



GENERAL INFORMATION SELECTOR CHART

| Series | Series Types | Enclosure | Contacts | | Nominal Coil Voltage or Current | Operating Power at P.I. (mW) | Applicable Specification Approvals | | | | | | | |
|---------|--------------|----------------|-------------|--------------|---------------------------------|------------------------------|------------------------------------|----------------|--------------|----------------|-----|----|------|-------------|
| | | | Arrangement | Rating | | | MILITARY | | CECC | | | | | |
| | | | | | | | Mil-PRF-39016/ | Mil-PRF-28776/ | 16101- | 16207- | | | | |
| MA | MA | TO-5 | DPDT | 1A / 28 Vdc | 5...30,0 Vdc | 130 | 9 | | | | | | | |
| | MA-D | | | | 5...26,5 Vdc | | 15 | | | | | | | |
| | MA-DD | | | | | | 20 | | | | | | | |
| | MA-T | | | | | | | 1 | | | | | | |
| MA2 | | TO-5 | DPDT | 1A / 28 Vdc | 5...30,0 Vdc | 130 | | | 003 | | | | | |
| MCA | | TO-5 | DPDT | 2A / 28 Vdc | 5...26,5 Vdc | 150 | | | | | | | | |
| MS | MS | TO-5 | DPDT | 1A / 28 Vdc | 5...48,0 Vdc | 60 | 11 | | | | | | | |
| | MS-D | | | | | | 16 | | | | | | | |
| | MS-DD | | | | | | 21 | | | | | | | |
| | MS-T | | | | | | | 3 | | | | | | |
| MS2 | | TO-5 | DPDT | 1A / 28 Vdc | 5...48,0 Vdc | 60 | | | 004 | | | | | |
| 1MA | 1MA | TO-5 | SPDT | 1A / 28 Vdc | 5...26,5 Vdc | 100 | 7 | | | | | | | |
| | 1MA-D | | | | | | 23 | | | | | | | |
| | 1MA-DD | | | | | | 24 | | | | | | | |
| | 1MA-T | | | | | | | 5 | | | | | | |
| 1MA1 | | TO-5 | SPDT | 1A / 28 Vdc | 5...26,5 Vdc | 100 | | | 005 | | | | | |
| 1MS | 1MS | TO-5 | SPDT | 1A / 28 Vdc | 5...40,0 Vdc | 50 | 10 | | | | | | | |
| | 1MS-D | | | | | | 25 | | | | | | | |
| | 1MS-DD | | | | | | 40 | | | | | | | |
| | 1MS-T | | | | | | 50 | | 4 | | | | | |
| 1MS1 | | TO-5 | SPDT | 1A / 28 Vdc | 5...40,0 Vdc | 50 | | | 006 | | | | | |
| | MGA | CUBIC .100GRID | DPDT | 1A / 28 Vdc | 5...26,5 Vdc | 130 | 17 | | | | | | | |
| | MGA-D | | | | | | 18 | | | | | | | |
| MGA-DD | 150 | | | | | | | | | | | | | |
| MGAE | MGAE | CUBIC .100GRID | DPDT | 1A / 28 Vdc | 5...28,0 Vdc | 130 | | | | 801 | | | | |
| | MGAE-D | | | | | | | | | | | | | |
| | MGAE-DD | | | | | | 150 | | | | | | | |
| MGA2 | MGA2/D2 | CUBIC | DPDT | 1A / 28 Vdc | 5...28,0 Vdc | 140 | | | 007 | | | | | |
| MGS | MGS | CUBIC .100GRID | DPDT | 1A / 28 Vdc | 5...48,0 Vdc | 60 | 41 | | | | | | | |
| | MGS-D | | | | | | 42 | | | | | | | |
| | MGS-DD | | | | | | 43 | | | | | | | |
| MGSE | MGSE | CUBIC .100GRID | DPDT | 1A / 28 Vdc | 5...48,0 Vdc | 60 | | | | 802 | | | | |
| | MGSE-D | | | | | | | | | | | | | |
| | MGSE-DD | | | | | | | | | | | | | |
