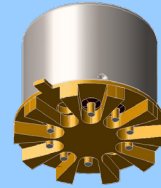




**HIGH REPEATABILITY,  
 DC-8 GHz/20Gbps  
 TO-5 RELAYS, DPDT**



SERIES	RELAY TYPE
GRF312	DPDT Non-latching, Repeatable, Surface-Mount RF relay

**DESCRIPTION**

The ultra miniature GRF312 is designed to improve upon the GRF300 relay's high frequency performance. The GRF312 offers monotonic insertion loss to 8 GHz. This improvement in RF insertion loss over the frequency range, makes these relays highly suitable for use in attenuator and other RF circuits.

- High repeatability.
- Broader bandwidth.
- Metal enclosure for EMI shielding.
- High isolation between control and signal paths.
- Highly resistant to ESD.

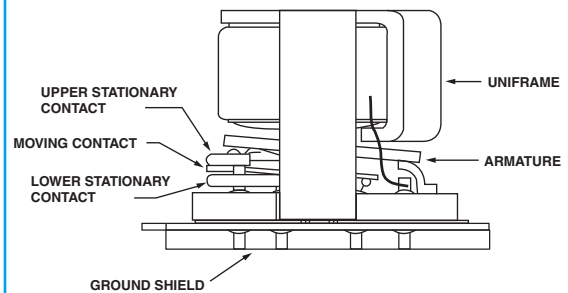
**CONSTRUCTION FEATURES**

The following unique construction features and manufacturing techniques provide excellent resistance to environmental extremes and overall high reliability.

- Uni-frame motor design provides high magnetic efficiency and mechanical rigidity.
- Minimum mass components and welded construction provide maximum resistance to shock and vibration.
- Advanced cleaning techniques provide maximum assurance of internal cleanliness.
- Gold-plated precious metal alloy contacts ensure reliable switching.
- Hermetically sealed.

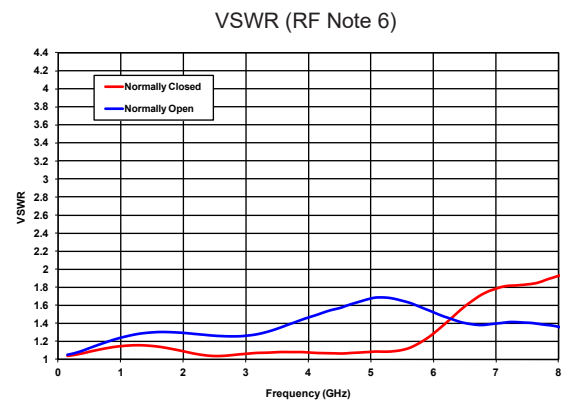
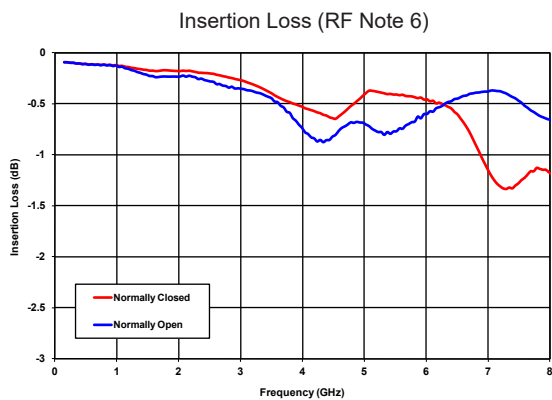
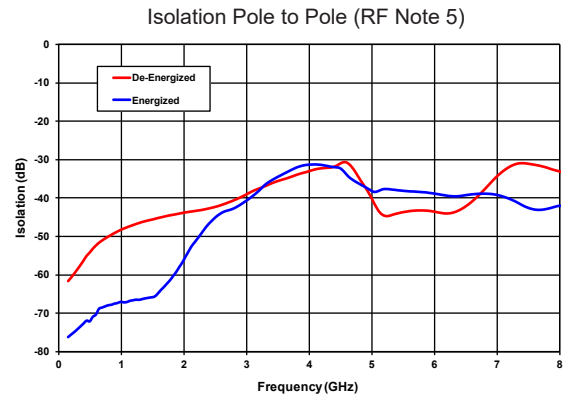
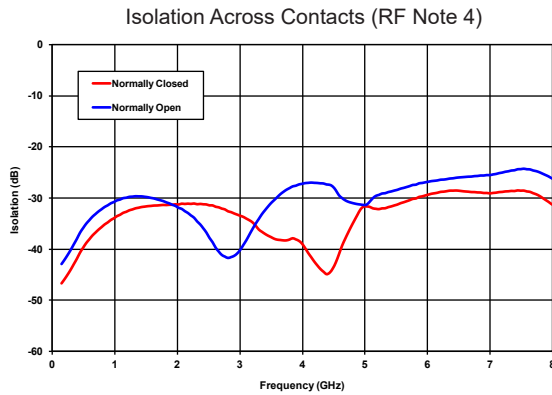
ENVIRONMENTAL AND PHYSICAL SPECIFICATIONS		
<b>Temperature</b> (Ambient)	<b>Storage</b>	-65°C to +125°C
	<b>Operating</b>	-55°C to +85°C
<b>Vibration</b> (Note 1)		10 g's to 500 Hz
<b>Shock</b> (Note 1)		30 g's, 6ms half sine
<b>Enclosure</b>		Hermetically sealed
<b>Weight</b>		0.09 oz. (2.55g) max.

