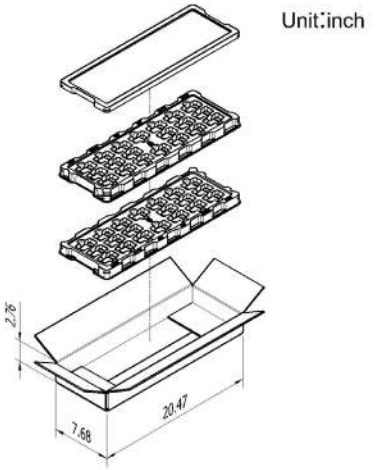


EMC filtering circuit

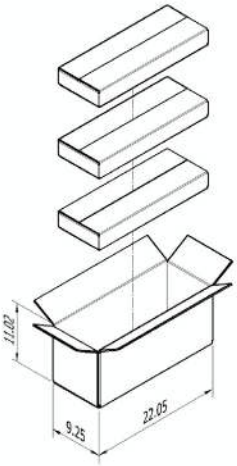


Class B	C1	L1	C2	C3	C4
24 Vin	10 µF	1.5 µH	10 µF	2200 pF	2200 pF
48 Vin	4.7 µF	3.3 µH	4.7 µF	2200 pF	2200 pF

Packaging- Inches

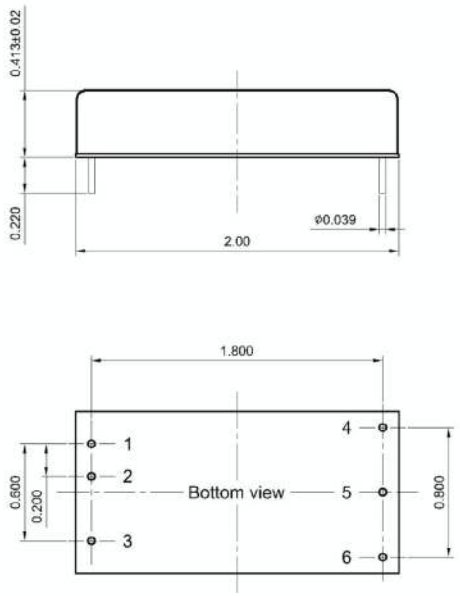


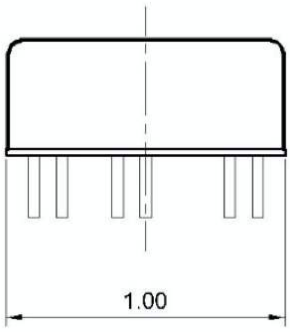
Box accomodates
2 tray 40 converters per box



Carton accomodates
3 boxes 120 converters per carton

Dimensions - inches

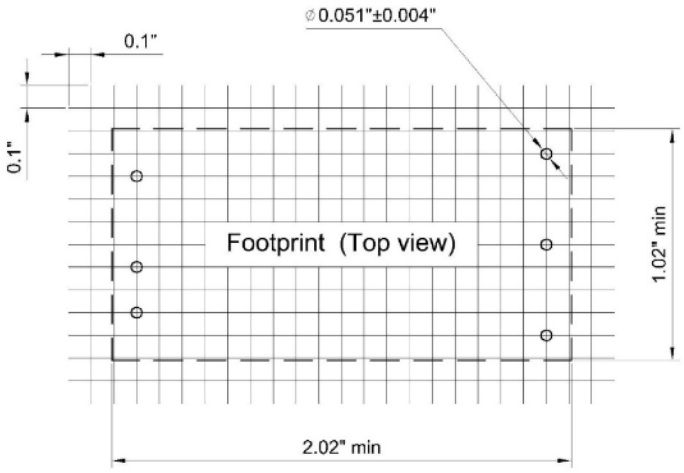




Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	CTRL	CTRL
4	+Vout	+Vout
5	-Vout	Common
6	Trim	-Vout

Unit: inch
PIN tolerance: ± 0.004
Tolerance: X.XX ± 0.02 X.XXX ± 0.015

Recommended PCB layout



Marking

WLY = lot code

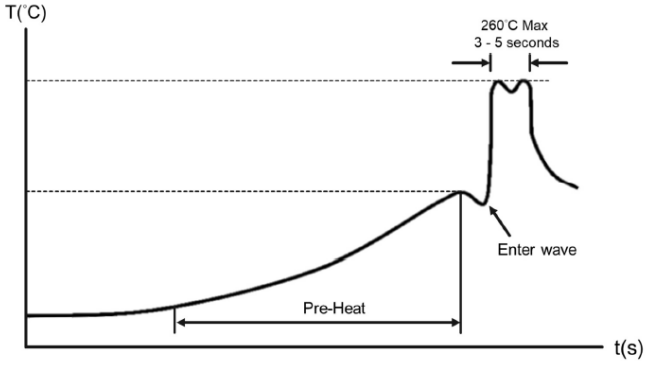
General information

Storage and handling

The shelf life will be a minimum of 36 months, when stored at the following conditions: < +40 °C, < 90% RH.

Wave solder profile

The wave solder profile is measured based on lead temperature. The recommended PCB pre-heat temperature is +80 °C to +100 °C, and the preheat rate of 1.5 to 2.5 °C/sec. The underside PCB temperature at the last pre-heat zone should be approximately +150 °C. The internal temperature of the solder parts should not exceed +210 °C. The duration of solder dwell time should be between 3 to 5 seconds, and not to exceed 10 seconds at a temperture of +260 °C maximum.



Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com/electronics

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