

SECTION 6

REED RELAYS FOR PRINTED CIRCUIT BOARD APPLICATIONS 4 VA TO 100 VA COAXIAL RELAYS FOR R. F. SWITCHING

Downloaded from Elcodis.com electronic components distributor

| | PRINTED CIRCUIT BOARD REED RELAYS | | | |
|---|--|---|--|--|
| RELAY SERIES | 117SIP Magnecraft W117SIP-1 012 | 107DIP | 171DIP | |
| | L W H 0.290 x 0.280 x 0.750 | L W H 0.275 X 0.300 X 0.750 | L W H 0.275 X 0.300 X 0.750 | |
| | SPST - NO OR NC - EPOXY MOLDED CONSTRUCTION. | SPST - NO OR NC - EPOXY MOLDED CONSTRUCTION. | SPST - NO OR NC - EPOXY MOLDED CONSTRUCTION. | |
| | • STANDARD 0.1 GRID SPACING. | • STANDARD 0.1 GRID SPACING. | • STANDARD 0.1 GRID SPACING. | |
| FEATURES | AVAILABLE WITH OR WITHOUT SUPPRESSION DIODE ACROSS COIL. | 4 HOOK- UP PINS TO COIL & 4 HOOK-UP PINS TO CONTACTS | AVAILABLE WITH OR WITHOUT SUPPRESSION DIODE ACROSS COIL. | |
| | | AVAILABLE WITH OPTIONAL ELECTROSTATIC SHIELD | AVAILABLE WITH OPTIONAL ELECTROSTATIC SHIELD | |
| | | | | |
| CONTACT DATA CONTACT CONFIGURATION: | SPST-N. O., SPST-N. C. | SPST-N. O., SPST-N. C. | SPST-N. O., SPST-N. C. | |
| CONTACT MATERIAL: | RHODIUM | RHODIUM | RHODIUM | |
| CONTACT RESISTANCE: | 100 MILLIOHMS (INITIAL) | 100 MILLIOHMS (INITIAL) | 100 MILLIOHMS (INITIAL) | |
| MAX. SWITCHING LOAD: | 0.5 AMP, 200 VDC @ 10 VA | 0.5 AMP, 100 VDC @ 10 VA | 0.5 AMP, 100 VDC @ 10 VA | |
| CONTINUOUS CARRY CURRENT: | 1.2 AMP | 1.5 AMP | 1.5 AMP | |
| COIL DATA STANDARD VOLTAGE | | | | |
| DC: | 5, 12, 24, | 5, 12, 24, | 5, 12, 24, | |
| NOMINAL COIL POWER WATTS: | 50 - 290 mW MAX. | 35 - 290 mW MAX. | 35 - 290 mW MAX. | |
| | | | | |
| | | | | |
| GENERAL DATA AMBIENT TEMPERATURE | | | | |
| OPERATING: | - 45°C TO + 85°C | - 40°C TO + 85°C | - 40°C TO + 85°C | |
| STORAGE: DIELECTRIC STRENGTH: | - 40°C TO + 105°C 500 V rms | - 40°C TO + 105°C 1000 V rms | - 40°C TO + 105°C 1000 V rms | |
| (COIL TO FRAME) | 300 V IIIIS | 1000 v 1113 | 000 Y 100 | |
| LIFE EXPECTANCY ELECTRICAL: MECHANICAL: | 50,000,000 OPERATIONS 100,000,000 OPERATIONS | 50,000,000 OPERATIONS 100,000,000 OPERATIONS | 50,000,000 OPERATIONS 100,000,000 OPERATIONS | |
| | | | | |
| | | | | |
| PAGE NUMBER | PAGE 7 | PAGE 8 | PAGE 9 - 10 | |
| 61 Downloaded from <u>Elcodis.com</u> elec | onic components distributor | | | |

PRINTED CIRCUIT BOARD & MINIATURE REED RELAYS

| MRRDL | 172DIP | 193RE |
|--|--|--|
| | Magnecrat W172DIP 1470050Y | |
| L W H 0.275 X 0.300 X 0.750 | L W H 0.275 X 0.300 X 0.750/0.338 X 0.393 X 0.750 | L W H 0.355 X 0.4 TO 0.9 X 1.15 |
| SPST - NO - EPOXY MOLDED CONSTRUCTION STANDARD 0.1 GRID SPACING DUAL OPERATE & RESET COIL MAINTAINS LAST SET CONTACT POSITION WITHOUT THE NEED FOR COIL POWER | SPDT - EPOXY MOLDED CONSTRUCTION. DPDT - ENCAPSULATED CONSTRUCTION. STANDARD 0.1 GRID SPACING. AVAILABLE WITH SUPPRESSION DIODE ACROSS COIL. AVAILABLE WITH OPTIONAL ELECTROSTATIC SHIELD | SPDT -NO, SPDT, DPST - NO & DPDT - DUST COVER STANDARD. ENCAPSULATED CONSTRUCTION OPTIONAL STANDARD 0.1 GRID OR OPTIONAL 0.15 GRID SPACING. UP TO 4PDT OR 6PST CONTACT ARRANGEMENTS. |
| | | |
| SPST-N. O. RHODIUM | <u>SPDT, DPDT</u> RHODIUM | 1 TO 4PDT, 1 TO 6PST RHODIUM |
| 100 MILLIOHMS (INITIAL) | 100 MILLIOHMS (INITIAL) | 200 MILLIOHMS (INITIAL) |
| 0.5 AMP, 100 VDC @ 10 VA | SPDT: 0.25 AMP, 100 VDC @ 4 VA DPDT: 0.5 AMP, 100 VDC @ 10 VA | MAX. SWITCHING 0.5 AMP OR 200 VDC @ 10 VA |
| 1.5 AMP | SPDT - 0.5 AMP, DPDT - 1.0 AMP | 1,5 AMP |
| 5, 12, 24, | 5, 12, 24, | 12, 24, |
| 35 - 290 mW MAX. | 35 - 290 mW MAX. | 1030 mW MAX. |
| | | |
| - 40°C TO + 85°C | - 40°C TO + 85°C | - 40°C TO + 85°C |
| - 40°C TO + 105°C | - 40°C TO + 105°C | - 40°C TO + 105°C |
| 1000 V rms | 1000 V rms | 500 V rms |
| 50,000,000 OPERATIONS 100,000,000 OPERATIONS | 50,000,000 OPERATIONS 100,000,000 OPERATIONS | 50,000 OPERATIONS 10,000,000 OPERATIONS |
| | | |
| PAGE 11 | PAGE 12 - 14 | PAGE 15 - 16 62 |

| | MINIATURE & HIGH VOLTAGE REED RELAYS/COAXIAL RELAYS | | | |
|---|---|--|---|--|
| RELAY SERIES | 134 MPCX MERCURY WETTED | 102VX & 102HVX | 120 COAXIAL | |
| | L W H 2.90 X 1.53 X 1.40 | L W H 0.65 X 0.76 X 2.67 | L W H 1.73 X 0.703 X 1.62 | |
| FEATURES | SPDT & DPDT - DUST COVER STANDARD. ENCAPSULATED CONSTRUCTION OPTIONAL STANDARD 0.1 GRID OR OPTIONAL 0.15 SPACING AVAILABLE. POSITION SENSITIVE. VERTICAL MOUNTED. | SPST - NO EPOXY ENCAPSULATED HIGH VOLTAGE REED SWITCHING UP TO 10 MA @ 5,000 VDC 5 MA @10,000 VDC | SPDT - METAL CASE 150 WATT SWITCHING UP TO 470 MHz. RG58C/U CABLE, 12" LONG STANDARD. 50 OHM IMPEDANCE R.F. SWITCHING CONTACTS | |
| CONTACT DATA CONTACT CONFIGURATION: | SPDT, DPDT | SPST- N. O. | SPDT | |
| CONTACT MATERIAL: | RHODIUM / MERCURY | TUNGSTEN | SILVER ALLOY GOLD FLASHED | |
| CONTACT RESISTANCE: | 100 MILLIOHMS (INITIAL) | 200 MILLIOHMS (INITIAL) | 50 MILLIOHMS (INITIAL) | |
| MAX. SWITCHING LOAD: | MAX. SWITCHING 1.0 AMP OR 500 VDC @ 50 VA | VX-10 MA @ 5000VDC HVX-5 MA @ 10,000 VDC | 150 WATTS, 85 Vrms | |
| CONTINUOUS CARRY CURRENT: | | 30 & 15 MILLIAMPS | 150 WATTS | |
| COIL DATA STANDARD VOLTAGE DC: | 5, 12, 24, | 12, 24, | 12 | |
| NOMINAL COIL POWER WATTS: | 620 mW MAX. | 1.5 WATTS MAX. | 1.44 WATTS MAX. | |
| GENERAL DATA AMBIENT TEMPERATURE OPERATING: STORAGE: DIELECTRIC STRENGTH: (COIL TO FRAME) LIFE EXPECTANCY ELECTRICAL: MECHANICAL: | - 37°C TO + 85°C - 40°C TO + 105°C 1000 V rms 40,000 OPERATIONS 10,000,000 OPERATIONS | - 40°C TO + 85°C - 40°C TO +105°C 12000 V rms 1,000,000 OPERATIONS 10,000,000 OPERATIONS | - 55°C TO + 65°C - 40°C TO +105°C 1500 V rms 5,000,000 OPERATIONS 100,000 OPERATIONS | |
| PAGE NUMBER 63 Downloaded from <u>Elcodis.com</u> elec | PAGE 17 ronic components distributor | PAGE 18 | PAGE 19 | |

REED RELAYS

APPLICATION DATA

HOW REED RELAYS WORK

The term reed relay covers dry reed relays and mercurywetted contact relays, all of which use hermetically sealed reed switches. In both types, the reeds (thin, flat blades) serve multiple functions - as conductor, contacts, springs, and magnetic armatures.

DRY REED RELAYS

Dry reed relays have become an important factor in the relay field. They have the advantage of being hermetically sealed and resistant to atmospheric contamination. They have fast operate and release times and when operated within their rated contact loads, have very long life. A typical dry reed switch capsule is shown in Figure 1.

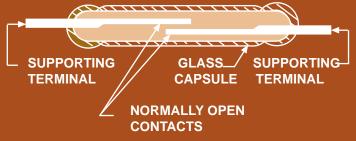


Figure 1. Construction of Switch Capsule of Typical Dry Reed switch (SPST-NO)

In the basic SPST-NO design, two opposing blades are sealed into a narrow glass capsule and overlapped at their free ends. The contact area is plated typically with rhodium to produce a low contact resistance when contacts are drawn together. The capsule is made of glass and filled with a dry inert gas and then sealed. The capsule is surrounded by an electromagnetic coil. When the coil is energized, the normally open contacts are brought together; when the coil voltage is removed, the blades separate by their own spring tension. Some reeds contain permanent magnets for magnetic biasing to achieve normally closed contacts (SPST-NC) or SPDT contact combinations. The current rating, which is dependent upon the size of the blade and the type and amount of plating, may range from low level to 1 amp. Effective contact protection is essential when switching loads other then dry resistive loads.

MERCURY-WETTED CONTACT RELAYS.

