CRYSTAL CAN RELAY 10 AMPERE DC or AC COIL

## Series <br> T

## Product Description

The economical approach to high current switching in a relay design for commercial and military applications. Through unique design innovations, this device incorporates an optimized magnetic structure and massive contact switching paths in less than 0.65 cubic inches. With proven switching characteristics of 10 amperes in excess of 100.000 operations under all environments, it performs in a wide variety of switching applications.
The following construction features ensure the highest reliability in extreme environments:

- All welded relay construction
- Cleaning and sealing techniques ensures maximum internal cleanliness
- 10 amperes switching
- $\quad 2$ form C, DPDT contacts, special metal alloy with gold plating


## Series Types

- 2T Basic Relay, 2 form C, DPDT
- 2T..E Basic Relay with internal voltage suppressor
- 2TR Basic Relay combined with internal bridge diode, for AC operation

Environmental and Physical Specifications


| Temperature (Ambient) | $-65^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$ |
| :--- | :--- |
| Shock | $100 \mathrm{~g}, 6 \mathrm{~ms}$. |
| Vibration (sinusoidal) | $20 \mathrm{~g}, 10$ to 2000 Hz |
| Acceleration | 30 g |
| Sealing | All welded, Hermetic |
| Weight | $2,0 \mathrm{oz} .(56,70$ grams) max. |

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

| Coil Data | See Typical Characteristics chart |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Contact Rating | Type Load |  | ct Load | Cycles min. |
| (Note: All ratings with grounded case) | Resistive | $\begin{aligned} & 10 \mathrm{~A} / 28 \mathrm{Vdc} \\ & 5 \mathrm{~A} / 115 \mathrm{Vac}, 400 \mathrm{~Hz} \\ & 3 \mathrm{~A} / 115 \mathrm{Vac}, 60 \mathrm{~Hz} \\ & 6 \mathrm{~A} / 28 \mathrm{Vdc}(200 \mathrm{mH}) \end{aligned}$ |  | $\begin{aligned} & 100.000 \\ & 100.000 \\ & 100.000 \\ & 50.000 \end{aligned}$ |
| Contact Resistance | 0,01 $\Omega$ max. initial |  |  |  |
| Operate Time | 13,0 ms. Max. at $25^{\circ} \mathrm{C}$ |  |  |  |
| Release Time | $13,0 \mathrm{~ms}$. Max. at $25^{\circ} \mathrm{C}$, Series T |  | $16,0 \mathrm{~ms}$. max. at $25^{\circ} \mathrm{C}$, Series TR |  |
| Contact Bounce | $5,0 \mathrm{~ms}$. Max. at $25^{\circ} \mathrm{C}$, normally close contacts |  | $5,0 \mathrm{~ms}$. Max. at $25^{\circ} \mathrm{C}$, normally open contacts |  |
| 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 | $1.000 \mathrm{M} \Omega \mathrm{min}$. all points at 500 Vdc |  |  |  |
| Sensitivity | 500 mW at pick-up, $1,7 \mathrm{~W}$ typical at nominal rated coil voltage, at $25^{\circ} \mathrm{C}$ |  |  |  |

CRYSTAL CAN RELAY 10 AMPERE DC or AC COIL

Typical Characteristics

| Series Types | Voltage Code | Coil Voltage [Vdc] |  | Coil Resistance [ $\Omega$ ] <br> $\pm 10 \%$ at $25^{\circ} \mathrm{C}$ | Pick-up[Vdc]Max. at $25^{\circ} \mathrm{C}$ | Drop-out[Vdc]Min. at $25^{\circ} \mathrm{C}$ | Coil Suppression [Vdc] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Nominal | Max. |  |  |  |  |
| 2 T | 106 | 6,0 | 7,2 | 22 | 3,3 | 0,5 | 47 |
|  | 112 | 12,0 | 14,4 | 90 | 6,7 | 1,0 | 47 |
|  | 126 | 26,5 | 32,0 | 330 | 13,0 | 2,0 | 47 |
|  | 215 | 115,0 | 125,0 | 7500 | 63,0 | 5,0 | 134 |
| 2TR | 112 | 12,0 | 14,0 | 90 | 8,0 | 1,0 |  |
|  | 124 | 24,0 | 32,0 | 330 | 14,5 | 2,0 |  |
| Note: <br> AC operation, 60 to 400 Hz | 215 | 115,0 | 125,0 | 7500 | 66,0 | 7,0 |  |
|  | 320 | 220,0 | 250,0 | 25000 | 120,0 | 10,0 |  |

## Terminal Styles



Note:

- Dimensions are shown in inches (millimetres)

Terminal spacing is $200(5,08)$. Terminal diameter is $.050(1,27) \pm .002(0,05)$

Schematic Diagrams


Note:

- Schematics are viewed from terminals


## Mounting Styles



A
Note:


C

D

$.562(14,28)$

- Dimensions are shown in inches (millimetres).
-"*"2TR and 2T..E series types: $1.34(34,03)$ max.


