

Single-In-Line Reed Relays

for stacking on 0.15 x 0.5 inches pitch giving
SUPERB PACKING DENSITY

**New
3 Volt
Version**

FEATURES

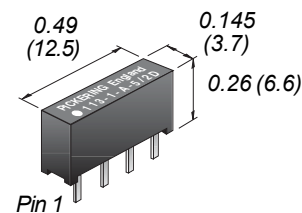
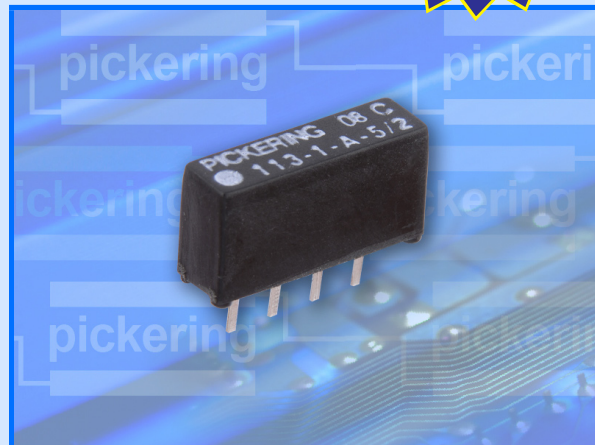
- **SoftCenter™** construction (see reverse)
- Highest quality instrumentation grade switches
- Form A versions have sputtered ruthenium contacts, ideal for Automatic Test Equipment
- Plastic package with internal mu-metal magnetic screen
- They take up very little area, conserving board space
- High insulation resistance - greater than 10^{12} ohms for Form A types and greater than 10^{10} ohms for Form C types
- 3, 5 and 12 Volt coils are standard, with or without internal diode
- 1 Form A, 5 volt version has a coil resistance of 500 ohms - drives directly from TTL logic
- 100% tested for dynamic contact resistance

The Pickering Series 113 is a range of magnetically screened single-in-line reed relays that require a board area of only 0.15 inches (3.8mm.) by 0.5 inches (12.7mm.). The Form A (energize to make) versions retain the 10 Watts, 0.5 Amps rating associated with larger relays. The changeover version has a 3 Watts rating.

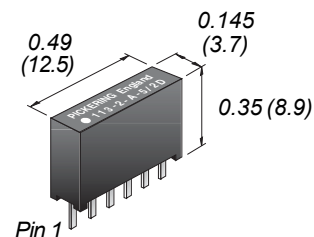
These relays require less than half the board area of the more usual 0.2 x 0.8 inch devices and have a height of only 0.26 inches (6.6mm.) for the 1 Form A and 1 Form C types and 0.35 inches (8.9 mm.) for the 2 Form A type.

The Series 113 is encapsulated in a plastic package using a very high resistivity resin to achieve an insulation resistance greater than 10^{12} ohms for the Form A types. The relay has an internal mu-metal screen which totally eliminates the risk of magnetic interaction problems. An unscreened device mounted on this pitch would have an interaction figure of around 40 percent. Relays of this size without magnetic screening would therefore be totally unsuitable for applications where dense packing is required. Pickering Series 113 have a typical interaction figure of 5 percent.

3, 5 and 12 Volt coils are standard, with the option of an internal diode. 1 Form A, 5 Volt coils have a resistance of 500 ohms and may be driven directly from TTL logic.



1 Form A
1 Form C



2 Form A

Dimensions in Inches
(Millimetres in brackets)

Switch Ratings - Dry switches

- 1 Form A (energize to make), 10 watts at 200 V
- 2 Form A (energize to make), 10 watts at 200 V
- 1 Form C (change-over), 3 watts at 30 V

www.pickeringrelay.com

Series 113 switch ratings

The contact ratings for each switch type are shown below:

Sw. No	Switch form	Power rating	Max. switch current	Max. carry current	Max. switching volts	Max. contact resistance (initial)
2	A	10 Watts	0.5 Amp	0.5 Amp	200	0.12 Ohms
3	C	3 Watts	0.1 Amp.	0.1 Amp	30	0.25 Ohms