Mercury wetted contacts consist of a glass-encapsulated reed with its base immersed in a pool of mercury and the other end capable of moving between one or two stationary contacts. The mercury flows up the reed by capillary action and wets the contact surfaces of the moving end of the reed as well as the contact surfaces of the stationary contacts. A mercury to mercury contact is maintained in the closed position. The capsule is surrounded by an electromagnetic coil and operates in the same manner as a dry reed.

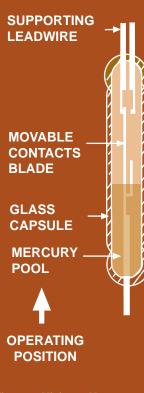


Figure 2. Miniature Mercury wetted contacts switch (SPST)

CONTACT COMBINATIONS.

Mercury wetted contacts are fast in operation and have relatively good load carrying capacity and long life. The mercury films are reestablished at each contact closure and contact erosion is eliminated. The mercury films are stretchable, there is no contact bounce and because it is a mercury contact, the contact resistance is very low and ideal for low level switching applications. The disadvantages of this type of reed relay are the freezing point of mercury (-38°C), poor resistance to shock and vibration and the need to mount the relay in a near vertical position. These relays are used for a variety of switching applications such as found in computers, business machines, machine tool control systems, and laboratory instruments.

The switches used in dry reed relays provide SPST-NO, SPST-NC, SPDT contact combinations. The SPST-NO corresponds with the basic switch capsule design (Fig.1).

The SPST-NC results from a combination of the SPST-NO switch and a permanent magnet strong enough to pull the contacts closed but able to open when coil voltage is applied to the relay coil.

In typical true SPDT designs, the armature is mechanically tensioned against the normally closed contact, and is moved to the normally open contact upon application of a magnetic field. The SPDT contact combination can also be achieved by joining a SPST-NO switch with an appropriately adjusted SPST-NC switch, and jumping one side of both switches together to form the movable contact system.

Latching contacts, defined as contacts which remain in the position to which they were driven, and stay in that position when coil power is removed from the relay coil.

Latching switches are manufactured by using a SPST-NO contact, and biasing it with a permanent magnetic that is strong enough to hold the contacts closed, but not strong enough to hold the contact closed when coil power is applied to the coil. The switching process is than reversed by simply reversing the relay coil polarity to close the switch, or by employing a second coil with a reverse field.

REED RELAYS

APPLICATION DATA

MAGNETIC FIELDS

Reed relays in general can be characterized as susceptible to the influences of external magnetic fields. It is important to keep reed relays at a proper distance from each other because of the possibility of magneticinteraction between them. Proper magnetic shielding must be used to contain stray magnetic fields. When installing reed relays into equipment, one should be aware of the devices within that equipment which can produce magnetic fields. The relays being installed into that equipment should be positioned as far away as possible from any stray magnetic fields and should be shielded to prevent false operations.

ELECTRICAL CHARACTERISTICS

SENSITIVITY:

The input power required to operate dry reed relays is determined by the sensitivity of the particular reed switch used, by the number of switches operated by the coil, by the permanent magnet biasing (if used), and the efficiency of the coil and the effectiveness of its coupling to the blades. Minimum input required to effect closure ranges from the very low milliwatt level for a single sensitive capsule to several watts for multipole relays.

OPERATE TIME:

The coil time constant, overdrive on the coil, and the characteristics of the reed switch determine operate time. With the maximum overdrive voltage applied to the coil, reed relays will operate in approximately the 200 microsecond range. When driven at rated coil voltage, usually the relays will operate at about one millisecond.

RELEASE TIME:

With the coil unsuppressed, dry reed switch contacts release in a fraction of a millisecond. SPST-NO contacts will open in as little as 50 microseconds. Magnetically biased SPST-NC and SPDT switches reclose from 100 microseconds to 1 millisecond respectively. If the relay coil is suppressed, release times are increased. Diode suppression can delay release times for several milliseconds, depending on coil characteristics, coil voltage, and reed release characteristics.



CONTACT BOUNCE

Dry reed contacts bounce on closure as with any other hard contact relay. The duration of bounce on a Dry reed switch is typically very short, and is in part dependent on drive level. In some of the faster devices, the sum of the operate time and bounce is relatively constant. As drive is increased, the operate time decreases with bounce time increasing. The normally closed contacts of a SPDT switch bounce more then the normally open contacts. Magnetically biased SPST-NC contacts exhibit essentially the same bounce characteristics as SPST-NO switches.

CONTACT RESISTANCE

The reeds (blades) in a dry reed switch are made of magnetic material which has a high volume resistivity, terminal-to-terminal resistance is somewhat higher than in some other types of relays. Typical specification limits for initial resistance of a SPST-NO reed relay is 0.200 ohms max (200 milliohms).

INSULATION RESISTANCE

A dry reed switch made in a properly controlled internal atmosphere will have an insulation resistance of 10¹² to 10^omms or greater. When it is assembled into a relay, parallel insulation paths reduce this to typical values of 10^omms. Depending on the particular manner of relay construction, exposure to high humidity or contaminating environments can appreciably lower final insulation resistance.

CAPACITANCE

Reed capsules typically have low terminal-to-terminal capacitance. However, in the typicall relay structure where the switch is surrounded by a coil, capacitance from each reed to the coil act to increase capacitance many times. If the increased capacitance is objectionable, it can be reduced by placing a grounded electrostatic shield between the switch and coil.

DIELECTRIC WITHSTAND VOLTAGE

With the exception of the High-Voltage dry reed switches (capsules that are pressurized or evacuated), the dielectric strength limitation of relays is determined by the ampere turn sensitivity of the switches used. A typical limit is 200 VAC. The dielectric withstand voltage between switch and coil terminals is typically 500 VAC.

REED RELAYS

APPLICATION DATA

THERMAL EMF

Since thermally generated voltages result from thermal gradients within the relay assembly, relays built to minimize this effect often use sensitive switches to reduce required coil power, and thermally conductive materials to reduce temperature gradients. Latching relays, which may be operated by a short duration pulse, are often used if the operational rate is not changed for longer periods of time because coil power is not required to keep the relay in the on or off position after the initial turn on or turn off pulse.

NOISE

Noise is defined as a voltage appearing between terminals of a switch for a few milliseconds following closure of the contacts. It occurs because the reeds (blades) are moving in a magnetic field and because voltages are produced within them by magnetostrictive effects. From an application standpoint, noise is important if the signal switched by the reed is to be used within a few milliseconds immediately following closure of the contacts. When noise is critical in an application, a peak-to-peak limit must be established by measurement techniques, including filters which must be specified for that particular switching application.

ENVIRONMENTAL CHARACTERISTICS

Reed relays are used in essentially the same environments as other types of relays. Factors influencing their ability to function would be temperature extremes beyond specified limits

VIBRATION

The reed switch structure, with so few elements free to move, has a better defined response to vibration than other relay types. With vibration inputs reasonably separated from the resonant frequency, the reed relay will withstand relatively high inputs, 20 g's or more. At resonance of the reeds, the typical device can fail at very low input levels. Typical resonance frequency is 2000 hz.

SHOCK

Dry reed relays will withstand relatively high levels of shock. SPST-NO contacts are usually rated to pass 30 to 50 g's, 11 milliseconds, half sign wave shock, without false operation of contacts. Switches exposed to a magnetic field that keep the contacts in a closed position, such as in the biased latching form, demonstrate somewhat lower resistance to shock. Normally closed contacts of mechanically biased SPDT switches may also fail at lower shock levels.

TEMPERATURE

Differential expansion or contraction of reed switches and materials used in relay assemblies can lead to fracture of the switches. Reed relays are capable of withstanding temperature cycling or temperature shock over a range of at least -50° C to $+100^{\circ}$ C. These limits should be applied to the application to prevent switch failure.

CONTACT PROTECTION

Tungsten lamp, inductive and capacitive discharge load are extremely detrimental to reed switches and reduce life considerably. Illustrated below are typical suppression circuits which are necessary for maximum contact life.





Initial cold filament turn-on current is often 16 times higher than the rated operating current of the lamp. A current limiting resistor in series with the load, or a bleeder resistor across the contacts will suppress the inrush current. The same circuits can be used with capacitive loads, as shown in Figure 3.





DC inductive loads call for either a diode or a thyristor to be placed across the load. These circuits are necessary to protect the contacts when inductive loads are to be switched in a circuit, as shown in Figure 4.

U. S. A.

| TELEPHONE: | (843)393-5778 | |
|-------------------|---------------------|--|
| FAX: | (843)393-4123 | |
| WEBSITE: | www.magnecraft.com | |
| EMAIL: | info@magnecraft.com | |

EUROPE

| TELEPHONE: | 4989 / 75080310 | Y | | | |
|------------|-----------------------|-----|------|-----|--|
| FAX: | 4989/ 7559344 | 4 | | | |
| WEBSITE: | www.magnecraft.com | | | | |
| EMAIL: | renatesteinback@magne | eci | raft | .de | |

SINGLE IN - LINE PACKAGE REED RELAY

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

SPST-N.O. OR N.C., 0.5 AMP

GENERAL SPECIFICATIONS

COIL

| Pull-in Voltage: | 85% of nominal voltage or less |
|-------------------|--------------------------------|
| Drop Out Voltage: | 10% of nominal voltage or more |
| Max. Voltage: | 110% of nominal voltage |
| Resistance: | ±10% measured @ 25°C |
| Coil Power: | See chart |
| Duty: | Continuous |
| | |

CONTACTS

| Contact Material: | Rhodium |
|---------------------|--|
| Contact Resistance: | 200 milliohms max |
| Contact Rating: | 0.5 amp 200 VDC (10VA) |
| | 1.2 amps max. Continuous carry current |
| TIMING | |
| Operate time: | 1 mS or less @ nominal voltage |

Release time: 1 mS or less @ nominal voltage

DIELECTRIC STRENGTH

| Across Open Contacts: | 150 V rms |
|------------------------|--------------------------------|
| Between Mutually | |
| Insulation Points: | 500 V rms |
| Insulation Resistance: | 1000 megohms min. @ 500 VDC |
| Capacitance: | 1.0 pf typical coil to contact |

50 g's

TEMPERATURE

Operating: Storage:

-40°C to +85°C @ rated operation -40°C to +105°C

SHOCK RESISTANCE

Operating:

VIBRATION RESISTANCE

Operating:

| LIFE EXPECTANCY | |
|-----------------|----------------------------------|
| Electrical: | 50,000,000 operations |
| | @ 5-10 V @ 10 mA |
| Mechanical: | 100,000,000 operations @ no load |

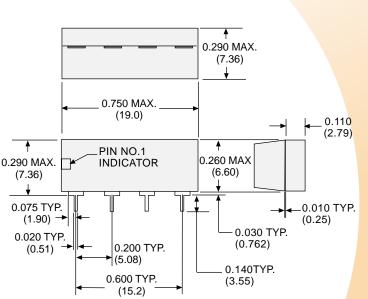
20 g's, 40 Hz to 200 Hz

MISCELLANEOUS

| Operating Position: | |
|---------------------|--|
| Enclosure: | |
| Weight: | |

Any Epoxy molded 1 gram approx.

