

# MR series

20 to 144 watts

## Features

- *Non-isolated DC/DC Converters*
- *Wide Input Range*
- *Environmentally Sealed*

## Ideally Suited For:

- *Transportation*
- *Computing*
- *Instrumentation*



## Input Characteristics

Input Voltage:	Model	Input Voltage Range
	MR05	9 to 33 VDC
	MR12	16 to 33 VDC
	MR24	28 to 63 VDC
Efficiency:	75% to 94%	
Voltage Surge Protection:	MOV	
Inverse Polarity Protection:	Internal reverse diode	
Overload Protection:	Via external fuse	

## Output Characteristics

Output Voltage Accuracy:	0 to 2%
Line and Load Regulation:	< 1%
Ripple and Noise:	<20 mV plus 1% pk-pk of Vout (0-30 MHz)
Transient Response/Recovery Time	+/-3% (1mS)
Temperature Coefficient:	<0.02%/degree C
Current Limiting:	>120% maximum output
Short Circuit Protection:	Continuous
Overvoltage Protection:	External transient suppressor diode required

## Environmental Characteristics

Operating Temperature Range:	-20°C to +70°C ambient
Storage Temperature Range:	-40°C to +85°C ambient
Maximum Baseplate Temperature:	+85°C
Derating without heatsink:	Derate 2% per °C beyond 45°C case temperature
Humidity:	95% RH
Reliability (MTBF per Mil-HDBK-217):	>500,000 hours, +25°C, Ground Benign

## General Characteristics

Switching Frequency:	>25 kHz
Isolation:	Non-isolated
Agency Approvals:	CE Mark

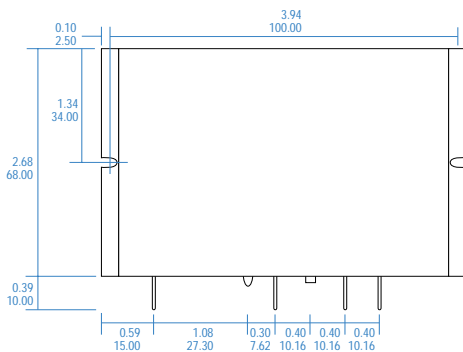


## EMC Characteristics

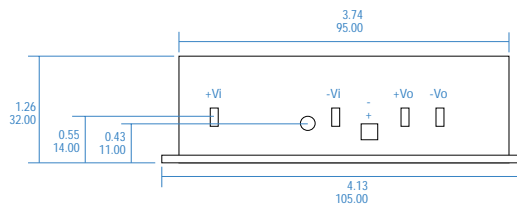
Conducted emissions:	EN55022
Radiated emissions:	EN55022
ESD:	EN61000-4-2
Radiated immunity:	EN61000-4-3
Fast Transients:	EN61000-4-4
Surge:	EN61000-4-5

## Outline Drawing

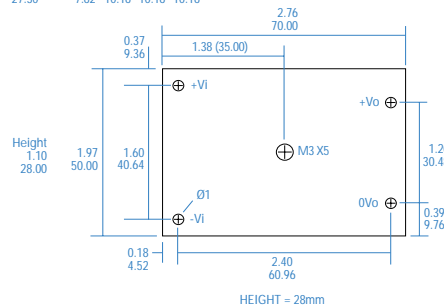
### VA32



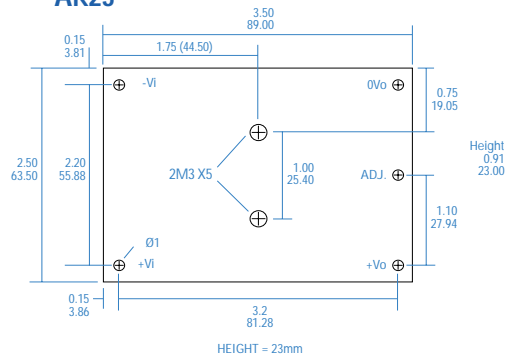
### VA32



### EC28



### AK23



## Available Models

Model	Output Voltage (VDC)	Output Current (A)	Case Code
MR054000	5	4	EC28 AK23
MR056000	5	6	EC28 AK23
MR1210000	12	10	VA32
MR246000	24	6	VA32

To order please specify model number and preferred case configuration i.e.  
MR 05 4000 AK23