

15W MBR SERIES

Rail Applications

Summary

The MBR series consists of low power (up to 15W) encapsulated converters, which incorporate full surge and transient protection to RIA12 and EN50155. They are available in single, dual and triple output versions, with nominal inputs from 24V up to 110V. Normally supplied with pins for PCB mounting, they are also available with flying leads for bulkhead mounting.

Special features include:

- Fully protected to rail norms
- Rugged encapsulated construction
- Up to three outputs
- Wide input range



Input Specification

The following input voltage versions are available as standard:

- 110V (66.0 - 137.5V) dc (suffix A)
- 72V (43.2 - 90.0V) dc (suffix D)
- 52V (31.2 - 65.0V) dc (suffix C)
- 24V (16.8 - 33.6V) dc (suffix B)

Other ranges are available to order

- Input Ripple : To RIA 13 and EN50155
- Input Protection : Reverse polarity protection. Surges and transients to BRB/RIA 12 & EN50155
- Inrush Current : Limited to typically 5 x nominal current (*after 0.1ms*)
- Efficiency : 75% typical

Output Specification

- Maximum Output Power : up to 15W
- Output Versions : Single, Dual and Triple
- Output Voltage : Can be specified from 5V to 30V
- Setting Tolerance : $\pm 1.0\%$ at 50% load, 15°C to 25°C
- Minimum Load : Typically zero for all outputs, although in some cases a minimum load of up to 5% on U1 for full performance
- Line Regulation : $\pm 0.2\%$ all outputs
- Load Regulation : $\pm 0.5\%$ all outputs
- Temperature Coefficient : $< 0.02\% / ^\circ\text{C}$
- Output Ripple : $< 1\%$ Pk-Pk of Output Voltage
- Output Noise : $< 50\text{mV}$ Pk-Pk superimposed (up to 20MHz)
- Response Time : 1.0ms to within 2% (for a 20% - 90% load change)
- Output Protection : All outputs protected against indirect transients to BRB/RIA 12

Output Current Limit : Operates at a minimum of 110% of nominal loading.
 Primary Power Limit : Operates at approximately 120% of full power
 Isolation : Input to Output 2.0kV ac
 Input to Earth 1.0kV ac
 Output to Earth 1.0kV ac
 Output to Output 250V dc

Mechanical Details

Construction : Encapsulated Module
 Dimensions : Depth = 84mm (105mm including flange)
 Width = 72mm
 Height = 32mm
 Weight: 300g
 Connections : Solder pins for PCB mounting as standard. Specify Q7 for connections via flying leads (halogen free cable)
 Fixings : Two Ø 5mm fixing holes on flanges

Environmental

Operating Temperature : -25°C to +65°C (no derating)
 Storage Temperature : -40°C to +85°C
 Relative Humidity : 99% max.
 Sealing : IP65
 Vibration : RIA 13, RIA 20 Cat. 1

Applicable Norms

EMC : BRB/RIA 12, 18; EN50155, EN50121-3-2
 Other : BRB/RIA 13, 18, 20; EN50155

