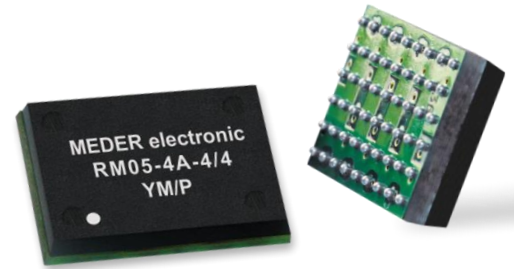
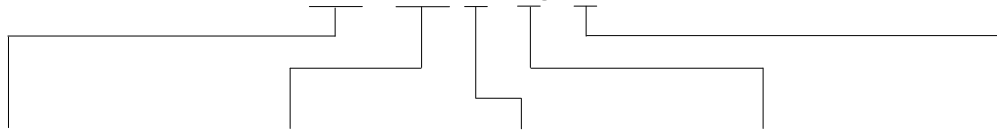


# RM05-4A Series Reed Relays



- Features: 4-Pole Low Profile SMD RF Relay Module, <40ps Rise Time for Switching Fast Pulses
- Ceramic/Thermoset Molded Package, Supplied in Tape & Reel, BGA Solder Balls
- For S-Parameters and RF Data, please contact your nearest sales office
- Applications: High Frequency Signals, Test and Measurement Systems, Telecommunications, Multiplexers

Part Description: **RM05-4AS-4/0**



Nominal Voltage	Contact Form	Solder Balls	Input	Output
05	4A	S	4	2, 4

See page 3 for Glossary

Contact Data (at 20°C)	Switch Model	Unit
	80 (A-Dry)	
<b>Contact Material</b>	Rhodium	
<b>Rated Power (max.)</b> Any DC combination of V&A not to exceed max rated power	10	W
<b>Switching Voltage (max.)</b> DC or peak AC	170	V
<b>Switching Current (max.)</b> DC or peak AC	0.5	A
<b>Carry Current (max.)</b> DC or peak AC	1.0	A
<b>Contact Resistance (max.)</b> @ 0.5V & 10mA, Measured with 40% Pull-In Overdrive	200	mOhm
<b>Breakdown Voltage (min.)</b> According to IEC 60255-27	210	VDC
<b>Operating Time (max.)</b> Including Bounce, Measured with 40% Pull-In Overdrive	0.6	ms
<b>Release Time (max.)</b> Measured without Coil Suppression	0.05	ms
<b>Insulation Resistance (min. / typ.)</b> Rh<45%, 100V Test Voltage	10 <sup>09</sup> / 10 <sup>10</sup>	Ohm
<b>Capacitance (typ. / max.)</b> @ 10kHz across Open Switch	0.3 / 0.5	pF

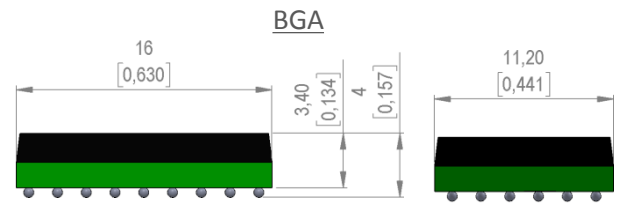
Coil Data (at 20°C)		Coil Voltage (VDC)		Coil Resistance (Ohm)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Coil Power (mW)
Contact Form	Switch Model	Nominal	Maximal	Typical (± 10 %)	Maximal	Minimal	Nominal
4A	80	05	7.5	185	3.75	0.5	135

The Pull-In, Drop-Out Voltage and Coil Resistance will change at rate of 0.4% per °C

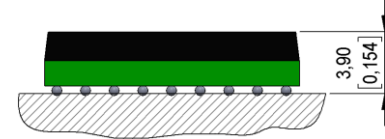
Relay Data (at 20°C)		Unit
<b>Contact Bulk Resistance (typ./max.)</b> Through all plated material on substrate	260 / 440	mOhm
<b>Dielectric Strength Coil/Contact (min.)</b> According to IEC 60255-27	1.5	kVDC
<b>Insulation Resistance Coil/Contact (typ./min.)</b> Rh<45%, 200V Test Voltage	10 <sup>12</sup> / 10 <sup>13</sup>	Ohm
<b>Capacitance Coil/Contact (typ./max.)</b> @ 10 kHz with Closed Switch	0.9 / 1.1	pF
<b>Shock Resistance (max.)</b> 1/2 sine wave duration 11ms	50	g
<b>Vibration Resistance (max.)</b> 10 – 2,000 Hz	20	g
<b>Operating Temperature (max.)</b> Surrounding of the relay's housing	-40 to 85	°C
<b>Storage Temperature (max.)</b> Surrounding of the relay's housing	-55 to 125	°C
<b>Soldering Temperature (max.)</b> 5 seconds max.	255	°C
<b>Washability</b> Aqueous rinsing suitable. Proper drying necessary.	Fully Sealed	

