MACD-14 Series

14mm Close-Differential Reed Switch



Web Resources

Download ECAD models, order samples, and find technical recources at www.littelfuse.com

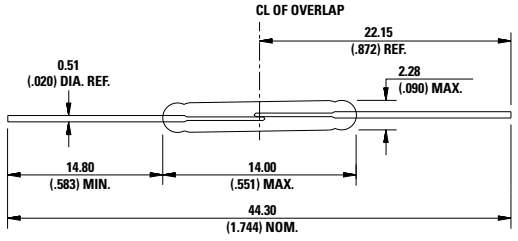
Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
c UL us	E47258	10-30 AT

Note: Contact Littelfuse for specific agency approval ratings.

Dimensions

Dimensions in mm (inch)



Description

The MACD-14 reed switch is a close-differential, sub-miniature, normally open switch with a 14.00mm long x 2.28mm diameter (0.551" x 0.090") glass envelope, capable of switching 200Vdc at 10W.

This reed switch is also available in a surface mount version, MASM-14. It has a high insulation resistance of 10^{10} ohms minimum and contact resistance less than 100 milli-ohms. Both reed switches are intended for use in applications that require low hysteresis between Pull-In and Drop-Out values.

Features

- Low close/open hysteresis (close differential)
- Normally open switch
- Capable of switching 200Vdc or 0.5A at up to 10W
- UL Recognized for the US and Canadian Markets per UL 508 and CSA C22.2 No. 14-10.

Benefits

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Zero operating power required for contact closure
- Excellent for switching micro-controller logic level loads

Applications

- Position Sensing
- Level Sensing
- Security
- Industrial Controls
- Office Equipment
- Home Appliances

Switch Type

Contact Form	A (SPST-NO)
Materials	Body: Glass Leads: Tin-plated Ni-Fe wire

Note: SPST-NO = Single-pole, single-throw, normally open

Electrical Ratings

Contact Type			Normaly Open
Contact Rating [1]		W/VA - max.	10
Voltage [3]	Switching [2]	Vdc - max.	200
		Vac - max.	140
	Breakdown [4]	Vdc - min.	200
Current [3]	Switching [2]	Adc - max.	0.50
		Aac - max.	0.35
	Carry	Adc - max.	1.00
Resistance	Contact, Initial	Ω - max.	0.100
	Insulation	Ω - min.	10^{10}
Capacitance	Contact	pF - typ.	0.3
Temperature	Operating	°C	-40 to +125
	Storage [5]	°C	-65 to +125

Notes:

1. Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
3. Electrical Load Life Expectancy - Contact Littelfuse with voltage and current values along with type of load.
4. Breakdown Voltage - per MIL-STD-202, Method 301.
5. Storage Temperature - Long time exposure at elevated temperature may degrade solderability of the leads.

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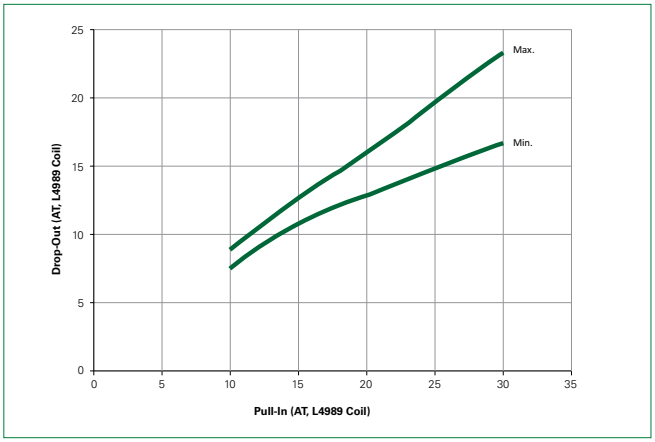
Product Characteristics

Operating Characteristics		
Operate Time [1]		0.6ms - max.
Release Time [1]		0.20ms - max.
Shock [2]	11ms 1/2 sine wave	100G - max.
Vibration [2]	50-2000 Hertz	30G - max.
Resonant Frequency		5.3kHz - typ.

Magnetic Characteristics		
Pull-In Range [3]	Ampere Turns	10-30
Rating Sensitivity [4]	Ampere Turns	20
Test Coil		L4989

Notes:
1. Operate (including bounce)/Release Time - per EIA/NARM RS-421-A,diode suppressed coil (Coil II).
2. Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
3. Pull-In Range - Contact Littelfuse for narrower AT ranges available.
4. Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
5. Custom modifications of forming and/or cutting of reed switches are available. Please contact Littelfuse.

Drop-Out vs. Pull-In Chart



Note: Chart represents the range of Drop-Out, min to max for a given Pull-In value.

Part Numbering System

MACD-14-10-15

Series

AT Range
10-15 AT
15-20 AT
20-25 AT
25-30 AT

Example:
10-15 AT product is
MACD-14-10-15

Note: These AT values are the before-modification values of the bare reed switch.

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	1000	N/A	N/A

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: www.littelfuse.com/disclaimer-electronics.

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