WHEN SPACING SIP RELAYS, THE RELAYS **REQUIRE 1/2 INCH SPACING FROM THE SIDE** OF THE ADJACENT RELAYS.







| WIRING | | COIL MEASURED @ 25°C | | | | |
|--|-----------------------------|----------------------|---------------------------------|--------------------------|--|--|
| (TOP VIEWED) | STANDARD PART NUMBERS | INPUT | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) | | |
| SPST - N.O. | | | | | | |
| | W117SIP-1 | 5 | 500 Ω | 50 | | |
| | W117SIP-3 | 12 | 1000 Ω | 144 | | |
| ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | W117SIP-5 | 24 | 2000 Ω | 288 | | |
| SPST - N.C. | | | | | | |
| | W117SIP-22 | 5 | 500 Ω | 50 | | |
| $\begin{array}{c} 1 \\ 1 \\ 3 \\ 5 \\ 7 \end{array}$ | W117SIP-23 | 12 | 1200 Ω | 120 | | |
| | W117SIP-24 | 24 | 2200 Ω | 270 | | |
| SPST - N. O. WITH CLAMPING DIODE | | | | | | |
| | W117SIP-6 | 5 | 500 Ω | 50 | | |
| | W117SIP-8 | 12 | 1000 Ω | 144 | | |
| ↓ ↓ ↓ ↓ 1 3+ 5-7 | W117SIP-10 | 24 | 2000 Ω | 288 | | |
| SPST - N. C. WITH CLAMPING DIODE | | | | | | |
| | W117SIP-18 | 5 | 500 Ω | 50 | | |
| | W117SIP-25 | 12 | 1200 Ω | 120 | | |
| ↓ ↓ ↓ ↓ 1 3+ 5-7 | W117SIP-26 | 24 | 2200 Ω | 220 | | |

Downtoaded from HONE: (843) 393-5778. FAX: (843) 393-4123 EMAIL: info@magnecraft.com



SPST-N.O., 0.5 AMP

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: Drop Out Voltage: Max. Voltage: Resistance: Coil Power: Duty:

CONTACTS

TIMING

ontact Matarial

85% of nominal voltage or less 10% of nominal voltage or more 110% of nominal voltage ±10% measured @ 25°C See chart Continuous

Operate time:

Reset time:

| Contact Material: | |
|---------------------|--|
| Contact Resistance: | |
| Contact Rating: | |

Rhodium 200 milliohms max. 0.5 amp 100 VDC (10VA) 1.5 amps max. Continuous carry current.

1 mS or less @ nominal voltage. 1 mS or less @ nominal voltage.

DIELECTRIC STRENGTH

Across Open Contacts: 200 V rms **Between Mutually** Insulation Points: Insulation Resistance: Capacitance:

1000 V rms

1000 megohms min. @ 500 VDC 2.0 pf typical contact to open contact

-40°C to +85°C @ rated operation

TEMPERATURE

Operating: Storage:

SHOCK RESISTANCE

50 g's

VIBRATION RESISTANCE

Operating

Operating:

20 g's, 40 Hz to 200 Hz

-40°C to +105°C

LIFE EXPECTANCY

Electrical:

Mechanical:

50,000,000 operations @ 5-10 V @ 10 mA 100,000,000 operations @ no load

MISCELLANEOUS

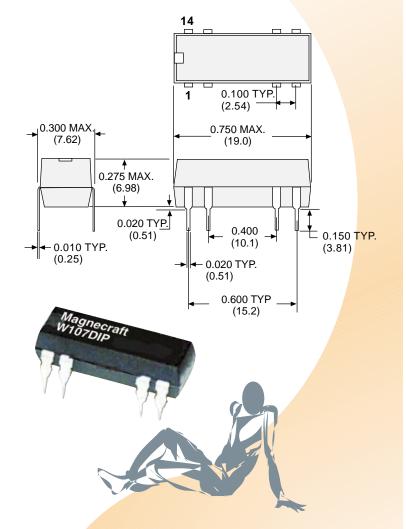
Operating Position: Enclosure: Weight:

Any Epoxy molded 1 gram approx.

WHEN SPACING DIP RELAYS, THE RELAYS **REQUIRE 1/2 INCH SPACING FROM THE** SIDE OF THE ADJACENT RELAYS.



OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



| WIRING | | COIL MEASURED @ 25°C | | | |
|---------------------|-------------------------------------|----------------------|---------------------------------|--------------------------|--|
| (TOP VIEWED) | STANDARD PART NUMBERS | INPUT | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) | |
| SPST - N. O. | | | | | |
| | W107DIP-1 W107DIP-3 W107DIP-4 | 5 12 24 | 500 Ω 1000 Ω 2000 Ω | 50 144 288 | |
| SPST - N. O. WITH C | I LAMPING DIOD | DE | | | |
| 14 13 9 8 | | | | | |
| | W107DIP-5 | 5 | 500 Ω | 50 | |
| | W107DIP-7 | 12 | 1000 Ω | 144 | |
| | W107DIP-8 | 24 | 2000 Ω | 288 | |

SEE END OF SECTION 6 FOR CROSS REFERENCE

SPST-N.O. OR N.C., DPST-N.O. 0.5 AMP

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: Drop Out Voltage: Max. Voltage: Resistance: Coil Power: Duty:

85% of nominal voltage or less 10% of nominal voltage or more 110% of nominal voltage ±10% measured @ 25°C See chart Continuous

CONTACTS

| Contact Material: | Rhodium |
|--------------------|---------------------------------------|
| Contact Resistance | 200 milliohms max. |
| Contact Rating: | 0.5 amp 100 VDC (10VA) |
| | 1.5 amps max continuous carry current |
| TIMING | |

Т

Operate time: Release time: 1 mS or less @ nominal voltage 1 mS or less @ nominal Voltage

DIELECTRIC STRENGTH

| Across Open Contacts: | 150 V rms |
|------------------------|-----------------------------------|
| Between Mutually | |
| Insulation Points: | 500 V rms |
| Insulation Resistance: | 1000 megohms min. @ 100 VDC |
| Capacitance: | 1.0 pf typical contact to contact |

TEMPERATURE

Operating: Storage:

-40°C to +85°C @ rated operation -40°C to +105°C

SHOCK RESISTANCE

50 g's

VIBRATION RESISTANCE

Operating:

Operating:

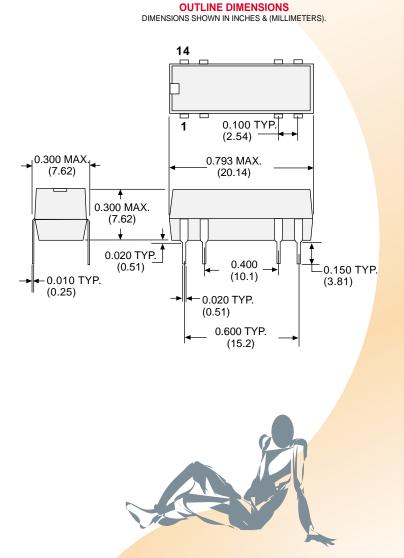
20 g's, 40 Hz to 200 Hz

LIFE EXPECTANCY

| Electrical: | 50,000,000 operations @ raeed load |
|-------------|------------------------------------|
| Mechanical: | 100,000,000 operations low level |

MISCELLANEOUS

| Operating Position: | Any |
|---------------------|----------------|
| Enclosure: | Epoxy molded |
| Weight: | 1 gram approx. |





WHEN SPACING DIP RELAYS, THE RELAYS **REQUIRE 1/2 INCH SPACING FROM THE** SIDE OF THE ADJACENT RELAYS.

SPST-N.O. OR N.C., DPST-N.O. 0.5 AMP



| WIDING | | COIL MEASURED @ 25°C | | | | |
|---|-----------------------------|-----------------------------|---------------------------------|--------------------------|--|--|
| WIRING DIAGRAMS (TOP VIEWED) | STANDARD PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) | | |
| SPST - N.O. | | | | | | |
| 14 13 9 8 | W171DIP-2 | 5 | 500 Ω | 50 | | |
| | W171DIP-4 | 12 | 1200 Ω | 120 | | |
| $\downarrow \downarrow \qquad \downarrow \downarrow \qquad \downarrow \downarrow$ | W171DIP-5 | 24 | 2200 Ω | 270 | | |
| 1 2 6 7 SPST - N. O. WITH C | | F | | | | |
| 14 13 9 8 | | | | | | |
| ↑ ↑ ↑ ↑ | W171DIP-7 | 5 | 500 Ω | 50 | | |
| | W171DIP-9 | 12 | 1000 Ω | 144 | | |
| $\begin{array}{c c} & & & \\ & & & \\ 1 & +2 & 6 & 7 \end{array}$ | W171DIP-10 | 24 | 2200 Ω | 270 | | |
| SPST - N. C. | | | | | | |
| 14 13 9 8 ▲ ▲ ▲ ▲ | W171DIP-12 | 5 | 200 Ω | 50 | | |
| | W171DIP-14 | 12 | 1200 Ω | 120 | | |
| | W171DIP-15 | 24 | 2200 Ω | 270 | | |
| 1 2 6 7 | | | | | | |
| SPST - N. C. WITH C | LAMPING DIODE | | | | | |
| 14 13 9 8 ▲ ▲ ▲ ▲ | W171DIP-17 | 5 | 500 Ω | 50 | | |
| | W171DIP-19 | 12 | 1200 Ω | 120 | | |
| | W171DIP-20 | 24 | 2200 Ω | 270 | | |
| 1 + 2 6 7 | | | | | | |
| DPST - N. O. 14 13 9 8 | | | | | | |
| | W171DIP-21 | 5 | 500 Ω | 50 | | |
| | W171DIP-23 | 12 | 1000 Ω | 144 | | |
| | W171DIP-24 | 24 | 2200 Ω | 270 | | |
| | LAMPING DIOD | E | | | | |
| | | _ | | | | |
| | W171DIP-25 | 5 | 500 Ω | 50 | | |
| | W171DIP-27 | 12 | 1000 Ω 2200 Ω | 144 | | |
| ↓ ↓ ↓ ↓ 1 +2 6 7 | W171DIP-28 | 24 | 2200 Ω | 270 | | |

