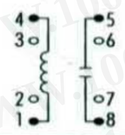
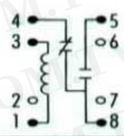
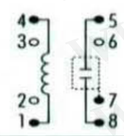
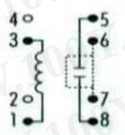
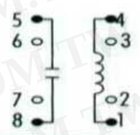
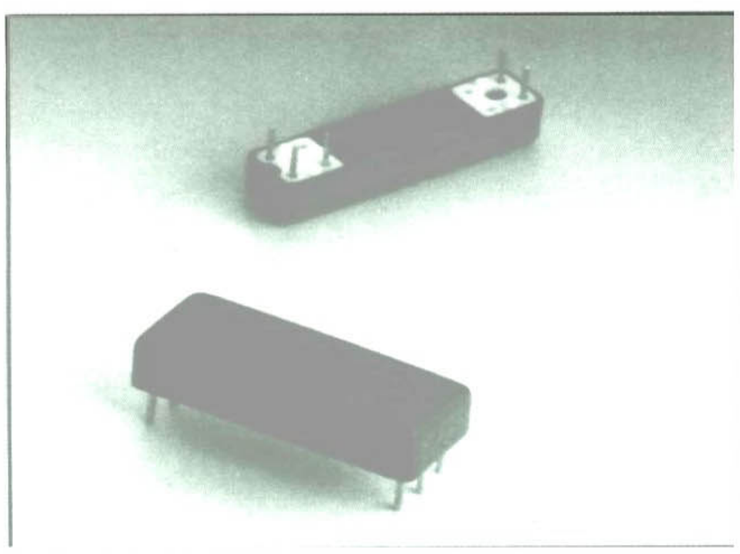
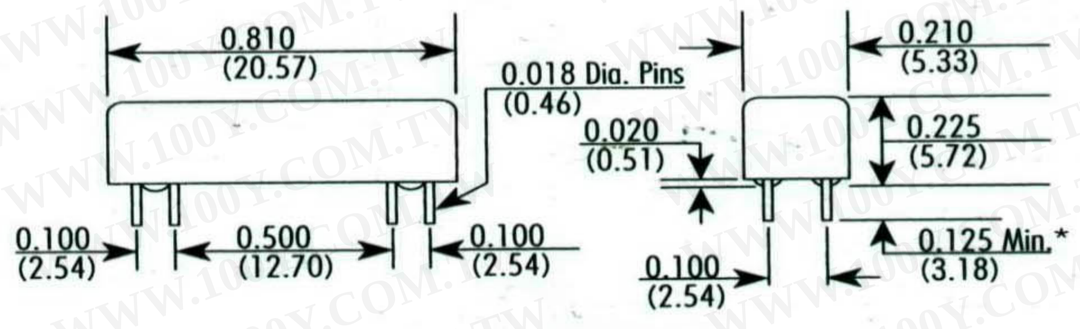
COTO WABASH

2200 Series / Microminiature Reed Relays

Series	Dimensions LxWxH inches (mm)	Description	Contact Forms	Coil Voltage	Switching Voltage	Contact Rating	Applications & Features
2200 2300 2900	0.81x0.21x0.225 (20.6x5.3x5.7) 0.81x0.21x0.37 (20.6x5.3x9.4) 0.82x0.25x0.28 20.8x6.4x7.1	Micro-miniature	1A, 1A*, 2A, 3A, 1C, 2C	5V, 12V	100V, 200V, 500V*	3W, 10W, 50W*	• ATE • IC Testers • Low Capacitance • 50Ω Impedance • RF Signal Switching • Low Level Signal