| MGS2 | MGS2/D2 | CUBIC | DPDT | 1A / 28 Vdc | 5...48,0 Vdc | 60 | | | 008 | | | | | |
| 12K | | 1/2 CC | DPDT | 2A / 28 Vdc | 5...26,5 Vdc | 250 | 6 | | | | | | | |
| 2K | | 1/2 CC | DPDT | 2A / 28 Vdc | 5...48,0 Vdc | 250 | | | | | | | | |
| 2K6600 | | 1/2 CC | DPDT | 2A / 28 Vdc | 5...48,0 Vdc | 250 | | | 007.014.021 | | | | | |
| | | | | | | | MILITARY Compliance | | | | | | | |
| | | | | | | | Mil-R-39016/ | Mil-R-5757/ | | | | | | |
| 2K7940 | | 1/2 CC | DPDT | 2A / 28 Vdc | 6...26,5 Vdc | 250 | 22 | | | | | | | |
| KA | 2KA | 1/2 CC | DPDT | 2A / 28 Vdc | 5...48,0 Vdc | 100 | | | | | | | | |
| HA | 2HA | 1/2 CC | DPDT | 5A / 28 Vdc | 5...48,0 Vdc | 300 | | | | | | | | |
| B | 2B | CC | DPDT | 2A / 28 Vdc | 6...76,0 Vdc | 250 | | | | | | | | |
| | 2BR | | | | 26,5...115 Vac | | 370 | | | | | | | |
| 2B6660 | | CC | DPDT | 3A / 28 Vdc | 6...76,0 Vdc | 250 | | | 008 | | | | | |
| 2B7506 | | CC | DPDT | 2A / 28 Vdc | 6...26,5 Vdc | 250 | | | 10 | | | | | |
| | BS | | | | | | CC | DPDT | 2A / 28 Vdc | 6...26,5 Vdc | 100 | | | |
| | 2BSA | | | | | | | | | | | CC | SPDT | 2A / 28 Vdc |
| 1BSK | CC | DPDT | 2A / 28 Vdc | 3,2...70,6mA | 40 | | | | | | | | | |
| 2BSK | | | | | | CC | DPDT | 2A / 28 Vdc | 4,0...89,2mA | 40 | | | | |
| BN | 1BN | CC | SPDT | 5A / 28 Vdc | 6...76,0 Vdc | | | | | | 280 | | | |
| | 2BN | | | | | CC | DPDT | 2A / 28 Vdc | 4,0...90,0mA | 40 | | | | |
| 2BC7201 | | CC | DPDT | 2A / 28 Vdc | 4,0...90,0mA | | | | | | 40 | | 13 | |
| BCN | 1BCN | CC | SPDT | 5A / 28 Vdc | 6...40,0 Vdc | 80 | | | | | | | | |
| | 2BCN | | | | | | CC | DPDT | 2A / 28 Vdc | 6...115 Vdc | 400 | | | |
| 4B | | CC | 4PDT | 2A / 28 Vdc | 6...115 Vdc | 400 | | | | | | | | |
| T | 2T | CC | DPDT | 10A / 28 Vdc | 6...115 Vdc | 500 | | | | | | | | |
| | 2TR | | | | 115 Vac | | | | | | | | | |
| TN | 2TN | CC | DPDT | 15A / 28 Vdc | 6...115 Vdc | 500 | | | | | | | | |
| | 2TNR | | | | 115 Vac | | | | | | | | | |
| 2T7188 | | CC | DPDT | 10A / 28 Vdc | 6...120 Vdc | 500 | | | 23 | | | | | |
| RFK | RFK | 1/2 CC | SPDT | 2A / 28 Vdc | 6...26,5 Vdc | 250 | | | | | | | | |
| | 2RFK | | | | | | CC | DPDT | 2A / 28 Vdc | 6...76,5 Vdc | 250 | | | |
| RFB | RFB | CC | SPDT | 2A / 28 Vdc | 6...76,5 Vdc | 250 | | | | | | | | |
| | 2RFB | | | | | | CC | DPDT | 2A / 28 Vdc | 4,0...89,2 mA | 40 | | | |
| RFBC | RFBC | CC | SPDT | 2A / 28 Vdc | 4,0...89,2 mA | 40 | | | | | | | | |
| | 2RFBC | | | | | | CC | DPDT | 1A / 28 Vdc | 5,0...30,0 Vdc | 260 | | | |
| 4MA | | CC | 4PDT | 1A / 28 Vdc | 5,0...30,0 Vdc | 260 | | | | | | | | |
| 4MS | | CC | 4PDT | 1A / 28 Vdc | 5,0...48,0 Vdc | 120 | | | | | | | | |



