



# HALF SIZE CRYSTAL CAN RELAY 5 AMPERE DPDT

**Series  
HA**

## Product Description

A proven variation of our standard half size crystal can relay incorporates improved current carrying paths to provide 5 ampere switching.

The design is supported by our standard qualified military relays and their continued testing programs, together with the latest metallurgical innovations in contact materials and current carrying members. Reliability, product consistency and low cost are maintained through our volume production techniques.

The following construction features ensure the highest reliability in extreme environments:

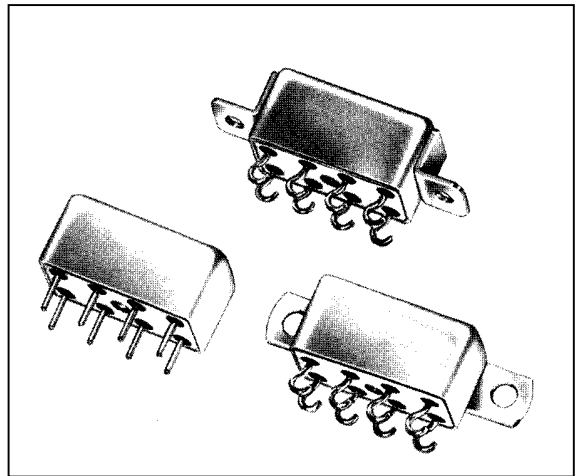
- All welded relay construction
- Cleaning and sealing techniques ensures maximum internal cleanliness
- 5 amperes switching
- 2 form C, DPDT contacts, special metal alloy with gold plating
- Frame, armature designs and force / mass ratio provides exceptional immunity to shock and vibration.

## Series Type

- 2HA 2 form C, DPDT

## Environmental and Physical Specifications

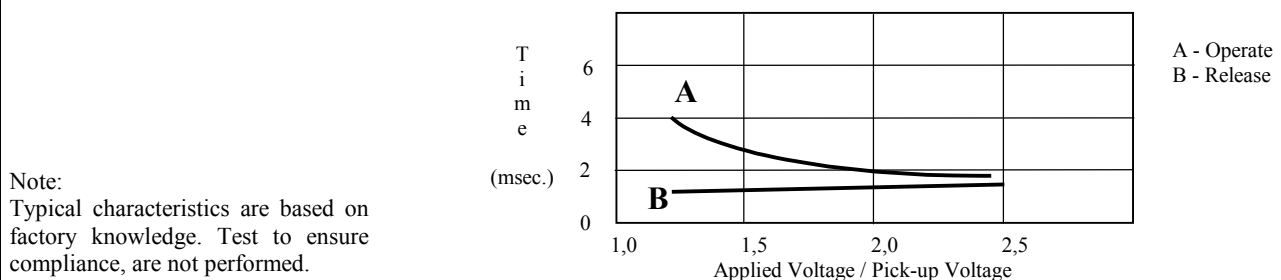
|                        |                            |
|------------------------|----------------------------|
| Temperature (Ambient)  | - 65°C to + 125°C          |
| Shock                  | 100 g, 6 msec.             |
| Vibration (sinusoidal) | 20 g, 10 to 2000 Hz        |
| Acceleration           | 30 g                       |
| Sealing                | All welded, Hermetic       |
| Weight                 | 0,35 oz. (10,0 grams) max. |



## Electrical Characteristics (over the Temperature range. Unless otherwise noted)

|  |  |                          |             |
|--|--|--------------------------|-------------|
| Coil Data                              | See Typical Characteristics chart  |                          |             |
| Contact Rating                         | Type Load  | Contact Load             | Cycles min. |
| (Note: All ratings with grounded case) | Resistive  | 5 A / 28 Vdc             | 100.000     |
|  |  | 1 A / 115Vac, 400 Hz     | 100.000     |
|  |  | 0,3 A / 115 Vac, 60 Hz   | 100.000     |
| Overload                               | 10 A / 28 Vdc  | 100                      |             |
|  | Inductive  | 0,75 A / 28 Vdc (200 mH) | 100.000     |
| Contact Resistance                     | 0,05 Ω max. initial  |                          |             |
| Operate Time                           | 4,0 msec. max. at 25°C   |                          |             |
| Release Time                           | 3,0 msec. max. at 25°C   |                          |             |
| Contact Bounce                         | 3,0 msec. max. at 25°C   |                          |             |
| Dielectric Strength                    | 1.000 Vrms min., 60 Hz, all points, 500 Vrms min. between open contacts and coil to case, at sea level |                          |             |
| Insulation Resistance                  | 1.000 MΩ min. all points at 500 Vdc  |                          |             |
| Intercontact Capacitance               | 2,5 pF between contacts  |                          |             |
| Sensitivity                            | 300 mW at pick-up, 1,4 W at nominal rated coil voltage, at 25 °C                                       |                          |             |

