

SMT DPDT Non-Latching Electromechanical Relay Signal Integrity up to 20Gbps



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



SERIES	RELAY TYPE
SGRF312	Repeatable, Surface-Mount J-Lead RF relay
SGRF332	Low Power Operating Coil, Surface-Mount J-Lead RF relay

DESCRIPTION

The ultra miniature SGRF312 is designed to improve upon the SGRF300/SGRF303 relay's high frequency performance. The SGRF312/SGRF332 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. The sensitive SGRF332 relay has a high resistance coil, thus requiring extremely low operating power (200 mW typical).

- · 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.

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



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SERIES SGRF312/SGRF332

GENERAL ELECTRICAL SPECIFICATIONS (@25°C)

Contact Arrangement	2 Form C (DPDT)		
Rated Duty	Continuous		
Contact Resistance	0.15 Ω max.		
Contact Load Rating	Resistive: 1Amp/28Vdc Low level: 10 to 50 μA @ 10 to 50 mV		
Contact Life Ratings	1,000,000 cycles (typical) at low level contact load		
Coil Operating Power	SGRF312: 450 mW typical at nominal rated voltage SGRF332: 200 mW typical at nominal rated voltage		
Operate Time	SGRF312: 4.0 mS max. SGRF332: 6.0 mS max.		
Release Time	3.0 mS max.		
Intercontact Capacitance	0.4 pf typical		
Insulation Resistance	1,000 M Ω min. between mutually isolated terminals		
Dielectric Strength	350 Vrms (60 Hz) @ atmospheric pressure		

DETAILED ELECTRICAL SPECIFICATIONS (@25°C)

BASE PART NUMBERS (SGRF312)	SGRF312-5	SGRF312-12
Coil Voltage, Nominal (Vdc)	5.0	12.0
Coil Resistance (Ohms ±20%)	50	390
Pick-up Voltage (Vdc max.)	3.6	9.0

BASE PART NUMBERS (SGRF332)	SGRF332-5	SGRF332-12
Coil Voltage, Nominal (Vdc)	5.0	12.0
Coil Resistance (Ohms ±20%)	100	850
Pick-up Voltage (Vdc max.)	3.6	9.0

Teledyne Part Numbering System for SGRF312/SGRF332





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SERIES SGRF312/SGRF332



Bit Rate	Eye Height	Eye Width	Jitter _{P-P}
20 Gbps	144 mV	33.3 ps	12.67 ps

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Teledyne Relays: SGRF312-5 SGRF312 SGRF332YZ-5/R SGRF332YZ-5