SEE END OF SECTION 6 FOR CROSS REFERENCE

DUAL COIL LATCHING REED RELAY

SPST - N.O., 0.5 AMP

GENERAL SPECIFICATIONS

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

| Pul-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or less Coll Power: See chart Duty: Contact Material: Rhodium Contact Resistance: 200 miliohms max Contact Resistance: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DELECTRIC STRENETH Across Open Contacts: 150 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE Operating: -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE Operating: 20 g's, 40 Hz to 200 Hz LIFE EXPECTANCY Electrica: 50,000,000 operations @ rated load Mechanical: 0000,0000 operations tow level TENTIND RESISTANCE Mechanical: 0000,0000 operations tow level TANDARDA Montant. MONTANL MONTANL MONTANL MON | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS Operating Position: Enclosure: | 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level Any Epoxy molded | DIAGRAMS (TOP VIEWED) SPST - N. O. RESET 14 13 9 8 | PART NUMBERS MRRDL1AS8-5D MRRDL1AS8-12D | NOMINAL INPUT VOLTAGE 5 12 | NOMINAL RESISTANCE (OHMS) 750 / 750 Ω 1000 / 1000 Ω | NOMINAL POWER (mW) 35 145 |
|--|---|--|--|--|--|---|---------------------------------------|
| Pul-in Voltage: B5% of nominal voltage or less Drop Dut Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Resistance: 200 millioms max Contracts Contract Material: Contact Material: Contact Material: Contact Material: Contact Material: Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current TIMING Operate time: 1 mS or less @ nominal voltage Release time: 1 ms or less | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS Operating Position: Enclosure: | 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level Any Epoxy molded | DIAGRAMS (TOP VIEWED) SPST - N. O. RESET | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) |
| Pul-in Voltage: 10% of nominal voltage or nere Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Duty: Contructs Contact Material: Rhodum Contact Resistance: 200 millohms max Contact Resistance: 200 millohms max Contact Resistance: 200 millohms max Contact Resistance: 200 millohms max Contact Resistance: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Between Mutually Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1000 operations WIRKING Operating: 20 gs, 40 Hz to 200 Hz LIFE EXPECTANCY Electrica: 100,000,000 operations Invalue leval Mechanicai: 100,000,000 operations Invalues Part N. O. 14 <u>RESET N. C.</u> Powzer Coperating Position: Any Coperating Position: Any Coperating Position: Epoxy molded Mechanicai: 100,000,000 perations Invalues Position: Any Coperating Position: Epoxy molded Mechanicai: 100,0000 perations Mechanicai: 100, | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS Operating Position: Enclosure: | 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level Any Epoxy molded | DIAGRAMS (TOP VIEWED) SPST - N. O. RESET | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) |
| Pul-in Voltage: 65% of nominal voltage or more Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Resistance: +10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Maerial: Rhodium Contact Maerial: Rhodium Contact Resistance: 200 milliohms max Contact Resistance: 200 milliohms max Contact Maerial: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Deperating: 500 V ms Insulation Resistance: 100 megohms min. @ 100 VDC Caparating: -40°C to +85°C @ rated operation Storage: -40°C to +05°C Shock RESISTANCE Operating: Operating: 20 g's, 40 Hz to 200 Hz Electrical: 50,000,000 operations @ rated load WIRING Diac REMISSTANCE Operating: Operating: 20 g's, 40 Hz to 200 Hz Electrical: 60,000,000 operations @ rated | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS Operating Position: | 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level Any | DIAGRAMS (TOP VIEWED) SPST - N. O. RESET | PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| Pull-in Voltage: 65% of nominal voltage or news Drup Out Voltage: 10% of nominal voltage or news Resistance: ±10% measured @ 25°C Coll Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohns max Contact Resistance: 1 mS or less @ nominal voltage Contact Resistance: 1 mS or less @ nominal voltage Pulse: 1 mS or less @ nominal voltage Detween Mutually 500 V ms Between Mutually 500 V ms Insulation Resistance: 100 V ms Between Mutually 500 V ms Insulation Resistance: 100 f typical deperation A0° Ct to +85°C @ rated operation Storage: 40° Ct to +105°C Shock Resistance: 50 g's VIBRATION RESISTANCE 50 g's Operating: 20 g's, 40 Hz to 200 Hz Electricat: \$0,000,000 operations @ rated load WIRING Mechanical: 100,000,000 operations @ rated load STANDARD Missestuncal: 100,000,000 operations <td>Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS</td> <td>ACE 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level</td> <td>DIAGRAMS (TOP VIEWED)</td> <td>PART</td> <td>NOMINAL INPUT</td> <td>NOMINAL RESISTANCE</td> <td>NOMINAL POWER</td> | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: MISCELLANEOUS | ACE 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations low level | DIAGRAMS (TOP VIEWED) | PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| Pul-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or less Coll Power: See chart Duty: Contact Material: Rhodium Contact Resistance: 200 miliohms max Contact Resistance: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DELECTRIC STRENETH Across Open Contacts: 150 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE Operating: -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE Operating: 20 g's, 40 Hz to 200 Hz LIFE EXPECTANCY Electrica: 50,000,000 operations @ rated load Mechanical: 0000,0000 operations tow level TENTIND RESISTANCE Mechanical: 0000,0000 operations tow level TANDARDA Montant. MONTANL MONTANL MONTANL MON | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: Mechanical: | CE 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations | DIAGRAMS | PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 10% of nominal voltage or more Coll Power: See chart Duty: Contact Material: Contact Resistance: 200 milliohms max Contact Resistance: 200 milliohms max Contact Resistance: 200 milliohms max Contact Resistance: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Disulation Resistance: 100 megohms min. @ 100 VDC Capacitance: 100 megohms min. @ 100 VDC Capacitance: 100 fypical contact to contact TEMPERATURE -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE -0000 operations Operating: 20 g's, 40 Hz to 200 Hz LIFE EXPECTANCY -0000 oper | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: | CE 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load 100,000,000 operations | | | NOMINAL | NOMINAL | NOMINAL |
| Pull-in Voltage:85% of nominal voltage or lessDrop Out Voltage:10% of nominal voltage or moreMax. Voltage:10% of nominal voltage or moreMax. Voltage:10% of nominal voltage or moreMax. Voltage:10% of nominal voltage or lessDuty:See chartDuty:Contact Material:Contact Resistance:200 milliohms maxContact Resistance:200 milliohms maxContact Rating:0.5 amp 100 VDC (10VA)1.5 amps max continuous carry currentTIMINOOperate time:1 mS or less @ nominal voltageDELECTRIC STRENGTHAcross Open Contact:150 V rmsInsulation Points:500 V rmsInsulation Points:1000 megohms min. @ 100 VDCInsulation Points:500 V rmsInsulation Points:500 y rmsInsulation Points:50 g rsVIERCATURE20 grs, 40 Hz to 200 HzOperating:-40°C to +85°C @ rated operationStorage:-40°C to 105°CSHOCK RESISTANCEDogerations:Operating:20 grs, 40 Hz to 200 HzLIFE EXPECTANCY50,000,000 operationsElectrical:50,000,000 operationsWere time:1000,000 operationsWe | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY Electrical: | CE 20 g's, 40 Hz to 200 Hz 50,000,000 operations @ rated load | WIRING | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drep Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coll Power: See chart Duty: Continuous Contact Resistance: 200 milliohms max Contact Resistance: 200 milliohms max Contact Resistance: 15 amps max continuous carry current TIMINO 15 amps max continuous carry current DeleLeCTRIC STRENGET 1 ms or less @ nominal voltage Release time: 1 ms or less @ nominal voltage Release time: 1 ms or less @ nominal voltage Release time: 1 ms or less @ nominal voltage Insulation Resistance: 100 ms Insulation Resistance: 100 fypical contact to contact: TEMPERATURE -40°C to +85°C @ rated operation Storage: -40°C to +105°C Storage: -40°C to +105°C Deprating: 50 g/s | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY | ICE 20 g's, 40 Hz to 200 Hz 50,000,000 operations | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Essistance: See chart Duty: Continuous Contact Ratinal: Rhodlum Contact Ratinal: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.000 TYP. Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE 0.00 rs Operating: -40°C to +85°C @ rated operation Storage: -40°C to +85°C @ rated operation Storage: -40°C to +05°C Poperating: 20 g/s, 40 Hz to 200 Hz UPERATION RESISTANCE 20 g/s, 40 Hz t | Operating: VIBRATION RESISTAN Operating: LIFE EXPECTANCY | ICE 20 g's, 40 Hz to 200 Hz | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Hubin Voltage: 110% of nominal voltage Hubin Voltage: 110% of nominal voltage Contact: See chart Duty: Continuous Contact Resistance: 200 milliohms max Contact Resistance: 0.0 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1.5 amps max continuous carry current TIMING 1.5 amps max continuous carry current Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Deterctric STRENCTH 1.0 pt ypical contact to contact Maxuation Points: 500 V rms Insulation Points: 500 V rms Insulation Resistance: 1.0 pt ypical contact to contact Yoperating: -40°C to +185°C @ rated operation Shock RESISTANCE Operating: Operating: 20 g's, 40 Hz to 200 Hz | Operating: VIBRATION RESISTAN Operating: | ICE | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: 110% measured @ 25 °C Coil Power: See chart Duty: Continuous CONTACTS Contact Material: Rhodium See chart Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10/A) 1.5 amps max continuous carry current (7.62) Mix Non 0.5 amp 100 VDC (10/A) 1.5 amps max continuous carry current (0.51) Delectric Strencett 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 0.9 f typical contact to contact Temperature 1.0 of typical contact to contact Temperature -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE 50 g's Operating: 50 g's VIBRATION RESISTANCE 50 g's | Operating: VIBRATION RESISTAN | ICE | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: 110% measured @ 25 °C Coil Power: See chart Duty: Continuous CONTACTS Contact Material: Rhodium See chart Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10/A) 1.5 amps max continuous carry current (7.62) Mix Non 0.5 amp 100 VDC (10/A) 1.5 amps max continuous carry current (0.51) Delectric Strencett 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 0.9 f typical contact to contact Temperature 1.0 of typical contact to contact Temperature -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE 50 g's Operating: 50 g's VIBRATION RESISTANCE 50 g's | Operating: VIBRATION RESISTAN | ICE | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: 110% measured @ 25 C Coll Power: See chart Duty: Continuous CONTACTS Environmental voltage Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1.5 amps max continuous carry current TIMING 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Disulation Points: 500 V ms Insulation Points: 500 V ms Insulation Points: 500 V ms Insulation Resistance: 1.0 of typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation Storage: -40°C to +105°C SHOCK RESISTANCE 50 g/s | Operating: | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coll Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1 mS or less @ nominal voltage Poperate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DetLECTRIC STRENCH S00 V ms Insulation Points: 500 V ms Insulation Points: 500 V ms Insulation Resistance: 100 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation Storage: -40°C to +105°C Shock RESISTANCE -40°C to +105°C | | 00 9 0 | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coll Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1 mS or less @ nominal voltage Poperate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DetLECTRIC STRENCH S00 V ms Insulation Points: 500 V ms Insulation Points: 500 V ms Insulation Resistance: 100 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation Storage: -40°C to +105°C Shock RESISTANCE -40°C to +105°C | | 50 a's | | | | | |
| Pull-in Voltage: 85% of nominal voltage or nore Max. Voltage: 10% of nominal voltage Max. Voltage: 110% of nominal voltage Resistance: ±10% measured g25°C Coll Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Resistance: 200 milliohms max Contact Resistance: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1.5 amps max continuous carry current TIMING 1 mS or less @ nominal Voltage Operate time: 1 mS or less @ nominal Voltage Release time: 1 mS or less @ nominal Voltage Insulation Points: 500 V rms Insulation Resistance: 1.0 pf typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation Operating: -40°C to +105°C | SHOCK RESISTANCE | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rasistance: 200 milliohms max Contact Rasistance: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current (7.62) Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DielELECTRIC STRENGTH 500 V rms Insulation Points: 500 V rms Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC 1.0 pf typical contact to contact 1.0 pf typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation | | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rasistance: 200 milliohms max Contact Rasistance: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current (7.62) Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DielELECTRIC STRENGTH 500 V rms Insulation Points: 500 V rms Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC 1.0 pf typical contact to contact 1.0 pf typical contact to contact TEMPERATURE -40°C to +85°C @ rated operation | Storage: | -40°C to +105°C | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 1.5 amps max continuous carry current TIMING 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.300 MAX. Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Insulation Points: 500 V rms Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1.0 pf typical contact to contact TEMPERATURE Image contact to contact | | | ration | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.300 MAX. Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DiELECTRIC STRENCTH 1 mS or less @ nominal voltage Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC Copacitance: 1000 megohms min. @ 100 VDC Capacitance: 100 ftypical contact to contact | TEMPERATURE | | | 4 | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Resistance: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Between Mutually 100 megohms min. @ 100 VDC Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC | | | | 7 | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Material: Rhodium Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.500 MAX. TIMING | Capacitance: | 1.0 pf typical contact to cont | act | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous CONTACTS | Insulation Resistance | 1000 megohms min. @ 100 | VDC | | _ | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current (0.51) Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage DIELECTRIC STRENGTH Macross Open Contacts: Across Open Contacts: 150 V ms | • | 500 V rms | | and the state | 1 | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current (7.62) TIMING (0.51) Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Max (0.51) 0.6000 TYP. (0.51) 0.6000 TYP. (0.51) 0.6000 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. | | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current (7.62) TIMING (0.51) Operate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage Max (0.51) 0.6000 TYP. (0.51) 0.6000 TYP. (0.51) 0.6000 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. (0.51) 0.600 TYP. | Across Open Contact | s: 150 V rms | M | Magnecraft | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current TIMING 0.5 amp 100 VDC (10VA) 0perate time: 1 mS or less @ nominal voltage Release time: 1 mS or less @ nominal voltage | DIELECTRIC STRENG | тн | | M- | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.300 MAX. Operate time: 1 mS or less @ nominal voltage | | | | | 0.6 | 00 TYP | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.300 MAX. (0.51) 0.400 (0.51) 0.400 (0.150 TYP. (0.150 TYP. | • | 1 mS or less @ nominal Vol | tage | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.020 TYP UMNC 0.020 TYP | | 1 mS or less @ nominal volt | | | . , | (3.8) | ') |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max Contact Rating: 0.5 amp 100 VDC (10VA) 1.5 amps max continuous carry current 0.020 TYP | TIMING | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium Contact Resistance: 200 milliohms max | | | arry current | | 0.400 | l l I | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Contact Material: Rhodium | | | | | Щ | ЦЦЦ | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous Continuous Out will is intered | | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage timesistance: ±10% measured @ 25°C Coil Power: See chart Duty: Continuous | | Rhodium | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Max. Voltage: 110% of nominal voltage Max. Voltage: 110% of nominal voltage Image: 110% measured @ 25°C Coil Power: See chart Duty: Continuous | CONTACTS | | (7.02) | | (20.14) | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Coil Power: See chart | Duty. | Continuodo | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less Drop Out Voltage: 10% of nominal voltage or more Max. Voltage: 110% of nominal voltage Resistance: ±10% measured @ 25°C Quit Description 1 | | | | | (2.54) | | |
| Pull-in Voltage: 85% of nominal voltage or less 14 Drop Out Voltage: 10% of nominal voltage or more 10% of nominal voltage Max. Voltage: 110% of nominal voltage 10% of nominal voltage | Coil Power: | | | | 1 0.100 T | ΥР.] | |
| Pull-in Voltage: 85% of nominal voltage or less 14 Drop Out Voltage: 10% of nominal voltage or more 10% | Resistance. | | | | | | |
| Pull-in Voltage: 85% of nominal voltage or less | - | | | | | | |
| 14 | Max. Voltage: | | ore | | | | |
| | Drop Out Voltage: Max. Voltage: | - | | | | | |