**RM05-4A Reed Relay Dimensions (in mm [inch])**

Tolerances acc. to ISO 2768-m



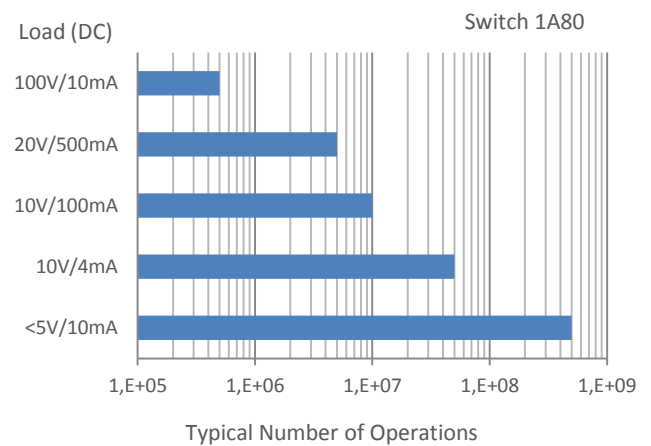
**Max. Post Reflow Height (BGA only)**



**Handling & Assembly Instructions**

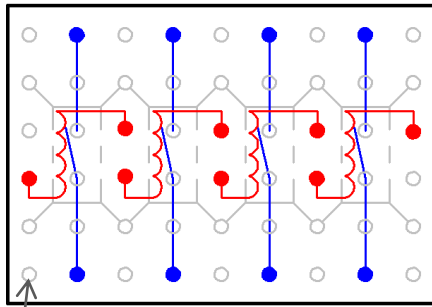
- Switching inductive and/or capacitive loads create voltage and/or current peaks, which may damage the relay. Protective circuits need to be used - see our website.
- External magnetic fields and magnetic effects, due to adjacent relays in high density matrices that may influence the relays' electrical characteristics, must be taken into consideration.
- Mechanical shock impacts, e.g. dropping the relays, may cause immediate or post-installation failure.
- Suppressing coil diode can have a negative influence on total number of switching cycles
- Reflow soldering: See the page 4. Recommendations given by the soldering paste manufacturer need to be considered as well as the temperature limits of other components/processes.

**Life Test Data (with resistive load, for general information only)**



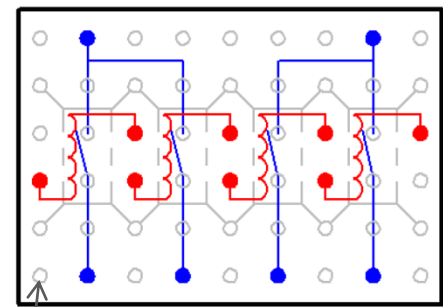
Pin Out (Top View)

RM05-4A-S-4/4



Pin 1F

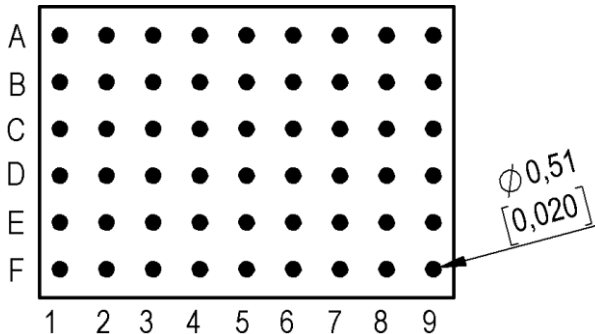
RM05-4A-S-4/2



Pin 1F

Note:  
Red Dots = Coil Pins  
Blue Dots = Switch Pins  
Grey Dots = Shield Pins  
(all grey pins are interconnected)

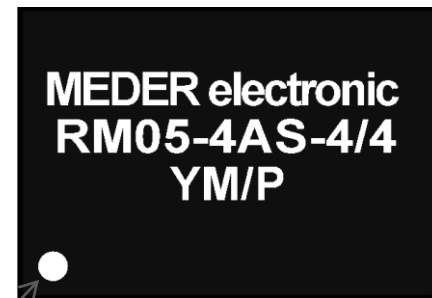
Recommended PCB Pad Layout (Top View)