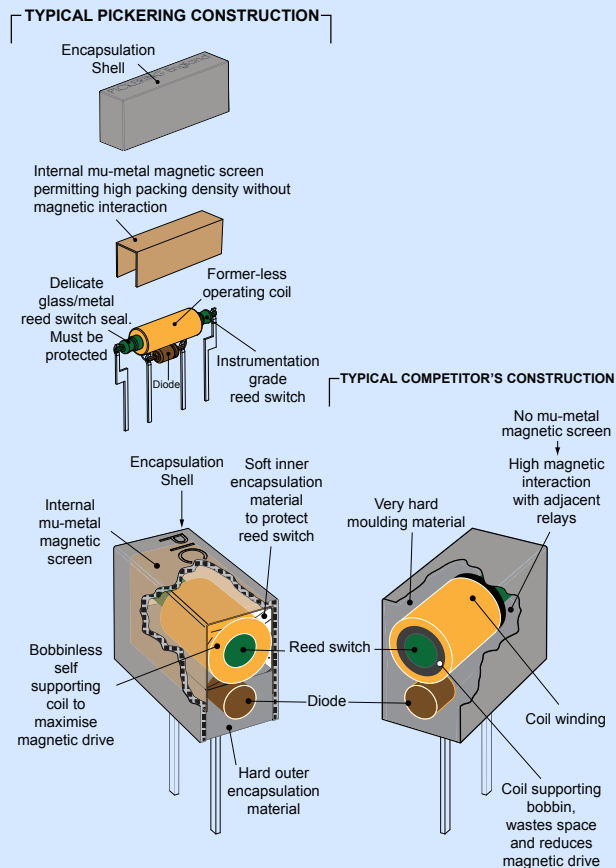
Switch number 2 is suitable for low level or "cold" switching applications. It is also a good general purpose "hot" switch as long as the maximum switching current specification is observed. There is no Switch number 1 available in this range at present.

Coil data and type numbers

Switch type	Coil voltage	Coil resistance	Type Number
1 Form A Sw. No.2	3	250 Ohms	113-1-A-3/2D
	5	500 Ohms	113-1-A-5/2D
	12	650 Ohms	113-1-A-12/2D
1 Form A Sw. No.2 (Special Pinout)	5	500 Ohms	113SP-1-A-5/2D
	12	650 Ohms	113SP-1-A-12/2D
2 Form A Sw. No.2	5	150 Ohms	113-2-A-5/2D
1 Form C Sw. No.3	5	150 Ohms	113-1-C-5/3D

When an internal diode is required, the suffix D is added to the part number as shown in the table. If a diode is not required, the D suffix should be omitted.

Pickering SoftCenter™ Construction



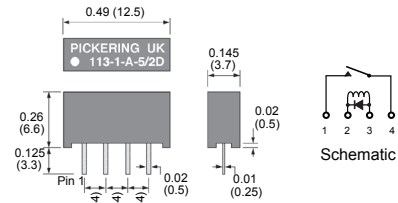
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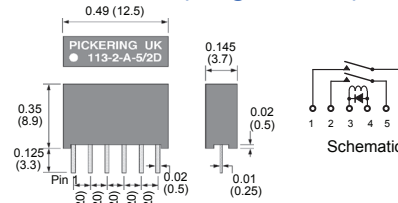
ISO9001
Manufacture of Reed Relays
FM 29036

Pin configuration and dimensional data

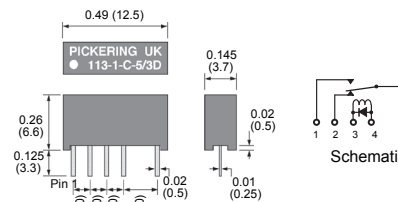
Dimensions in Inches (Millimetres in brackets).



1 Form A (Energize to Make)



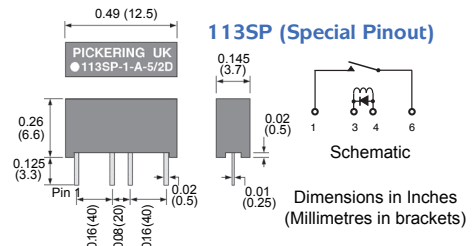
2 Form A (Energize to Make)



1 Form C (Changeover)

Special pin configuration for 1 Form A

The standard 1 Form A device has 4 pins on 0.1 inches (2.54mm) pitch (see drawing above). This configuration makes it pin compatible with the Pickering Series 110, 111 and 112. A special pin configuration is also available with a pinout compatible with that of the 2 Form A type (see drawing above). The switch terminals are pins 1&6, the coil is Pins 3&4 with pins 2&5 omitted, this version has the prefix 113SP. It is sometimes desirable to have a PCB that can be used for either 1 Form A or 2 Form A switching, this arrangement allows the use of a common board fitted with the appropriate relay.



Order Code

The following example indicates data required to process your order promptly:

113 - 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 help in any way, please telephone our Technical Sales Department. There is a limit to how much data we can put on a sales leaflet and we will always be pleased to discuss Pickering reed relays with you.

Please ask us for a FREE evaluation sample