**INTERNAL CONSTRUCTION**

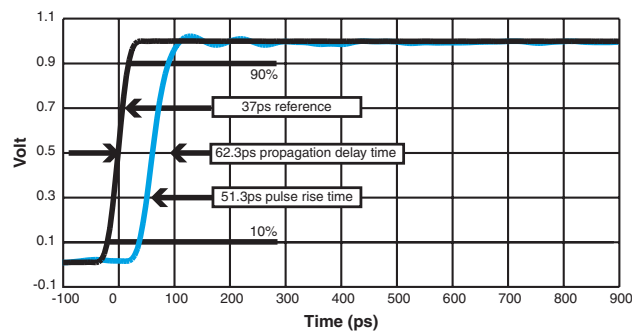




**TYPICAL RF CHARACTERISTICS (See RF Notes)**



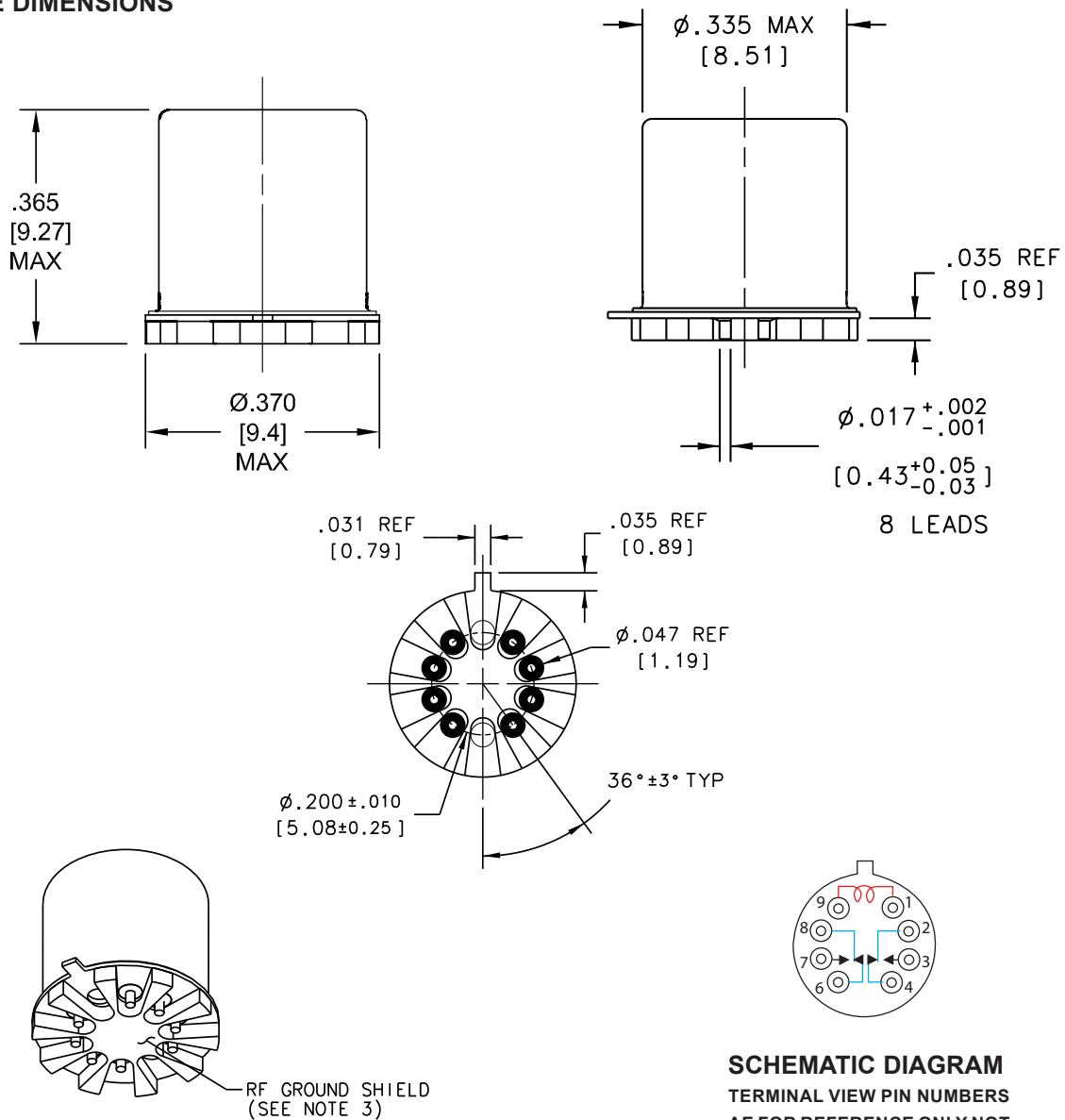
GRF312 Time Response (RF Note 6)



