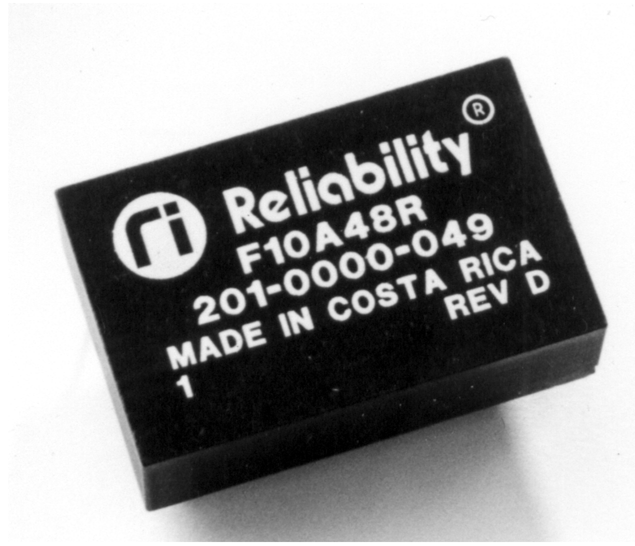
EMC Filter for DC/DC Converters

The international specification for conducted noise refers to the noise on the AC mains. There must be some AC to DC power supply between our DC/DC converter and the user's AC mains. The user must still insure that the user's product as a whole meets the conducted requirements. The F10A48R filter can be used to further reduce the noise on the 48 or 24 VDC input of the DC/DC converter. This filter has a minimum attenuation of 13 dB over the frequency range of 500KHz to 30MHz. We cannot guarantee that the conducted noise will meet the international standards, as the combination of the filter and the converter has not been tested by our independent laboratory.



General Electrical Specifications

(Specifications at Nominal Input and 25 C, nominal input voltage and rated output current unless otherwise noted.)

F10A48R	
Operating Voltage	**0 to 75 VDC**
Transient Voltage	**100 VDC for 0.1 s.**
Current Rating	**1.2A**
Frequency Range	**DC to 100 Mhz**
Reverse Voltage Protection (note 3)	**Yes**
Diode Voltage Drop (CR1, CR2)	**.80v (Max) @ 1.2A**
Ripple Current Rating (C3)	**1.2 ma A rms**
Inductance (L1)	**170 µ (Min), 10Khz**
Inductance (L2 with a 1.2 ADC bias)	**10 µ (Min)**
Shutdown Circuit (note 1)	
Enable	**Open Circuit**
Inhibit	**<0.5v**
Programmable delay	**Yes**
Attenuation (note 2)	**13dB (Min)**
GENERAL SPECIFICATIONS	
Operating Temperature	**0 to 71°C**
Storage Temperature	**- 25 to 100°C**

Notes:

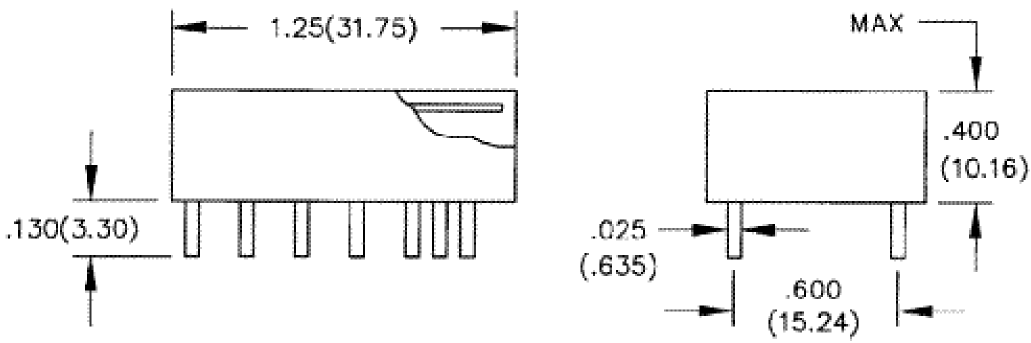
1. Shutdown circuit output is pin 2. The output is an open collector TTL type circuit. When pin 5 is connected to pin 6, the output is enabled (open circuit). If pin 5 is disconnected from pin 6, the output is inhibited (<.5v). An external capacitor can be placed between pins 1 and 3 to provide a shutdown time delay.
2. The frequency range is 500 KHz to 300 MHz. See Attenuation Measurement Test Circuit.
3. Reverse voltage protection is between pins 11 and 12.

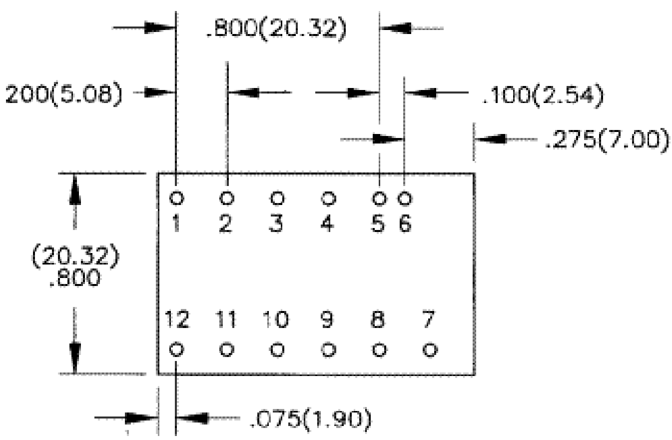
Pin Connections:

Pin	Connection
1	Time delay
2	Shutdown
3	- Output
4	+ Output
5	Control 1
6	Control 2
7	CR1, Cathode
8	CR2, Anode
9	CR2, Cathode
10	CR2, Anode
11	- Input
12	+ Input

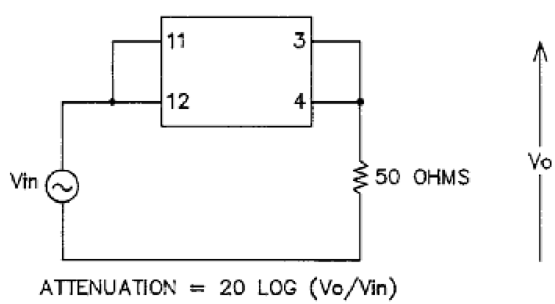
Notes (all devices and packages):
1. *All dimensions in parentheses are metric*
2. *Tolerances unless otherwise specified:*
   .xx ± .03 (.76)
   .xxx ± .015 (.38)

Mechanical Specification (dimensions in inches)





ATTENUATION MEASUREMENT
TEST CIRCUIT



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