OPERATE

Down Jaled from Hentedi (8:43) 393-5778 FAX: (843) 393-4123 u.E.MAIL: info@magnecraft.com

END TO END.

BETWEEN ADJACENT RELAYS FROM



SPDT, 0.25 AMP

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: Drop Out Voltage: Max. Voltage: Resistance: Coil Power: Duty:

85% of nominal voltage or less 10% of nominal voltage or more 110% of nominal voltage ±10% measured @ 25°C See chart Continuous

CONTACTS

Contact Material: Contact Resistance: Contact Rating: Rhodium 200 milliohms max 0.25 amp 100 VDC (4 VA) 0.5 amps max continuous carry current

TIMING

Operate time: Release time: 1 mS or less @ nominal voltage 1 mS or less @ nominal Voltage

DIELECTRIC STRENGTH

Across Open Contacts: 1000 V rms Between Mutually Insulation Points: 500 V rms Insulation Resistance: 1000 mego Capacitance: 1.0 pf typica

500 V rms 1000 megohms min. @ 100 VDC 1.0 pf typical coil to contact

TEMPERATURE

Operating: Storage: -40°C to +85°C @ rated operation -40°C to +105°C

SHOCK RESISTANCE

VIBRATION RESISTANCE

Operating:

50 g's

50,000,000 operations

LIFE EXPECTANCY

Electrical:

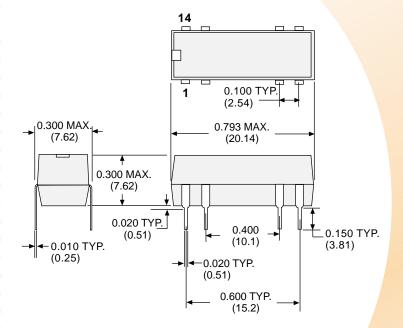
Mechanical:

Operating:

@ 50V/50mA 80,000,000 operations low level 10V/10mA

MISCELLANEOUS

Operating Position: Enclosure: Weight: Any Epoxy molded 1 gram approx.



OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).





WHEN SPACING DIP RELAYS, THE RELAYS REQUIRE 1/2 INCH SPACING FROM THE SIDE OF THE ADJACENT RELAYS.



SPDT, 0.25 AMP

COIL MEASURED @ 25°C



| WIRING DIAGRAMS (TOP VIEWED) SPDT 14 13 9 8 | STANDARD PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) |
|---|-----------------------------|-----------------------------|---------------------------------|--------------------------|
| | | | | |
| | | | | |
| | | _ | | 405 |
| | W172DIP-1 | 5 | 200 Ω | 125 |
| | W172DIP-3 | 12 | 500 Ω | 300 |
| $\begin{array}{c c} \downarrow & \downarrow \\ 1 & 2 & 6 & 7 \end{array}$ | W172DIP-4 | 24 | 2200 Ω | 270 |
| SPDT WITH CLAMPIN | G DIODE | | | |
| 14 13 9 8 | | | | |
| | W172DIP-5 | 5 | 200 Ω | 125 |
| | W172DIP-7 | 12 | 500 Ω | 300 |
| $\begin{array}{c c} & & & \\ & & & \\ 1 + 2 & 6 & 7 \end{array}$ | W172DIP-8 | 24 | 2200 Ω | 270 |
| SPDT | | | | |
| 14 13 9 8 | | | | |
| | W172DIP-31 | 5 | 200 Ω | 125 |
| | W172DIP-33 | 12 | 500 Ω | 290 |
| | W172DIP-34 | 24 | 2200 Ω | 270 |
| SPDT WITH CLAMPIN | | | | |
| 14 13 9 8 | | _ | | 405 |
| | W172DIP-35 | 5 | 200 Ω | 125 |
| | W172DIP-37 | 12 | 500 Ω | 290 |
| ↓ ↓ <mark>···</mark> ↓ ↓ | W172DIP-38 | 24 | 2200 Ω | 270 |
| 1 + 2 6 7 | | | | |
| SPDT 14 13 9 8 | | | | |
| | W172DIP-141 | 5 | 200 Ω | 125 |
| | W172DIP-145 | 12 | 1000 Ω | 144 |
| | W172DIP-146 | 24 | 3200 Ω | 180 |
| * * * * 1 2 6 7 | | | | |
| SPDT WITH CLAMPIN | IG DIODE | | | |
| 14 13 9 8 | W472DID 447 | _ | 000 0 | 405 |
| | W172DIP-147 | 5 | 200 Ω | 125 |
| | W172DIP-149 | 12 | 1000 Ω | 144 |
| $\begin{array}{c c} & & & \\ & & & \\ 1 & +2 & 6 & 7 \end{array}$ | W172DIP-150 | 24 | 3200 Ω | 180 |



SEE END OF SECTION 6 FOR CROSS REFERENCE

Downloaded from <u>Bleodis.com</u> electronic components distributor



DPDT, 1.0 AMP

GENERAL SPECIFICATIONS

COIL

Pull-in Voltage: Drop Out Voltage: Max. Voltage: Resistance: Coil Power: Duty:

85% of nominal voltage or less 10% of nominal voltage or more 110% of nominal voltage ±10 % measured @ 25°C See chart Continuous

CONTACTS

| Contact Material: | Rhodiu |
|---------------------|---------|
| Contact Resistance: | 200 mi |
| Contact Rating: | 0.25 ar |

um illiohms max. mp 100 VDC (4 VA) 0.5 amps max continuous carry current.

TIMING

Operate time: Release time: 1 mS or less @ nominal voltage. 1 mS or less @ nominal Voltage.

DIELECTRIC STRENGTH

Across Open Contacts: 1000 V rms Between Mutually Insulation Points: 500 V rms Insulation Resistance: 1000 megohms min. @ 100 VDC Capacitance: 1.0 pf typical coil to contact

TEMPERATURE

Operating: Storage:

-40°C to +85°C @ rated operation -40°C to +105°C

SHOCK RESISTANCE

Operating:

50 g's

VIBRATION RESISTANCE

Operating:

LIFE EXPECTANCY

Electrical:

Mechanical:

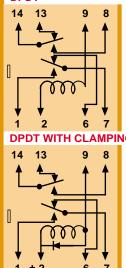
50,000,000 operations @ rated load 100,000,000 operations low level

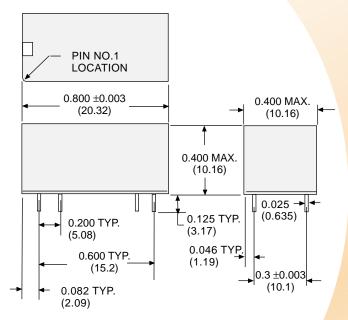
MISCELLANEOUS

Operating Position: Enclosure: Weight:

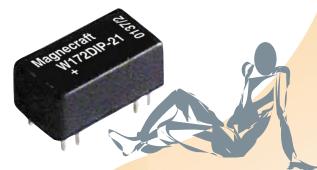
Any Epoxy molded 1 gram approx.

20 g's, 40 Hz to 200 Hz





OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



| | | COIL MEASURED @ 25°C | | | | |
|--|-----------------------------|-----------------------------|---------------------------------|--------------------------|--|--|
| WIRING DIAGRAMS (TOP VIEWED) DPDT | STANDARD PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) | | |
| 14 13 9 8 | | | | | | |
| | W172DIP-17 | 5 | 46 Ω | 540 | | |
| | W172DIP-19 | 12 | 266 Ω | 540 | | |
| | W172DIP-20 | 24 | 1066 Ω | 540 | | |
| DPDT WITH CLAMPIN | | | | | | |
| 14 13 9 8 | | | | | | |
| | W172DIP-21 | 5 | 46 Ω | 540 | | |
| | W172DIP-23 | 12 | 266 Ω | 540 | | |
| | W172DIP-24 | 24 | 1066 Ω | 540 | | |
| 1 + 2 6 7 | | | | | | |

WHEN SPACING DUAL IN - LINE REED RELAYS, THE RELAYS REQUIRE 1/2 INCH SPACING FROM THE SIDE OF THE ADJACENT RELAYS.

