



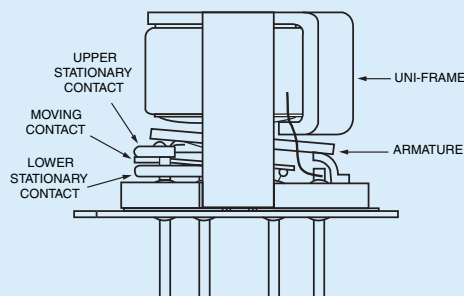
A Unit of Teledyne Electronics and Communications

## HIGH REPEATABILITY BROADBAND TO-5 RELAYS DPDT

# SERIES RF300 RF303

SERIES DESIGNATION	RELAY TYPE
RF300	Repeatable RF relay
RF303	Sensitive, repeatable RF relay

### INTERNAL CONSTRUCTION



### PERFORMANCE FEATURES

The ultraminiature RF300 and RF303 relays are designed to provide improved RF signal repeatability over the frequency range. These relays are highly suitable for use in attenuator and other RF circuits, the RF 300 and RF303 feature:

- High repeatability.
- Broader bandwidth.
- Metal enclosure for EMI shielding.
- Ground pin option to improve case grounding.
- 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.
- Solderable leads.

### ENVIRONMENTAL AND PHYSICAL SPECIFICATIONS

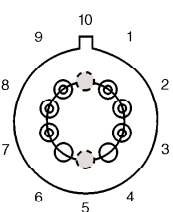
<b>Temperature</b> (Ambient)	<b>Storage</b>	-65°C to +125°C
	<b>Operating</b>	-55°C to +85°C
<b>Vibration</b> (General Note 1)		10 g's to 500 Hz
<b>Shock</b> (General Note 1)		30 g's, 6 msec, half-sine
<b>Enclosure</b>		Hermetically sealed
<b>Weight</b>	RF300	0.09 oz. (2.55g) max.
	RF303	0.16 oz. (4.5g) max.

**SERIES RF300 AND RF303**  
**GENERAL ELECTRICAL SPECIFICATIONS (@25°C)**

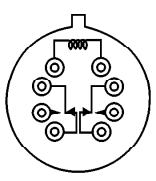
<b>Contact arrangement</b>	2 Form C (DPDT)	
<b>Rated duty</b>	Continuous	
<b>Contact resistance</b>	0.15 ohm max. initial (measured 1/8" from the header)	
<b>Contact load rating</b>	Resistive: 1Amp/28Vdc Low level: 10 to 50 µA, 10 to 50 mV	
<b>Contact life rating</b>	10,000,000 cycles typical at low level	
<b>Coil operating power</b>	RF300: 450 mW typical @ nominal rated voltage RF303: 200 mW typical @ nominal rated voltage	
<b>Operate time</b>	<b>RF300</b>	4.0 ms. max.
	<b>RF303</b>	6.0 ms. max.
<b>Release time</b>	<b>RF300</b>	3.0 ms. max.
	<b>RF303</b>	3.0 ms. max.
<b>Intercontact capacitance</b>	0.4 pF typical	
<b>Insulation resistance</b>	1,000 MΩ min. (between mutually isolated terminals)	
<b>Dielectric strength</b>	350 VRMS / 60 Hz @ atmospheric pressure	

**DETAILED ELECTRICAL SPECIFICATIONS (@25°C)**

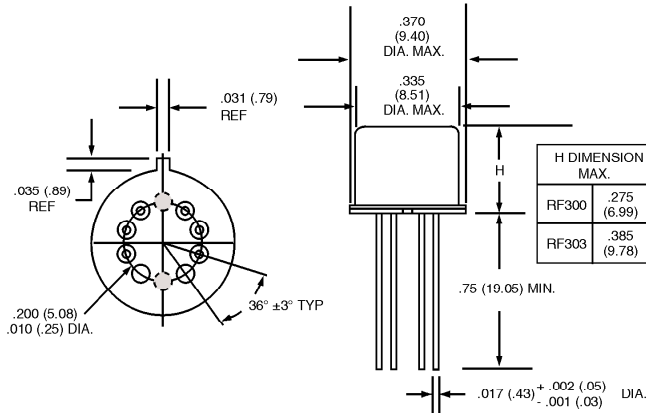
BASE PART NUMBERS	RF300-5 RF303-5	RF300-12 RF303-12
<b>Coil voltage, nominal, VDC</b>	5.0	12.0
<b>Coil resistance, ohms ± 20%</b>	<b>RF300</b>	390
	<b>RF303</b>	850
<b>Pick-up voltage max, VDC</b>	3.6	9.0



**TERMINAL NUMBERING**



**SCHEMATIC**



**EXTERNAL DIMENSIONS**

- HEADER DIMENSIONS, TERMINAL NUMBERING AND SCHEMATIC ARE AS VIEWED FROM THE TERMINALS.
- DIMENSIONS ARE IN INCHES (MILLIMETERS).
- POSITIONS 5 AND 10 ARE FOR UNINSULATED CASE GROUND OPTIONS. SEE APPENDIX.
- NO PROTRUSION BELOW BOTTOM OF HEADER WHEN GROUND PINS ARE INSTALLED.
- 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.

**EXAMPLE: RF300Y-COIL VOLTAGE**

**GENERAL NOTES**

1. Relays will exhibit no contact chatter in excess of 10 µsec or transfer in excess of 1 µsec.