

Surface Mount Reed Relays

Including coaxial types for up to 5GHz

Features

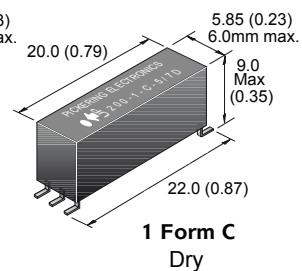
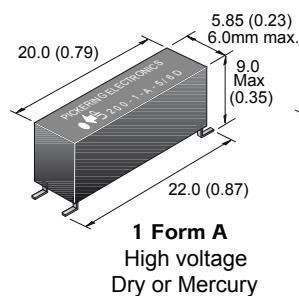
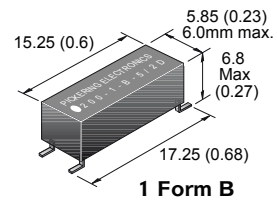
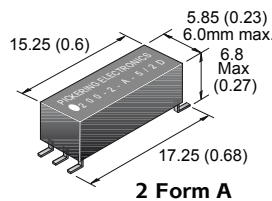
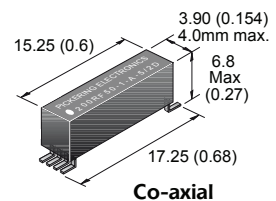
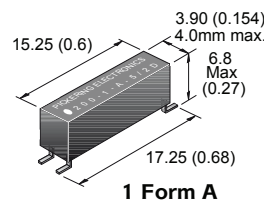
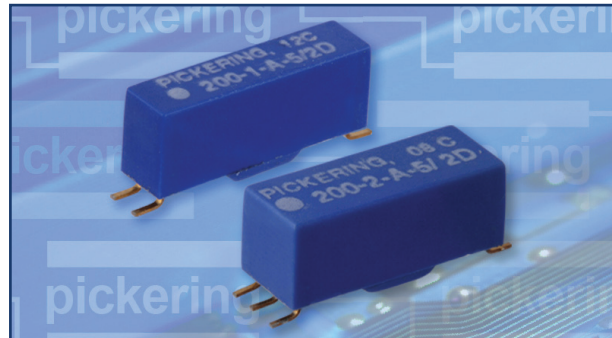
- **SoftCenter®** construction
- Highest quality instrumentation grade switches
- Encapsulated in plastic package with internal mu-metal screen for side-by-side mounting without magnetic interaction
- Insulation resistance greater than 10^{12} ohms for Form A devices
- Dry and mercury wetted switches available
- Wide range of switch configurations - 1 Form A, 1 Form B, 2 Form A and 1 Form C
- For R.F. or high speed digital applications, 50 or 75 ohms coaxial devices are available in the same small package
- 3, 5, and 12 volt coils are standard, with or without internal diode
- 100% tested for dynamic contact resistance

The Series 200 is a complete range of surface mount reed relays. Both dry and mercury wetted switches are available in a wide range of configurations including coaxial types for RF up to 5GHz, or high speed digital switching with a step response time of less than 30ps. Please contact our technical department for supplementary RF data.

The special high temperature plastic package will withstand the temperatures associated with Infra-red or vapor phase reflow soldering processes. A flexible inner encapsulant protects the sensitive glass/metal reed switch seals - this is a very big advantage over the more usual hard moulded package.

Switch Ratings - Dry switches

- 1 Form A (energize to make), 10 watts at 200V
- 1 Form A (energize to make), 15 watts at 200V
- 1 Form A (energize to make), 10 watts at 500V
- Coaxial 50Ω (energize to make), 10 watts at 200V
- Coaxial 75Ω (energize to make), 10 watts at 200V
- 1 Form B (energize to break), 10 watts at 200V
- 1 Form C (change-over), 3 watts at 200V
- 2 Form A (energize to make), 10 watts at 200V



mm (Inches)

Switch Ratings - Mercury Wetted Switches

- 1 Form A (energize to make), 50 watts at 500V
- 1 Form A (Position insensitive), 50 watts at 500V

Dry Reed - Series 200 switch ratings

The contact ratings for each switch type are shown below:

Switch No	Switch form	Power rating	Max. switch current	Max. carry current	Max. switching volts	Life expectancy ops typical (see Note ¹ below)	Operate time inc bounce (max)	Release time	Special features
1	A	15 W	1.0 A	1.2 A	200	10 ⁹	0.5 ms	0.2 ms	General purpose
2	A or B	10 W	0.5 A	1.2 A	200	10 ⁹	0.5 ms	0.2 ms	Low level
3	C	3 W	0.25 A	1.2 A	200	10 ⁷	1.0 ms	0.5 ms	Change-over
4	A	10 W	0.5 A	1.2 A	500	10 ⁸	0.5 ms	0.2 ms	High voltage

Dry Relay - Coil data and type numbers

Device type	Package Number	Type Number	Coil (V)	Coil resistance	Max. contact resistance (initial)	Insulation resistance (minimum)		Capacitance (typical) (see Note ² below)	
						Switch to coil	Across switch	Closed switch to coil	Across open switch
1 Form A (energize to make) Switch No. 1	1	200-1-A-5/1D 200-1-A-12/1D	5 12	500 Ω 1000 Ω	0.15 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
1 Form A (energize to make) Switch No. 2	1	200-1-A-3/2D 200-1-A-5/2D 200-1-A-12/2D	3 5 12	250 Ω 500 Ω 1000 Ω	0.12 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
1 Form A 50 Ω coaxial Switch No. 2	2	200RF50-1-A-5/2D	5	250 Ω	0.12 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
1 Form A 75 Ω coaxial Switch No. 2	2	200RF75-1-A-5/2D	5	250 Ω	0.12 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
1 Form A (energize to make) HV Switch No. 4	5	200-1-A-5/4D 200-1-A-12/4D	5 12	500 Ω 1000 Ω	0.15 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
1 Form C (change-over) Switch No. 3	6	200-1-C-5/3D 200-1-C-12/3D	5 12	500 Ω 1000 Ω	0.20 Ω	10 ¹² Ω	10 ¹¹ Ω	See Note ³	See Note ³
1 Form B (energize to break) Switch No. 2	4	200-1-B-5/2D 200-1-B-12/2D	5 12	750 Ω 1000 Ω	0.12 Ω	10 ¹² Ω	10 ¹² Ω	2.5 pF	0.1 pF
2 Form A (energize to make) Switch No. 2	3	200-2-A-5/2D 200-2-A-12/2D	5 12	400 Ω 1000 Ω	0.12 Ω	10 ¹² Ω	10 ¹² Ω	See Note ³	See Note ³