**Figure 1 - Operate & Release Time curves vs. Applied Voltage**





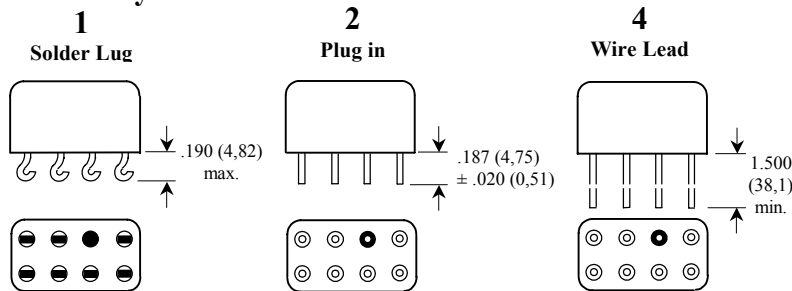
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## Typical Characteristics

| Voltage Code | Coil Voltage |      | Coil Resistance<br>± 10% at 25°C | Pick-up Vdc<br>Max. at 25°C | Drop-out Vdc<br>Min. at 25°C |
|--------------|--------------|------|----------------------------------|-----------------------------|------------------------------|
|              | Nominal      | Max. |                                  |                             |                              |
| 105          | 5,0          | 6,0  | 18                               | 3,6                         | 0,25                         |
| 106          | 6,0          | 7,2  | 40                               | 3,5                         | 0,35                         |
| 112          | 12,0         | 14,4 | 150                              | 6,7                         | 0,75                         |
| 124          | 24,0         | 29,0 | 400                              | 17,0                        | 1,4                          |
| 126          | 26,5         | 32,0 | 600                              | 13,4                        | 1,5                          |
| 136          | 36,0         | 43,0 | 900                              | 26,0                        | 2,2                          |
| 148          | 48,0         | 57,0 | 1600                             | 34,0                        | 2,8                          |

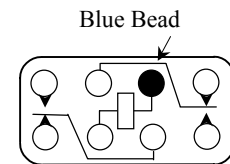
## Terminal Styles



Note:

- Dimensions are shown in inches (millimetres)
- Terminal spacing is .200 (5,08). Terminal diameter is .030 (0,76) + .003 (0,08) - .002 (0,05)

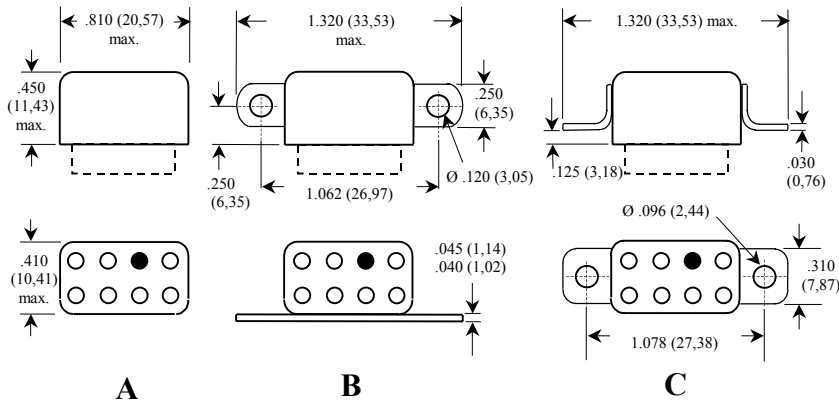
## Schematic Diagram



Note:

- Schematics are viewed from terminals

## Mounting Styles

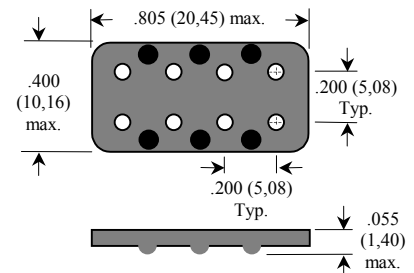


Note:

- Dimensions are shown in inches (millimetres)

## Insulating Pad

Relays can be supplied with an insulating pad epoxied to the relay header, to prevent the possible shorting of printed circuit board land lines and to facilitate circuit board cleaning. To order relay with pad add. "P" to Part Number. Example: **2HA-2A-126 P**



Note:

- Dimensions are shown in inches (millimetres)

## How to Order (Part Numbering System)

|                |     |     |   |       |   |                           |
|----------------|-----|-----|---|-------|---|---------------------------|
| Series         | 2HA | - 2 | A | - 126 | P | Insulating Pad (optional) |
| Terminal Style |     |     |   |       |   |                           |
| Mounting Style |     |     |   |       |   | Voltage Code              |