**RF NOTES**

1. Test conditions:
  - a. Fixture: .031" copper clad, reinforced PTFE, RT/duroid® 6002 with SMA connectors. (RT/duroid® is a registered trademark of Rogers Corporation.)
  - b. Room ambient temperature.
  - c. Terminals not tested were terminated with 50-ohm load.
  - d. Contact signal level: -10 dBm.
  - e. No. of test samples: 4.
2. Data presented herein represents typical characteristics and is not intended for use as specification limits.
3. Data is per pole, except for pole-to-pole data.
4. Data is the average from readings taken on all open contacts.
5. Data is the average from readings taken on poles with coil energized and de-energized.
6. Data is the average from readings taken on all closed contacts.
7. Test fixture effect de-embedded from frequency and time response data.

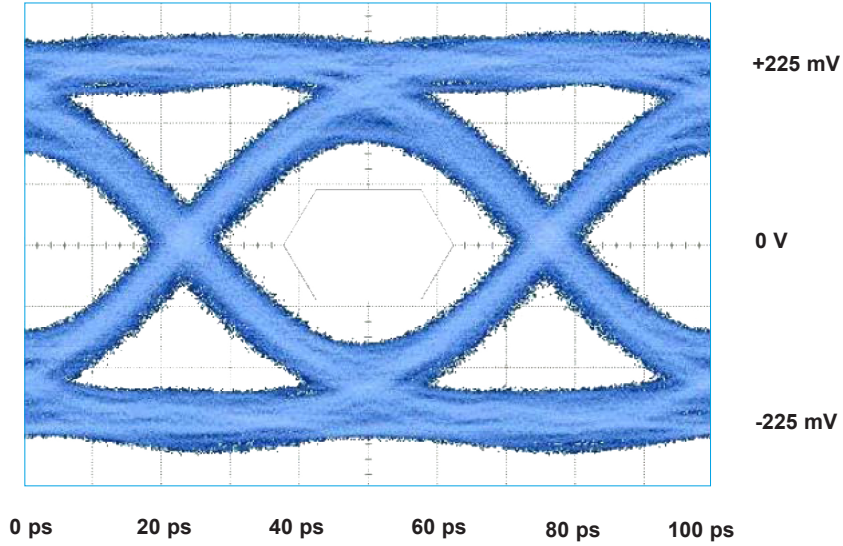
**OUTLINE DIMENSIONS**



**NOTES:**

1. DIMENSIONS ARE IN INCHES, METRIC EQUIVALENTS SHOWN IN [ ].
2. POSITIONS 5 AND 10 ARE FOR UNINSULATED CASE GROUND OPTIONS.
3. NO PROTRUSION BELOW BOTTOM OF HEADER WHEN GROUND PINS ARE INSTALLED
4. TO ORDER THE CASE GROUND OPTION, AFTER THE SERIES DESIGNATOR, ADD "Y" TO THE PART NUMBER FOR POSITION 5 OR "Z" TO THE PART NUMBER FOR POSITION 10.

**TYPICAL Single-Ended Signal Integrity Characteristics @ 20 Gbps**



Bit Rate	Eye Height	Eye Width	Jitter <sub>P-P</sub>
20 Gbps	182 mV	40.6 ps	11.56 ps