

PICKERING SERIES 111

Pico-SIL Reed Relays

Including coaxial types for up to 1.5 GHz
for stacking on 0.15 x 0.4 inches pitch
giving SUPERB PACKING DENSITY



FEATURES

- SoftCenter™ construction (see opposite)
- Highest quality instrumentation grade switches
- Mu-metal magnetic screening
- Two package styles - Mu-metal package or Plastic package with internal mu-metal magnetic screen
- They take up the minimum of board area, conserving board space
- Insulation resistance greater than 10^{12} ohms
- 3 or 5 Volt coils with or without internal diode
- 100% tested for dynamic contact resistance

The Pickering Series 111 is a range of magnetically screened single-in-line reed relays that stack on 0.15 inches by 0.4 inches pitch. They have an identical footprint to the Series 110 and 112 but the height is reduced to only 0.26 inches (6.6mm). The switch rating of 3 Watts is adequate for most instrumentation applications. If a higher power rating is required, please look at our Series 110 or 112 which have a 10 Watts rating and an identical pin-out. The range also includes the type 111RF, a 50 ohms coaxial device suitable for use up to 1.5GHz.

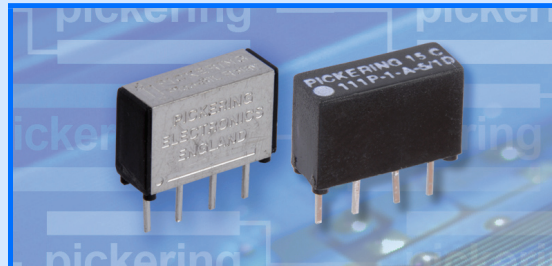
These relays require around one third the board area of the more usual 0.2 x 0.8 inch devices and are ideal for high density applications.

Two package styles are available:

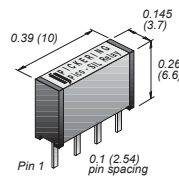
The type 111 is encapsulated in a mu-metal can. The coaxial version, type 111RF, is also available in this package style.

The type 111P is encapsulated in a plastic package and features an internal mu-metal screen. An internal diode is an option in both types.

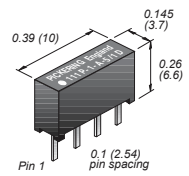
Magnetic screening is essential to avoid magnetic interaction problems. Interaction is usually measured as a percentage increase in the voltage required to operate a relay when two additional relays, stacked one each side, are themselves operated. An unscreened device mounted on this pitch would have an interaction figure of around 40 %. Relays of this size would therefore be totally unsuitable for applications where dense packing is required. Pickering Series 111 have an interaction figure of around 1 percent.



Type 111 & 111RF
Mu-metal package

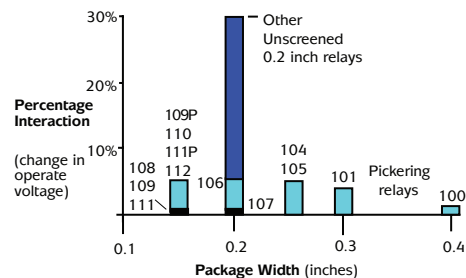
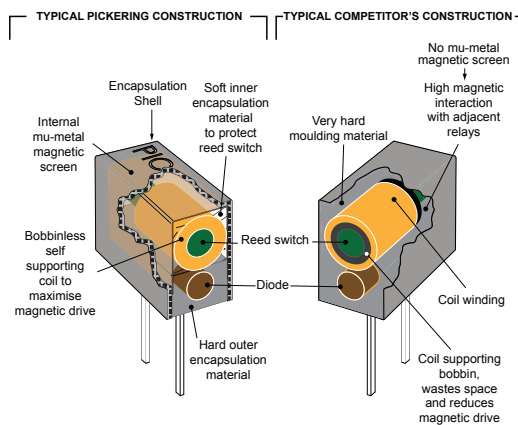


Type 111P
Plastic package with internal mu-metal screen



Dimensions in Inches (Millimetres in brackets)

Pickering SoftCenter™ Construction



Key: ■ Unscreened ■ Internal mu-metal screen ■ Complete mu-metal can

www.pickeringrelay.com

Series 111 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)
1	A	3 Watts	0.25 Amp.	0.5 Amp.	100	0.15 Ohms

Coil data and type numbers

Switch type	Coil voltage	Coil resistance	Package Style	Type Number
1 Form A	3	200 Ohms	Mu-metal	111-1-A-3/1D
	5	500 Ohms		111-1-A-5/1D
1 Form A	3	200 Ohms	Plastic with internal screen	111P-1-A-3/1D
	5	400 Ohms		111P-1-A-5/1D
1 Form A Coaxial	5	200 Ohms	Mu-metal	111RF-1-A-5/1D

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.

Pin configuration and dimensional data

Dimensions in Inches (Millimetres in brackets).

Type 111
Mu-metal package

0.39 (10.0)
0.145 (3.7)
0.02 (0.5)
0.01 (0.25)
0.26 (6.6)
0.125 (3.3)
Pin 1

1 Form A
Energize to make

4 Pins on 0.1 inches (2.54mm) pitch

Type 111P
Plastic package with internal mu-metal screen

0.39 (10.0)
0.145 (3.7)
0.02 (0.5)
0.01 (0.25)
0.26 (6.6)
0.125 (3.3)
Pin 1

1 Form A
Energize to make

4 Pins on 0.1 inches (2.54mm) pitch

Type 111RF
Mu-metal package

0.39 (10.0)
0.145 (3.7)
0.02 (0.5)
0.01 (0.25)
0.26 (6.6)
0.125 (3.3)
Pin 1

1 Form A
Energize to make

6 Pins on 0.06 inches (1.5mm) pitch

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ISO9001
Manufacture of Reed Relays
FM 29036

The Following actual size example illustrates the relative packing densities of standard 0.2 x 0.8 inch SIL relays compared with Pickering Series 108, 109, 110 and 111 reed relays when packed into an area of 1.2 x 2.4 inches.

Important: Pickering SIL relays feature mu-metal magnetic screens, unscreened relays are unsuitable for dense packing in this way.



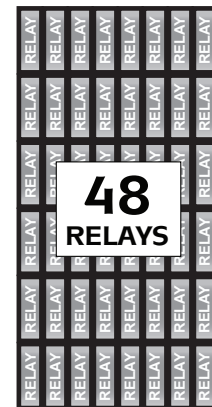
Using standard
0.2 x 0.8 inch relays
in this PCB area you can fit
18 Relays



Using PICKERING
Series 108 relays
in this PCB area you can fit
24 Relays



Using PICKERING
Series 109 relays
in this PCB area you can fit
32 Relays



Using PICKERING
Series 110 or 111 relays
in this PCB area you can fit
48 Relays

**If Packing Density Is Your Problem,
Use Pickering Series 110 or 111**

Order Code

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

111 - 1 - A - 5 / 1 D

Series _____
Number of reeds _____
Switch form _____
Coil voltage _____
Switch number (Only Type 1 available) _____
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