	Model Number			2204-05-4X1 2204-12-3X1		2211-XX-3X1		2200-2301	2200-2302	2200-2310
	Parameters	Test Conditions	Units	1 Form A		1 Form C		1 Form A Electrostatic Shield	1 Form A Coaxial Shield	1 Form A
Coil Specs.	Nom. Coil Voltage		VDC	5	12	5	12	5	5	5
	Coil Resistance	+/- 10%, 25°C	Ω	370	1500	230	1500	150	150	550
	Operate Voltage	Must Operate by	VDC - Max.	3.8	9.0	3.8	9.0	3.6	3.6	4.0
	Release Voltage	Must Release by	VDC - Min.	0.4	1.0	0.4	1.0	0.5	0.5	1.0
Contact Ratings	Switching Voltage	Max DC/Peak AC Resist.	Volts	200		100		200	200	200
	Switching Current	Max DC/Peak AC Resist.	Amps	0.5		0.25		0.5	0.5	0.5
	Carry Current	Max DC/Peak AC Resist.	Amps	1.0		0.5		1.0	1.0	1.0
	Contact Rating	Max DC/Peak AC Resist.	Watts	10		3		10	10	10
	Life Expectancy-Typical[1]	Signal Level 1.0V,10mA	x 10^6 Ops.	500		100		500	500	500
	Rated Loads		x 10^6 Ops.	5		5		5	5	5
	Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.100		0.150		0.150	0.150	0.100
	Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.200		0.200		0.200	0.200	0.200
Relay Specifications	Insulation Resistance (minimum)	Between all isolated pins at 100V, 25°C, 40% RH	Ω	10^{12}		10^{10}		10^{11}	10^{11}	10^{10}
	Capacitance - Typical Across Open Contacts	Shield Floating	pF	0.9		0.9		0.9	0.9	0.9
		Shield Guarding	pF	0.2		-		0.2	0.2	-
	Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	250		200		250	250	250
		Contacts to Shield	VDC/peak AC	250		-		250	250	-
		Contacts/Shield to Coil	VDC/peak AC	1500		1500		1500	1500	1500
	Operate Time - including bounce	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.5 Typical		1.0 Typical		0.55 Max.	0.55 Max.	0.65 Max.
	Release Time - Typical	Zener-Diode Suppression[3]	msec.	0.1		2.0		0.1	0.1	0.1
Schematics	BOTTOM VIEW Dot stamped on top of relay refers to pin #1 location. Pin numbers for reference only. Unused pins omitted.									





Bottom View

2200 Series Features

- Very small (0.17 in²), high reliability reed relays.
- High Insulation Resistance - 10^{12} Ω offered on some models.
- High speed switching compared to electromechanical relays.
- Hermetically sealed contacts for long life.
- Epoxy coated steel shell provides magnetic shielding.
- Optional Electrostatic shield for reducing coupling capacitance offered on some models.
- Optional Coaxial shield for 50 Ω impedance and switching of fast rise time digital pulses offered on some models.
- Relay models 2200-2301, 2200-2302, 2200-2310 are ATE industry standards. Specifically engineered for new OEM designs and maintenance of existing production fixtures.
- Made in USA.

Environmental Ratings

Storage Temp: -35°C to +100°C; Operating Temp: -20°C to +85°C
The operate and release voltage and the coil resistance are specified at 25°C. These values vary by approximately 0.4%/°C as the ambient temperature varies.
Vibration: 20 G's to 2000 Hz; Shock: 50 G's

Notes:
[1]Consult factory for life expectancy at other switching loads.
[2]Model 2204, pin #7 is tied to optional electrostatic shield, pins #6 & #7 are tied to optional coaxial shield.
[3]Consists of 20V Zener-Diode and 1N4002 diode in series, connected in parallel with coil.

Ordering Information

A complete part number is represented by the 9 digits assembled below.
Example: 2204-05-421 Represents Model 2204 with 5 V coil and coaxial shield.
Note: Model numbers 2200-2301, 2200-2302, and 2200-2310 represent complete part numbers.

Part Number XXXX-XX-XX1

Model Number
2204
2211

Coil Voltage
05 = 5 volts
12 = 12 volts

Shielding Options[2]
0 = No Shielding
1 = Electrostatic Shield (N/A on Model #2211)
2 = Coaxial Shield (N/A on Model #2211)

Coil Options
3 = use for Model # 2204 (12 volt coil) and Model # 2211 (5 & 12 volt coil)
4 = use for Model # 2204 (5 volt coil)