Downloaded from Elcodis.com electronic components distributor EMAIL: info@magnecraft.com

6...14

CLASS193

DRY MINIATURE REED RELAYS

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

PIN SPACING OF 0.100" IS STANDARD. PIN SPACING OF 0.150 ISAVAILABLE ON SPECIAL ORDER. ALSO AVAILABLE ARE MODELS WITH ELECTROSTATIC SHIELDS. CONSULT FACTORY FOR PART NUMBERS. NONSTANDARD SCHEMATICS AND PIN-OUTS CAN ALSO BE PRODUCED FOR SPECIFIC CUSTOMER REQUIREMENTS.

| ALSO BE PRODUCE | D FOR SPECIFIC CUSTOMER REQ | UIREM | IENTS. C | 0.125 TYP. (3.2) | | 0.355 N (9.0) | IAX. |
|---|--|-------------------------------|---|--|---|---|---|
| GENERAL S | PECIFICATIONS | | SIZE I | | 1.00 (15.4) | | |
| COIL | | | | | | | |
| Pull-in Voltage: | 85% of nominal voltage or less | | · · · · · · · · · · · · · · · · · · · | | | 0.400 N (10.16) | |
| Drop Out Voltage: | 10% of nominal voltage or more | | | ↑ L <u>−</u> L | | | |
| Max. Voltage: | 110% of nominal voltage | 110% of pominal values -0.0 | | | | | |
| Resistance: | ±10 % measured @ 25°C | | SIZE II | (1 | .27) | | |
| Coil Power: | See chart | | 1121 II | | | ⊢ [↑] | |
| Duty: | Continuous | | MASSINE 2 | | | 0.500 M (12.7) | IAX. |
| | | | | | | (12.7) | |
| CONTACTS | | | | |) TYP. | | |
| Contact Material: | Rhodium | | | (2. | 54) | | |
| Contact Resistance: | 200 milliohms max. | | , (| 0.050 TYP. | F | | |
| Contact Rating: | 10 VA -SPST - NO. & SPDT | | Spacing between | (1.27) 0.10 | 0 TYP. | 0 | |
| | 4 VA -DPST - NO. & DPDT | | filled in circles in | (2 | .54) | | |
| | 0.5 amps max continuous carry current | | schematics are on | • | | | |
| TIMING | | | 0.100 grid patterns | | | | |
| Operate time: | 1 mS or less @ nominal voltage. | | Pin omitted on | \sim | | | |
| Release time: | 1 mS or less @ nominal Voltage. | | unfilled circles. | | | | |
| | | - | | - | | | |
| | | | | | COTT | DACIDDED | @ DE'C |
| DIELECTRIC STRENG | [H | 0405 | WIRING | STANDARD | | | |
| DIELECTRIC STRENG | | CASE SIZE | DIAGRAMS | STANDARD PART | COIL N NOMINAL INPUT | NOMINAL RESISTANCE | @ 25°C NOMINAL POWER |
| | | | DIAGRAMS (TOP VIEWED) | | NOMINAL | NOMINAL | NOMINAL |
| Across Open Contacts | | | DIAGRAMS | PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| Across Open Conta <mark>cts</mark> Between Mutually | : 1000 VDC | | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 ° ° 2 | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) |
| Across Open Contacts Between Mutually Insulation Points: | : 1000 VDC 1000 VDC | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. | PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC | | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 ° ° 2 3 • • • • 4 | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 ° ° ° 2 ° ° ° ° | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) 420 Ω | NOMINAL POWER (mW) 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 ° ° 2 3 • • • • 4 | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) 420 Ω | NOMINAL POWER (mW) 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC 3 pf typical coil to contact | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 ° ° 2 3 • • • 4 5 • • • • 6 SPDT | PART NUMBERS W193RE1A3-12G W193RE1A3-24G | NOMINAL INPUT VOLTAGE 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω | NOMINAL POWER (mW) 350 250 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC 3 pf typical coil to contact -40°C to +85°C @ rated operation | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. 1 0 0 2 3 • • • • 4 5 • • • • • • 6 | PART NUMBERS | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) 420 Ω | NOMINAL POWER (mW) 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC 3 pf typical coil to contact -40°C to +85°C @ rated operation | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad \circ 2$ $3 \bullet \qquad \bullet 4$ $5 \bullet \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \bullet \qquad \bullet 4$ $5 \bullet \qquad \circ 6$ | PART NUMBERS W193RE1A3-12G W193RE1A3-24G | NOMINAL INPUT VOLTAGE 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω | NOMINAL POWER (mW) 350 250 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC 3 pf typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ | PART NUMBERS W193RE1A3-12G W193RE1A3-24G W193RE1C3-12G | NOMINAL INPUT VOLTAGE 12 24 12 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω | NOMINAL POWER (mW) 350 250 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE | 1000 VDC 1000 VDC 1000 megohms min. @ 100 VDC 3 pf typical coil to contact -40°C to +85°C @ rated operation | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad 2$ $3 \bullet \qquad 4$ $5 \bullet \qquad 6$ SPDT $1 \circ \qquad 2$ $3 \bullet \qquad 4$ $5 \bullet \qquad 6$ | PART NUMBERS W193RE1A3-12G W193RE1A3-24G W193RE1C3-12G | NOMINAL INPUT VOLTAGE 12 24 12 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω | NOMINAL POWER (mW) 350 250 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC i 3 pf typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad \circ 2$ $3 \bullet \qquad \bullet 4$ $5 \bullet \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \bullet \qquad \bullet 4$ $5 \bullet \qquad \circ 6$ | PART NUMBERS W193RE1A3-12G W193RE1A3-24G W193RE1C3-12G | NOMINAL INPUT VOLTAGE 12 24 12 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω | NOMINAL POWER (mW) 350 250 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE Operating: | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC i 3 pf typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ DPST - N. O. $1 \circ \qquad \circ 2$ | PART NUMBERS | NOMINAL INPUT VOLTAGE 12 24 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω 2300 Ω | NOMINAL POWER (mW) 350 250 350 250 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE Operating: | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC i 2 of typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 0$ SPDT $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 4$ $5 \circ \qquad \circ 6$ SPDT $1 \circ \qquad \circ 2$ $3 \circ \qquad \circ 6$ SPDT $1 \circ 1 \circ 6SPDT1 \circ 6SPDT1 \circ 1 \circ 6SPDT1 \circ 6SPDT1 \circ 1 \circ 6SPDT1 \circ $ | PART NUMBERS W193RE1A3-12G W193RE1A3-24G W193RE1C3-12G | NOMINAL INPUT VOLTAGE 12 24 12 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω | NOMINAL POWER (mW) 350 250 350 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE Operating: | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC i 2 of typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE I I | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad 2$ $3 \circ \qquad 4$ $5 \circ \qquad 6$ SPDT $1 \circ \qquad 2$ $3 \circ \qquad 4$ $5 \circ \qquad 6$ DPST - N. O. $1 \circ \qquad 2$ $3 \circ \qquad 6$ DPST - N. O. | PART NUMBERS | NOMINAL INPUT VOLTAGE 12 24 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω 2300 Ω | NOMINAL POWER (mW) 350 250 350 250 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE Operating: VIBRATION RESISTANCE | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC 3 pf typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ 0 2$ $3 \bullet 4$ $5 \bullet 0 0 \bullet 6$ SPDT $1 \circ 2$ $3 \bullet 4$ $5 \bullet 0 0 \bullet 6$ DPST - N. O. $1 \circ 0 2$ $3 \bullet 4$ $5 \bullet 0 0 \bullet 6$ | PART NUMBERS | NOMINAL INPUT VOLTAGE 12 24 12 24 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω 2300 Ω | NOMIINAL POWER (mW) 350 250 350 250 500 |
| Across Open Contacts Between Mutually Insulation Points: Insulation Resistance: Capacitance: TEMPERATURE Operating: Storage: SHOCK RESISTANCE Operating: VIBRATION RESISTANCE Operating: | i 1000 VDC i 1000 VDC i 1000 megohms min. @ 100 VDC i 2 of typical coil to contact -40°C to +85°C @ rated operation -40°C to +105°C 50 g's | SIZE I I | DIAGRAMS (TOP VIEWED) SPST - N. O. $1 \circ \qquad 2$ $3 \circ \qquad 4$ $5 \circ \qquad 6$ SPDT $1 \circ \qquad 2$ $3 \circ \qquad 4$ $5 \circ \qquad 6$ DPST - N. O. $1 \circ \qquad 2$ $3 \circ \qquad 6$ DPST - N. O. | PART NUMBERS | NOMINAL INPUT VOLTAGE 12 24 12 24 12 24 | NOMINAL RESISTANCE (OHMS) 420 Ω 2300 Ω 420 Ω 2300 Ω | NOMIINAL POWER (mW) 350 250 350 250 500 |

1 (

3

5

7 •

0

 \mathcal{M}

Π

2

6

8

W193RE2C3-12G

W193RE2C3-24G

12

24

280 Ω

1500 Ω

500

390

0

0

0

MISCELLANEOUS

| Operating Position: | Any |
|---------------------|--------------------|
| Enclosure: | Epoxy encapsulated |
| Weight: | 1 gram approx. |
| | |

6...15 PHONE: (843) 393-5778 FAX: (843) 393-4123 EMAIL: info@magnecraft.com

Downloaded from Elcodis.com electronic components distributor

SPDT - NO, SPDT, DPST-NO, DPDT, 0.5 AMP

ł

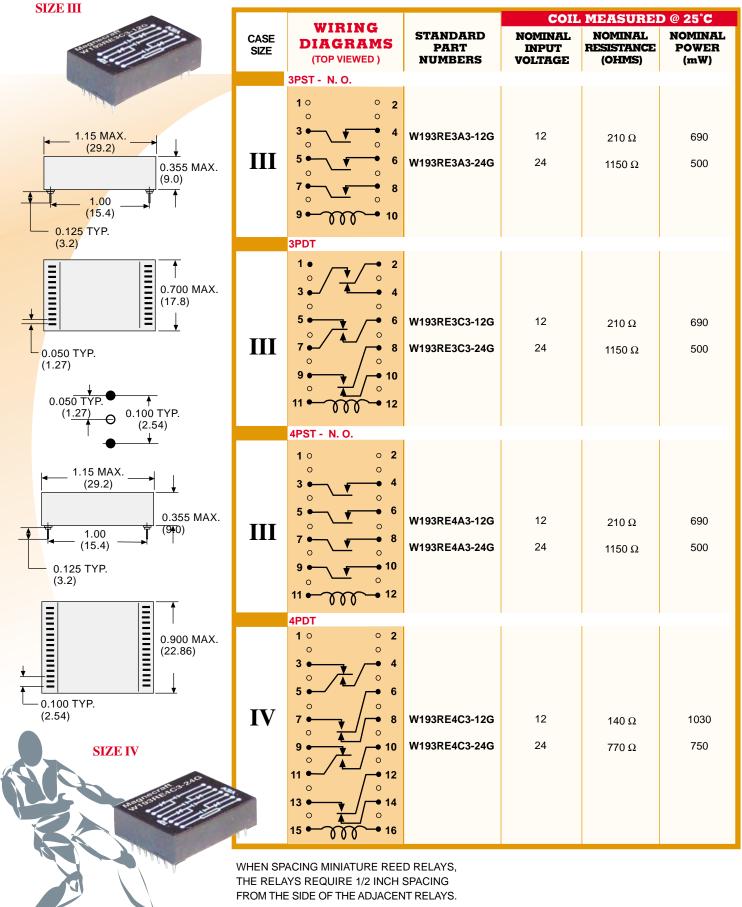
1.15 MAX.