HALF SIZE CRYSTAL CAN RELAY 2 AMPERE DPDT

Series
I2K

Product Description

A complete series of half crystal can hermetically sealed relays manufactured and qualified to the referenced Military specification.

The leading relay design in military and commercial application is represented in Nuova Hi-G Italia I 2K series relay. The products advanced design provides superior performance in the environmental and operational requirements of today's sophisticated equipment.

Volume production coupled with continuing qualification programs, ensure product consistency and the highest degree of reliability.

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

- All welded relay construction
- Cleaning and sealing techniques ensures maximum internal cleanliness
- Low level to 2 amp. 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

- I 2K 2 form C, DPDT

Environmental and Physical Specifications

| | |
|------------------------|---------------------------------------|
| Temperature (Ambient) | -65°C to +125°C |
| Shock | 100 g's, 6 msec. |
| Vibration (sinusoidal) | 30 g's, 10 to 3000 Hz |
| Vibration (random) | 0,4g ² / Hz, 50 to 2000 Hz |
| Acceleration | 50 g's |
| Sealing | All welded, Hermetic |
| Weight | 0,46 oz. (13,0 grams) max. |



Electrical Characteristics (over the Temperature range, unless otherwise noted)

| Coil Data | See Typical Characteristics chart | | | |
|---|---|--------------------------------|--|-------------|
| Contact Rating | Contact load | Type 1 | Type 2 | Cycles min. |
| (Note : All ratings with grounded case) | Low Level | 10 to 50 μ A / 10 to 50 mV | 10 to 50 μ A / 10 to 50 mV | 1.000.000 |
| | Resistive | 2 Amp / 28 Vdc | 2 Amp / 28 Vdc | 100.000 |
| | | 0,3 Amp/115Vac, 60 and 400Hz | 0,1 Amp/115Vac, 60 and 400Hz | 100.000 |
| | Overload | 4A / 28 Vdc | 4A / 28 Vdc | 100 |
| | Inductive | 0,75 Amp / 28 Vdc (200 mH) | 0,50 Amp / 28 Vdc (200 mH) | 100.000 |
| Lamp | 0,16 Amp / 28 Vdc | 0,16 Amp / 28 Vdc | 100.000 | |
| Contact Resistance | 0,05 ohm max. initial, 0,1 ohm max. after life high level, 0,15 ohm max. after low level | | | |
| Operate Time | 4,0 msec. max. | | | |
| Release Time | 4,0 msec. max. | | | |
| Contact Bounce | 2,0 msec. max. | | | |
| Contact stabilisation Time | 2,0 msec max | | | |
| Dielectric Strength | 1000 Vrms min., 60 Hz, all points, 500 Vrms min. between open contacts and coil to case, at sea level | | 350 Vrms min., 60 Hz, all points at 70.000 ft. | |
| | Insulation Resistance | | | |
| Insulation Resistance | 10.000 megohms min. all points at 500 Vdc | | | |
| Intercontact Capacitance | 2,5 pF Between contact | | | |
| Sensitivity | 250 milliwatts at pick-up, 500 milliwatts typical at nominal rated coil voltage, at 25°C | | | |



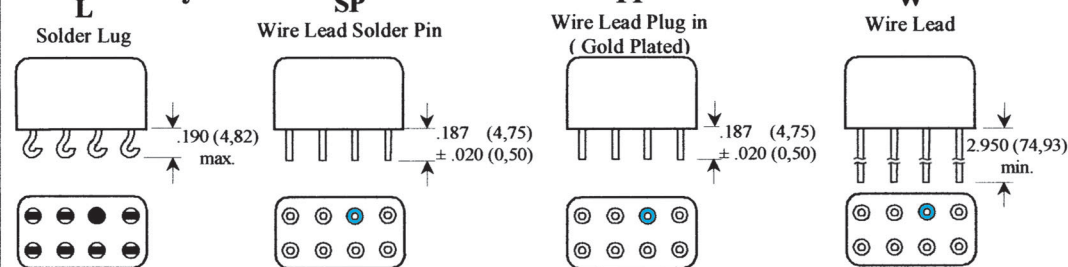
HALF SIZE CRYSTAL CAN RELAY 2 AMPERE DPDT

Series
I2K

Typical Characteristics (over the Temperature range, unless otherwise noted)