Grid spacing is 1.8 mm on the dot center

Marking example Top View

RM05-4A-S-4/4



Pin 1F

Date Code acc. to EN60062

Glossary Contact Form

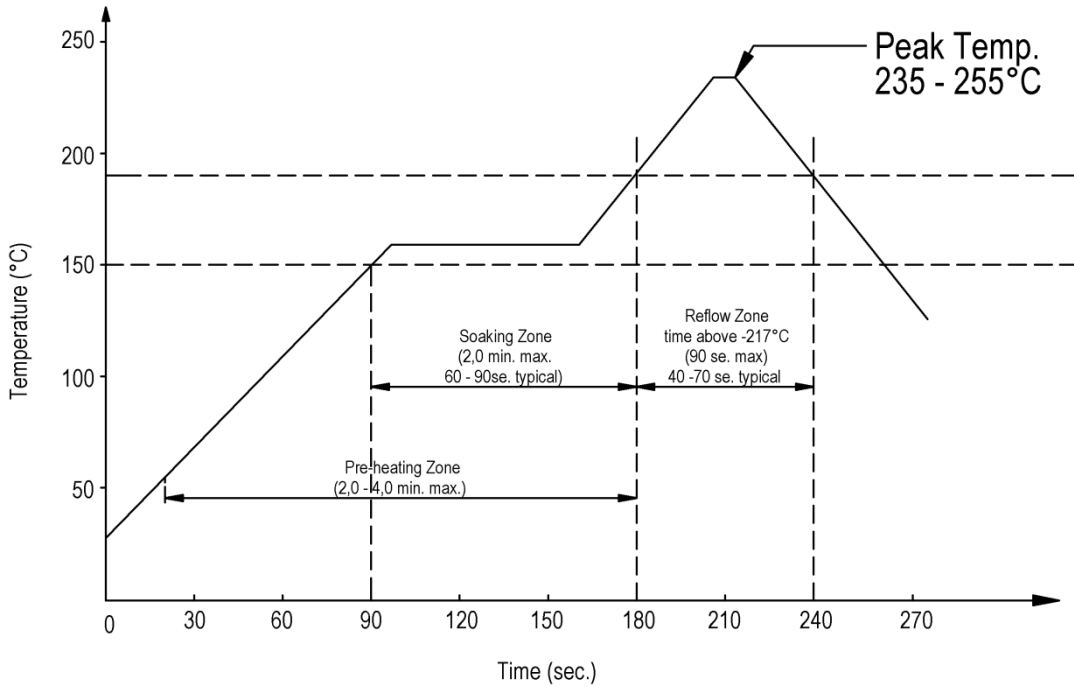
<b>Form A</b>	NO = Normally Open Contact SPST = Single Pole Single Throw
<b>Form B</b>	NC = Normally Closed Contacts SPST = Single Pole Single Throw
<b>Form C</b>	Changeover SPDT = Single Pole Double Throw
<b>Form E</b>	Latching unchanged until an opposite impulse is present
RM Relays are available only in "Form 4A" configuration	

Glossary Option

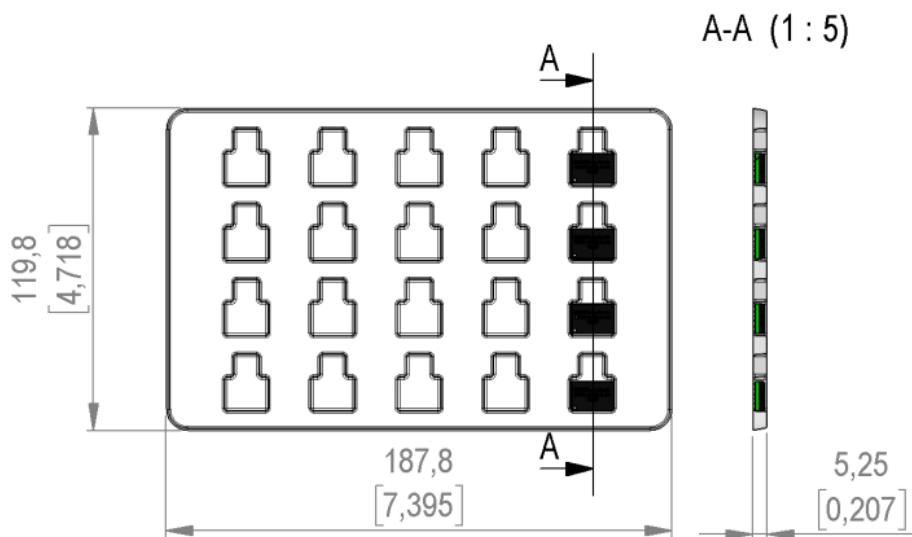
<b>RM Basic</b>	with Coaxial & Magnetic Shield, without Diode
<b>L</b>	Standard
<b>D</b>	with Diode
<b>M</b>	with Magnetic Shield, without Diode
<b>Q</b>	with Diode and Magnetic Shield
<b>HR</b>	High Resistance Coil
RM Relays are available only with "Basic" Option	

**Recommended Reflow Lead-free Profile** (acc. to JEDEC J-STD 020D.1)

For usage with tin Sn96.5/Ag3/Cu0.5



**Relay Packaging Orientation** (In Trays per 20 pcs.)



**Please note:** All technical specifications on this series datasheet refer to the standard product range. Modifications in the sense of technical progress are reserved. For general information only. For more specific information, please consult the product datasheet, available upon request.

This series datasheet could contain technical inaccuracies or typographical errors. Changes are periodically made to the information herein. These changes will be incorporated in future revisions.

For deviating values, latest specifications and product details, please contact your nearest sales office.