(29.2)

^{CLASS}193

DRY MINIATURE REED RELAYS

3PST-N.O. 4PST- N.O, 3PDT & 4PDT., 0.5 AMP



^{CLASS}134

MERCURY REED RELAYS

SPDT & DPDT, 2 AMP

PIN SPACING OF 0.100" IS STANDARD. PIN SPACING OF 0.150 ISAVAILABLE ON SPECIAL ORDER. ALSO AVAILABLE ARE MODELS WITH ELECTROSTATIC SHIELDS. CONSULT FACTORY FOR PART NUMBERS. NONSTANDARD SCHEMATICS AND PIN-OUTS CAN ALSO BE PRODUCED FOR SPECIFIC CUSTOMER REQUIREMENTS.

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

| | FACTORY FOR PART NUMBERS. N-OUTS CAN ALSO BE PRODUC MENTS | | | | | 9.2) | ↓ 355 MAX. |
|-----------------------------------|---|--------------|---|------------------------|------------------------|-----------------------|---------------------------------|
| | | | | 0.125 TYP. (3.2) —— | | | .0) |
| GENERAL SI | PECIFICATIONS | | SIZE I | | | .00 5.4) | Ť |
| COIL | | | aret 2 | | (. | , | , |
| Pull-in Voltage: | 85% of nominal voltage or less | | Pringrammer - | | | | ¥. |
| Drop Out Voltage: | 10% of nominal voltage or more | | | 1 🚽 | <u>_</u> = | | 400 M <mark>AX.</mark> 0.16) |
| Max. Voltage: | 110% of nominal voltage | | | Ī | - | | T |
| Resistance: | ±10 % measured @ 25°C | | | l | - 0.050 TYP. | | |
| Coil Power: | See chart | | | | (1.27) | | |
| Duty: | Continuous | | | | | | r 2 |
| Daty. | | | SIZE II | | | = 0.5 | 500 MAX. |
| CONTACTS | | | nectan x.8 | * | | 0.5 | 2.7) |
| Contact Material: | Rhodium/Mercury | | WI JAN | T | | · | |
| Contact Resistance: | 100 milliohms max. | | | | - 0.100 TYP. (2.54) | | |
| Contact Rating: | 2 amp 500 VDC (50VA) | | | | (=.0+) | | |
| Contact Mating. | 3 amps max continuous carry curren | t | | | • | | |
| TIMING | o ampo max continuodo carry carron | | Ŷ | 0.050 TYF (1.27) | o 0.100 T | YP. | |
| Operate time: | 2.0 mS or less @ nominal voltage. | | | (· <u>···</u> | -0 (2.54 | | |
| Reset time: | 2.5 mS or less @ nominal Voltage. | | Spacing betwee | n filled | • • | | |
| Reset une. | 2.5 mo or less & normal voltage. | | in circles in sche | ematics | | | 5 |
| | | | are on 0.100 grid | d patterns. | | | |
| | | | Pin omitted | | | | |
| Across Open Contacts: | 1000 VDC | | on unfilled circle | S. | | | |
| Between Mutually | 4000 \/DO | | | | | | |
| Insulation Points: | 1000 VDC | | | | | | A |
| Insulation Resistance: | 1000 megohms min. @ 100 VDC | | | | COIL | MEASUREI | 0 @ 25°C |
| Capacitance: | 2.0 pf typical coil to contact | CASE SIZE | DIAGRAMS | STANDARD PART | NOMINAL INPUT | NOMINAL RESISTANCE | NOMINAL POWER |
| TEMPERATURE | | | (TOP VIEWED) | NUMBERS | VOLTAGE | (OHMS) | (mW) |
| Operating: | -37°C to +85°C @ rated operation | | SPDT MERCURY | | | | |
| Storage: | -40°C to +105°C | | 6 2 ● ○ ● ○ ○ | | | | |
| | | . | | W134MPCX-2 | 12 | 330 Ω | 435 |
| SHOCK RESISTANCE | | 1 | | | | | 100 |
| Operating: | 50 g's | | | W134MPCX-3 | 24 | 1400 Ω | 410 |
| | | | | | | | |
| VIBRATION RESISTANC | CE | | DPDT MERCURY | | | | |
| Operating: | 20 g's, 40 Hz to 200 Hz | | 8 2 | | | | |
| | | 1 | | | | | |
| | | ТТ | ► ► ► /◄ UP | | | | |
| Electrical: | 50,000,000 operations @ rated load | Π | | W134MPCX-8 | 12 | 230 Ω | 620 |
| Mechanical: | 10,000,000 operations @ no load | 1 | • • • • • • • • • | | | | |
| | | 1 | | | | | |
| MISCELLANEOUS | | | DPDT MERCURY WIT | H CLAMPING D | ODE | | |
| | Vertical ±15% | 1 | 8 2 | | | | |
| Operating Position: | | • | $\circ \circ \bullet \circ \bullet \circ \bullet$ | | | | |
| Operating Position: Enclosure: | | | | | | | |
| Enclosure: | Epoxy encapsulated | тт | | WIO AMDON 11 | 40 | 220.0 | 000 |
| | | п | | W134MPCX-11 | 12 | 230 Ω | 620 |
| Enclosure: Weight: | Epoxy encapsulated | | | W134MPCX-11 | 12 | 230 Ω | 620 |

6...17 PHONE: (843) 393-5778 FAX: (843) 393-4123 EMAIL: info@magnecraft.com

FROM THE SIDE OF THE ADJACENT RELAYS.

HIGH VOLTAGE SWITCHING RELAY CLASS102VX & 102HVX

EPOXY ENCAPSULATED HIGH VOLTAGE REED. SPST-NO TUNGSTEN CONTACTS SWITCHES LOADS UP 10 MA @ 5000 VOLTS DC CLASS 102HV SAME AS ABOVE EXCEPT: SWITCHES 10,000 VOLTS WITH LOADS UP TO 5 mA DC

GENERAL SPECIFICATIONS

COIL

| COIL | |
|------------------------|-----------------------------------|
| Pull-in Voltage: | 75% of nominal voltage or less |
| Drop Out Voltage: | 10% of nominal voltage or more |
| Max. Voltage: | 110% of nominal voltage |
| Resistance: | ±10 % measured @ 25°C |
| Coil Power: | See chart |
| Duty: | Continuous |
| | |
| CONTACTS | |
| Contact Material: | Tungsten |
| Contact Resistance: | 200 milliohms max |
| Contact Rating: | 10 ma 5000 VDC |
| | 5 ma @ 10,000 VDC |
| TIMING | |
| Operate time: | 1 mS or less @ nominal voltage |
| Release time: | 1 mS or less @ nominal Voltage |
| | |
| DIELECTRIC STRENGT | Г Н |
| Across Open Contacts | : 12,000 VDC |
| Between Mutually | |
| Insulation Points: | 12,000 VDC |
| Insulation Resistance: | 1000 megohms min. @ 500 VDC |
| Capacitance: | 5 pf typical coil to contact |
| | |
| TEMPERATURE | |
| Operating: | -40°C to +85°C @ rated operation |
| Storage: | -40°C to +105°C |
| | |
| SHOCK RESISTANCE | |
| Operating: | 30 g's, 11 mS, 1/2 sine wave |
| | |
| VIBRATION RESISTAN | |
| Operating: | 10 g's, 10 Hz to 1000 Hz |
| | |
| | |
| Electrical: | 1,000,000 operations @ rated load |
| Mechanical: | 10,000,000 operations @ no load |
| | |

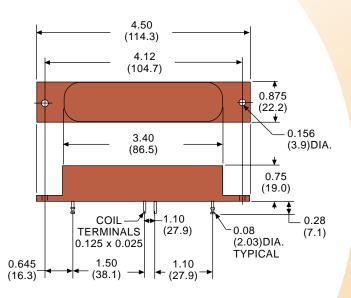
MISCELLANEOUS

Operating Position: Enclosure: Weight:

Any

Epoxy encapsulated 49 grams approx.

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



SPST - N.O.,

5 TO 10 MILLIAMPS

Do not use wire heavier than #22 AWG. Excess stress on terminals could cause damage to internal components



| | | COIL MEASURED @ 25°C | | | | | | |
|------------------------------------|-----------------------------|----------------------|---------------------------------|--------------------------|--|--|--|--|
| WIRING DIAGRAMS (TOP VIEWED) | STANDARD PART NUMBERS | INPUT | NOMINAL RESISTANCE (OHMS) | NOMINAL POWER (mW) | | | | |
| | 5,000 VOLTS NORMALLY OPEN | | | | | | | |
| • | W102VX-49 | 6 VDC | 70 Ω | 500 mW | | | | |
| | W102VX-50 | 12 VDC | 250 Ω | 580 mW | | | | |
| | W102VX-51 | 24 VDC | 1000 Ω | 580 mW | | | | |
| 000 | 10,000 VOLTS NORMALLY OPEN | | | | | | | |
| | W102HVX-3 | 24 VDC | 400 Ω | 1.5 Watts | | | | |

PHONE: (843) 393-5778 FAX: (843) 393-4123 EMAIL: info@magnecraft.com Downloaded from Elcodis.com electronic components distributor

COAXIAL R.F. SWITCHING RELAY

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).

SPDT, 150 WATTS

PANEL MOUNT WITH RG58C/U CABLE (50 OHM) SWITCHING 150 WATTS UP TO 470 MHz

| | PECIFICATIONS | RG58C/U | 1.73 | RG58C | ;/U_ | |
|------------------------------------|---------------------------------------|--------------------------------------|------------------------------------|-----------------|----------------------|--|
| COIL | | | (44.0) | 50 OHN | | |
| Pull-in Voltage: | 75% of nominal voltage or less | | | | | |
| Drop Out Voltage: | 10% of nominal voltage or more | | | | (17.0 | J) |
| Max. Voltage: | 110% of nominal voltage | 12.0 | | 40 | A | |
| Resistance: | ±10 % measured @ 25°C | (304.8) | | (304 | 2.0 ▶ 4.8) | |
| Coil Power: | See chart | _ 0.12 | 20 DIA THRU HOLI MOUNTING HOLES | ES | , | |
| Duty: | Continuous | | | <i>, (</i> | | |
| | | 0.312 (7.93) | (29.05) | • <u> </u> | ¥ | |
| Contact Material: | Silver alloy | | φ | | 0.422 | 2 0.770 |
| Contact Resistance: | 50 milliohms max. & rated load | | / - | ↓ <u> </u> | (10.71 | l) (19 <mark>.5)</mark> |
| Contact Rating: | 150 watts 85 V rms | → 0.250 TYP. (6.35) 0.850 (21.59) | | | _0.093 (2.38) | |
| TIMING | | (= | | | | |
| Operate time: | 15 mS or less @ nominal voltage. | - | 1.28 | | | |
| Reset time: | 7 mS or less @ nominal voltage. | ı | (32.3) | | | |
| DIELECTRIC STRENGT | | | | | | |
| Across Open Conta <mark>cts</mark> | s: 500 V rms | | | C | | |
| Between Mutually | | | | | | |
| Insulation Points: | 1000 V rms | | | | | |
| Insulation Resistance: | - | | | | | |
| Capacitance: | 30 pf maximum contact to open contact | | | | | |
| TEMPERATURE | | - | | | | |
| Operating: | -55°C to +65°C @ rated operation | | | | | |
| Storage: | -55°C to +105°C | | | | | |
| | | | | | 1 | |
| | | | 2 | | 200 | Contraction of the local division of the loc |
| Electrical: | 5,000,000 operations @ rated load | | de la | 1521 | A B | |
| Mechanical: | 100,000 operations @ no load | | | 1 0 ° | 2 | |
| MISCELLANEOUS | | | 1 | | | |
| Operating Position: | Any | | 111 | E | | |
| Enclosure: | Metal | WIRING | | COIL N | MEASURED | @ 25°C |
| Weight: | 85 grams approx. | DIAGRAMS | STANDARD | NOMINAL | NOMINAL | NOMINAL |
| weigni. | 00 yiaine appion. | (SIDE VIEW COIL DOWN) | PART | INPUT | RESISTANCE | POWER (mW) |
| | | | | | | (|
| | | SPDT | _ | | | |
| 4 | | SPDT | | | | |
| | MAGNECO | 1 | | | | |
| | MAGNECRAFT | 1 | W120X-14 | 12 VDC | 500 Ω | 288 |
| | MAGNECRAFT | 1 | W120X-14 | 12 VDC | 500 Ω | 288 |
| | MAGNECRAFT | 1 | W120X-14 | 12 VDC | 500 Ω | 288 |