When an internal diode is required, the suffix D is added to the part number as shown in the table.

Mercury Reed: Series 200 switch ratings

The contact ratings for each switch type are shown below:

Switch No	Switch form	Power rating	Max. switch current	Max. carry current	Max. switching volts	Life expectancy ops typical (see Note ¹ below)	Operate time (max)	Release time	Special features
6	A	50 W	2 A	3 A	500	10 ⁸	2.0 ms	1.25 ms	Standard Mercury
8	A	50 W	2 A	3 A	500	10 ⁸	2.0 ms	1.25 ms	Position insensitive

Mercury Relay: Coil data and type numbers

Device type	Type Number	Coil (V)	Coil resistance	Max. contact resistance (initial)	Insulation resistance (minimum)		Capacitance (typical) (see Note ² below)	
					Switch to coil	Across switch	Closed switch to coil	Across open switch
1 Form A (energize to make) Switch No. 6	200-1-A-5/6D 200-1-A-12/6D	5 12	140 Ω 500 Ω	0.075 Ω	10 ¹² Ω	10 ¹⁰ Ω	4 pF	0.1 pF
1 Form A (energize to make) Position Insensitive Switch No. 8	200-1-A-5/8D 200-1-A-12/8D	5 12	140 Ω 500 Ω	0.100 Ω	10 ¹² Ω	10 ¹⁰ Ω	4 pF	0.1 pF

When an internal diode is required, the suffix D is added to the part number as shown in the table.

Note¹ Life expectancy

The life of a reed relay depends upon the switch load and end of life criteria. For example, for an 'end of life' contact resistance specification of 1 Ω, switching low loads (10 V at 10 mA resistive) or when 'cold' switching, typical life is approx 1 x 10⁹ ops. At the maximum load (resistive), typical life is 1 x 10⁷ ops. In the event of abusive conditions, e.g. high currents due to capacitive inrushes, this figure reduces considerably. Pickering will be pleased to perform life testing with any particular load condition.

Note² Capacitance across open switch

This is measured with all other component leads connected to the guard terminal of the measuring bridge.

Note³ Capacitance values

The value will depend upon on the mode of connection/guarding of unused terminals. Please contact technical sales for details.

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For a full list of agents and representatives visit: pickeringrelay.com/agents



ISO9001 Manufacture of Reed Relays FM 29036

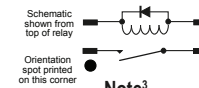


Pin Configuration and Dimensional Data

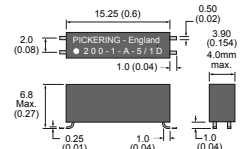
Dimensions in Inches (Millimeters in brackets)

1 Form A (Energize to make)

Package Number 1

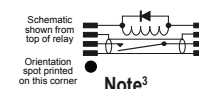


Note³

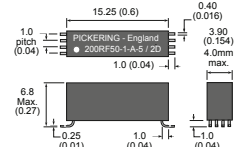


1 Form A (Coaxial)

Package Number 2

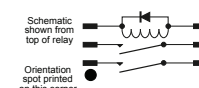


Note³

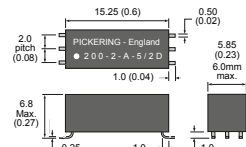


2 Form A (Energize to make)

Package Number 3

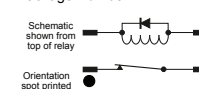


Note³

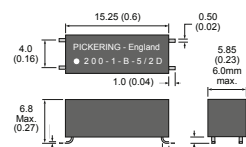


1 Form B (Energize to break)

Package Number 4



Note³

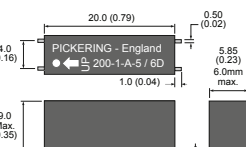


1 Form A (Energize to make)

Package Number 5

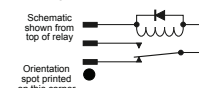


Note³ Mercury wetted versions this way up

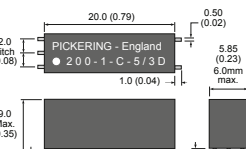


1 Form C (Changeover)

Package Number 6



Note³



Note²: When an optional diode is fitted the orientation spot end of the relay forms the positive connection.

3D Models: Interactive models of the complete range of Pickering relay products can be downloaded from the web site.

Mercury Relays

With the exception of the position insensitive type, mercury relays should be mounted vertically in the direction of the arrow.

Order Code

200 - 1 - A - 5 / 2 D

Series _____

Number of reeds _____

Switch form _____

Coil voltage _____

Switch number (See table adjacent) _____

Diode if fitted (Omit if not required) _____

Help

If you need any technical advice or other help, for example, any special tests that you would like carried out, please do not hesitate to contact our Technical Sales Department. We will always be pleased to discuss Pickering relays with you. email: techsales@pickeringrelay.com

Please ask us for a FREE evaluation sample.



pickeringrelay.com