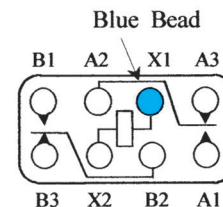
| Terminal Codes | | | | Mounting Styles | Load Rating | Coil Voltage (Vdc) | | DC Coil Resistance ohms ±10% at 25°C | Pick-up (Vdc) Max | Drop-out (Vdc) | |
|----------------|--------------------------|-------------------|-------------------|--------------------------|-------------|--------------------|------|---|----------------------|----------------|------|
| Wire Lead (PI) | Solder Lug (L) | Wire Lead (SP) | Wire Lead (W) | | | Max. | Nom. | | | Max. | Min. |
| 141 | 104 107 128 | 105 125 | 106 108 | B C D None E | Type 1 | 32,0 | 26,5 | 700 | 18,0 | 14,0 | 1,00 |
| 142 | 129 149 | 109 | 110 | B C D None E | | | | | | | |
| 241 | 204 207 228 | 205 225 | 206 208 | B C D None E | Type 2 | 15,0 | 12,0 | 160 | 9,0 | 5,8 | 0,50 |
| 242 | 229 249 | 209 | 210 | B C D None E | | | | | | | |
| 143 | 111 114 130 150 | 112 126 116 | 113 115 117 | B C None E | Type 1 | 7,5 | 6,0 | 40 | 4,5 | 2,9 | 0,25 |
| 144 | 211 214 230 250 | 212 226 216 | 213 215 217 | B C None E | | | | | | | |
| 145 | 118 121 131 151 | 119 127 123 | 120 122 124 | B C None E | Type 1 | 6,0 | 5,0 | 27 | 3,8 | 2,4 | 0,21 |
| 146 | 218 221 231 251 | 219 227 223 | 220 222 224 | B C None E | | | | | | | |
| 245 | 132 135 138 152 | 133 136 139 | 134 137 140 | B C None E | Type 1 | 6,0 | 5,0 | 27 | 3,8 | 2,4 | 0,21 |
| 246 | 232 235 238 252 | 233 236 239 | 234 237 240 | B C None E | | | | | | | |
| 147 | | | | B C None E | Type 1 | 6,0 | 5,0 | 27 | 3,8 | 2,4 | 0,21 |
| 148 | | | | B C None E | | | | | | | |
| 247 | | | | B C None E | Type 2 | 6,0 | 5,0 | 27 | 3,8 | 2,4 | 0,21 |
| 248 | | | | B C None E | | | | | | | |

Terminal Styles



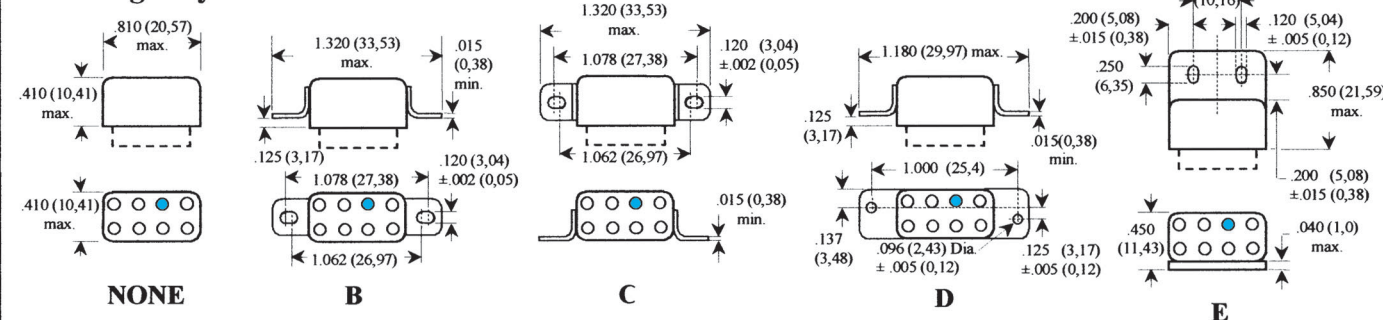
Note : - Dimensions are shown in inches (millimetres).
- Terminal spacing is .200 (5,08). Terminal diameter is .030 (0,76) +.003 (0,07) - .002 (0,05)

Schematic Diagram



Note : - Schematic is viewed from terminals

Mounting Styles



Note: Dimensions are shown in inches (millimetres)

Note:

1 Add the applicable suffix for Failure Rate designation:
Example: **I2K - 104A**

2 Failure Rate (Reliability Level)

| Military Suffix | N-HiG Suffix | FR % / 10.000 Cycles |
|-----------------|--------------|----------------------|
| L | A | 3,0 |
| M | B | 1,0 |

How to Order, (note 1) (Part Numbering System)

I2K-104 A

Series

Dash number (see characteristics table)

Reliability levels A or B (note 2)