6...19 Downloaded from Elcodis.com electronic components distributor





SECTION 6 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | POTTER & BRUMFIELD | CLARE | сото | COTO SPARTIN | GORDOS | HAMLIN | MEDER |
|--------------------------------|-----------------------|------------|----------|--------------|---------|-----------|----------------|
| W117SIP-1 | JWS-117-1 | DSS41A05 | 90010500 | | 741A-9 | 3621A0500 | SIL05-1A75-71L |
| W117SIP-3 | JWS-117-3 | DSS41A12 | 90011201 | | 741A-3 | 3621A1200 | SIL12-1A75-71L |
| W117SIP-5 | JWS-117-5 | DSS41A24 | | | 741A-7 | 3621A2400 | SIL24-1A75-71L |
| W117SIP-22 | JWS-117-12 | DSS41B05 | | | 741B-3 | | |
| W117SIP-23 | JWS-117-14 | DSS41B12 | | | 741B-5 | | |
| W117SIP-24 | JWS-117-15 | DSS41B24 | | | 741B-8 | | |
| W117SIP-6 | JWS-117-6 | DSS41A05B | | | 741B-10 | 3621A0510 | SIL05-1A75-71D |
| W117SIP-8 | JWS-117-8 | DSS41A12B | | | 741A-4 | 3621A1210 | SIL12-1A75-71D |
| W117SIP-10 | JWS-117-110 | DSS41A24B | | | 741A-8 | 3621A2410 | SIL24-1A75-71D |
| W117SIP-18 | JWS-117-17 | DSS41B05B | | | 741B-4 | | |
| W117SIP-25 | JWS-117-19 | DSS41B12B | | | 741B-6 | | |
| W117SIP-26 | JWS-117-30 | DSS41B24B | | | 741B-8 | | |
| MAGNECRAFT | POTTER & | | | | | | |
| & STRUTHERS-DUNN | BRUMFIELD | CLARE | СОТО | COTO SPARTIN | | HAMILIN | MEDER |
| W107DIP-1 | JWD-107-1 | PRMA10037 | | | 831A-3 | | DIP05-1A75-11L |
| W107DIP-3 | JWD-107-3 | PRMA10038 | | | 831A-5 | | DIP12-1A75-11L |
| W107DIP-4 | | PRMA10039 | | | 831A-7 | | DIP24-1A75-11L |
| W107DIP-5 | JWD-107-5 | PRMA10037B | | | 831A-4 | | DIP05-1A75-11D |
| W107DIP-7 | JWD-107-7 | PRMA10038B | | | 831A-6 | | DIP12-1A75-11D |
| W107DIP-8 | | PRMA10039B | | | 831A-8 | | DIP24-1A75-11D |
| MAGNECRAFT & STRUTHERS-DUNN | POTTER & BRUMFIELD | CLARE | СОТО | COTO SPARTIN | GORDOS | HAMILIN | MEDER |
| W171DIP-2 | | PRMA1A05 | 80010500 | 8L01-05-001 | 831A-3 | 721A0500 | DIP05-1A75-11L |
| W171DIP-4 | | PRMA1A12 | 80011200 | 8L01-12-001 | 831A-5 | 721A1200 | DIP12-1A75-11L |
| W171DIP-5 | JWD-171-5 | PRMA1A24 | | 8L01-24-001 | 831A-7 | 721A2400 | DIP24-1A75-11L |
| W171DIP-7 | | PRMA1A05B | 80010510 | 8L01-05-011 | 831A-4 | 721A0510 | DIP05-1A75-11D |
| W171DIP-9 | | PRMA1A12B | 80011210 | 8L01-12-011 | 831A-6 | 721A1210 | DIP12-1A75-11D |
| W171DIP-10 | JWD-171-10 | PRMA1A24B | | 8L01-24-011 | 831A-8 | 721A2410 | DIP24-1A75-11D |
| W171DIP-12 | JWD-171-12 | PRMA1B05 | 80210500 | 8L21-05-001 | 831B-3 | 721B0500 | DIP05-1B75-11L |
| W171DIP-14 | JWD-171-14 | PRMA1B12 | 80211200 | 8L21-12-001 | 831B-5 | 721B1200 | DIP12-1B75-11L |
| W171DIP-15 | JWD-171-15 | PRMA1B24 | | 8L21-24-001 | 831B-7 | 721B2400 | DIP24-1B75-11L |
| W171DIP-17 | JWD-171-17 | PRMA1B05B | 80210510 | 8L21-05-011 | 831B-4 | 721B0510 | DIP05-1B75-11D |
| W171DIP-19 | JWD-171-19 | PRMA1B12B | 80211210 | 8L21-12-011 | 831B-6 | 721B1210 | DIP12-1B75-11D |
| W171DIP-20 | JWD-171-20 | PRMA1B24B | | 8L21-24-011 | 831B-8 | 721B2410 | DIP24-1B75-11D |
| W171DIP-21 | JWD-171-21 | PRMA2A05 | 80020500 | 8L02-05-001 | 832A-3 | 722A0500 | DIP05-2A75-21L |
| W171DIP-23 | JWD-171-23 | PRMA2A12 | 80021200 | 8L02-12-001 | 832B-5 | 722A1200 | DIP12-2A75-21L |
| W171DIP-24 | JWD-171-24 | PRMA2A24 | | 8L02-24-001 | 832B-7 | 722A2400 | DIP24-2A75-21L |
| W171DIP-25 | JWD-171-25 | PRMA2A05B | 80020510 | 8L02-05-011 | 832B-4 | 722A0510 | DIP05-2A75-21D |
| W171DIP-27 | JWD-171-27 | PRMA2A12B | 80021210 | 8L02-12-011 | 832B-6 | 722A1210 | DIP12-2A75-21D |
| W171DIP-28 | JWD-171-28 | PRMA2A24B | | 8L02-24-011 | 831B-8 | 722A2410 | DIP24-2A75-21D |
| MAGNECRAFT & STRUTHERS-DUNN | POTTER & BRUMFIELD | | | | GORDOS | | |
| W172DIP-1 | JWD-172-1 | | | | 836C-1 | 721R0500 | |
| W172DIP-3 | JWD-172-3 | | | | 836C-3 | 721R1200 | |
| W172DIP-4 | JWD-172-3 | | | | 836C-5 | 721R2400 | |
| W172DIP-5 | JWD-172-4 | | | | 836C-2 | 721R0510 | |
| W172DIP-7 | JWD-172-7 | | | | 836C-4 | 721R1210 | |
| W172DIP-8 | JWD-172-8 | | | | 836C-6 | 721R2410 | |
| | 5112 112 0 | 1 | | | | | |

THE CROSS REFERENCE IS INTENDED TO MATCH FOOT PRINT, INTERNAL WIRING, AND CONTACT LOAD RATINGS. CONSTRUCTION FEATURES AND GENERAL SPECIFICATIONS SHOULD BE COMPARED IF EXACT REPLACEMENT IS REQUIRED. Downloaded from <u>Eleculis.com</u> electronic components distributor



Magnecraft & Struthers-Dunn

Your Contact for Relays

SECTION 6 CROSS REFERENCE GUIDE

| MAGNECRAFT & STRUTHERS-DUNN | POTTER & BRUMFIELD | GORDOS | HAMLIN | MEDER | CLARE | GOTO |
|--------------------------------|-----------------------|--------|----------|----------------|-----------|----------|
| W172DIP-17 | | 835C-1 | | | | |
| W172DIP-19 | | 835C-3 | | | | |
| W172DIP-20 | | 835C-5 | | | | |
| W172DIP-21 | | 835C-2 | | | | |
| W172DIP-23 | | 835C-4 | | | | |
| W172DIP-24 | | 835C-6 | | | | |
| W172DIP-141 | JWD-172-155 | 831C-1 | 721C0500 | DIP05-1C75-51L | PRMA1C05 | 80410500 |
| W172DIP-145 | JWD-172-157 | 831C-3 | 721C1200 | DIP12-1C75-51L | PRMA1C12 | 80411200 |
| W172DIP-146 | JWD-172-158 | 831C-5 | 721C2400 | DIP24-1C75-51L | PRMA1C24 | |
| W172DIP-147 | JWD-172-159 | 831C-2 | 721C0510 | DIP05-1C75-51D | PRMA1C05B | 80410510 |
| W172DIP-149 | JWD-172-161 | 831C-4 | 721C1210 | DIP12-1C75-51D | PRMA1C12B | 80411210 |
| W172DIP-150 | JWD-172-162 | 831C-6 | 721C2410 | DIP24-1C75-51D | PRMA1C24B | |
| W172DIP-31 | | 831C-1 | 721E0500 | | | 80510500 |
| W172DIP-33 | | 831C-3 | 721E1200 | | | 80511200 |
| W172DIP-34 | | 831C-5 | 721E2400 | | | |
| W172DIP-35 | | | 721E0510 | | | 80510510 |
| W172DIP-37 | | | 721E1210 | | | 80511210 |
| W172DIP-38 | | | 721E2410 | | | |

THE CROSS REFERENCE IS INTENDED TO MATCH FOOT PRINT, INTERNAL WIRING, AND CONTACT LOAD RATINGS. CONSTRUCTION FEATURES AND GENERAL SPECIFICATIONS SHOULD BE COMPARED IF EXACT REPLACEMENT IS REQUIRED.

FOR REED RELAY APPLICATION ENGINEERING ASSISTANCE

Joseph Zintel, PRODUCT MANAGER FAX: (843) 395-8530 EMAIL: jzintel@magnecraft.com FAX ON DEMAND: 1-800-891-2957 DOCUMENT: 500

U. S. A. TELEPHONE: (843) 393-5778 FAX: (843) 393-4123 WEBSITE: www.magnecraft.com EMAIL: info@magnecraft.com

EUROPE

TELEPHONE:4989 / 75080310FAX:4989 / 7559344WEBSITE:www.magnecraft.comEMAIL:renatesteinback@magnecraft.de

