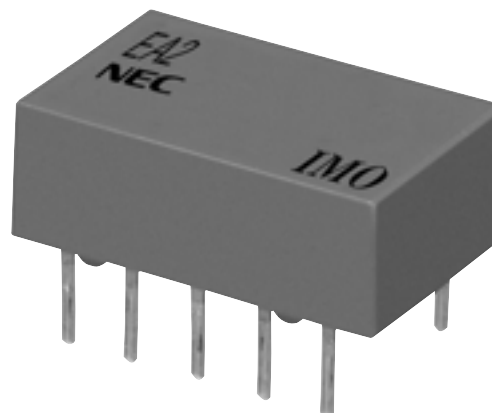


DPDT Signal Relay EA2



- DIL Package
- High sensitivity coil
- Ultra low profile, minimal board area
- Fully sealed for immersion cleaning
- Low magnetic interference
- FCC Part 68 compliant
- Latching version available
- UL recognised (E73266), CSA Certified (LR46266)



Options and ordering codes

EA2	-	5	S	NU
Coil Voltage				
3 VDC		3		NU UL/CSA approved
4.5 VDC		4.5		
5 VDC		5		
6 VDC		6		
9 VDC		9	NIL Non Latching	
12 VDC		12	S Single Coil Latching	
24 VDC		24	T Double Coil Latching	

Contact Data

Contact form	2 Form C
Contact rating	
Max. switching power	30W/62.5VA
Max. switching voltage	220VDC/250VAC
Max. switching current	1A
Max. carrying current	2A (at 20°C)
Initial contact resistance	50mΩ TYP.
Contact material	Silver alloy with gold overlay
Nominal operating power	
Non-latch type & double coil latch type	140mW (3 to 12V) 200mW (24V)
Single coil latch type	100mW (3 to 12V) 150mW (24V)
Minimum operating power	
Non-latch type & double coil latch type	79mW (3 to 12V) 113mW (24V)
Single coil latch type	56mW (3 to 12V) 85mW (24V)
Mechanical Life	100x10 ⁶ OPS
Electrical Life	30VDC 1A (resistive) 200x10 ³ OPS 125VAC 0.5A (resistive) 100x10 ³ OPS

Characteristics

Operate time (excluding bounce)	Approx. 2ms without diode	
Release time (excluding bounce)	Approx. 1ms without diode	
Insulation resistance	1000MΩ at 500 VDC	
Breakdown voltage	Between open contact	1000VAC 1min.
	Between adjacent contacts	1000VAC 1min.
	Between coil & contact	1000VAC 1min.
Shock resistance	75G (misoperating)	
Vibration resistance	20G (misoperating)	
Ambient temperature	-40 to 85°C	
Coil temperature rise	18° at nominal coil voltage (140mW)	
Weight	Approx 1.5 grams	

DPDT Signal Relay EA2



Coil Data: Standard Type 20°C

Part Number	Nominal Voltage VDC	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EA2-3	3	64.3	2.25	0.3
EA2-4.5	4.5	145	3.38	0.45
EA2-5	5	178	3.75	0.5
EA2-6	6	257	4.5	0.6
EA2-9	9	579	6.75	0.9
EA2-12	12	1028	9	1.2
EA2-24	24	2880	18	2.4

Latching Type (Double Wound Coil) 20°C

Part Number	Nominal Voltage VDC	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EA2-3T	3	64.3 (PS)	2.25 P	2.25 S
EA2-4.5T	4.5	145 (PS)	3.38 P	3.38 S
EA2-5T	5	178 (PS)	3.75 P	3.75 S
EA2-6T	6	257 (PS)	4.5 P	4.5 S
EA2-9T	9	579 (PS)	6.75 P	6.75 S
EA2-12T	12	1028 (PS)	9 P	9 S
EA2-24T	24	2880 (PS)	18 P	18 S

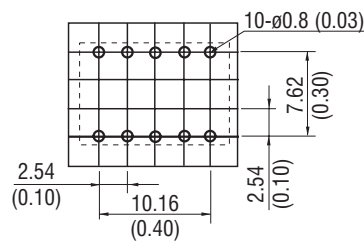
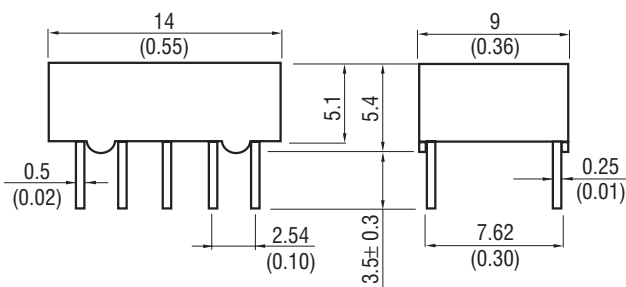
P-Primary (set) coil S-Secondary (reset) coil

Latching Type (Single Wound Coil) 20°C

Part Number	Nominal Voltage VDC	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EA2-3S	3	90	2.25	2.25
EA2-4.5S	4.5	202.5	3.38	3.38
EA2-5S	5	250	3.75	3.75
EA2-6S	6	360	4.5	4.5
EA2-9S	9	810	6.75	6.75
EA2-12S	12	1440	9	9
EA2-24S	24	3840	18	18

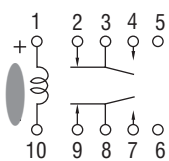
Outline dimensions (mm)

Wiring diagram and PC Board layout

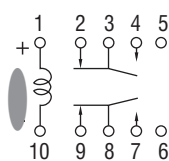


Note: Tolerance ± 0.2 (± 0.008) unless otherwise specified

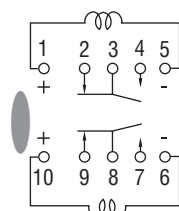
Note: Tolerance ± 0.1 (± 0.004) unless otherwise specified



Non-latch type
(not energised position)



Single coil latch type
(reset position)

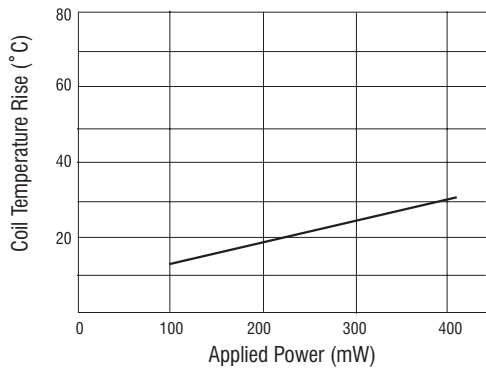


Double coil latch type
(reset position)

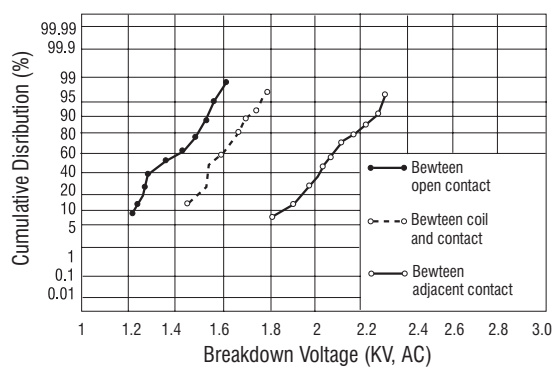
Orientation Mark

Characteristic Curve

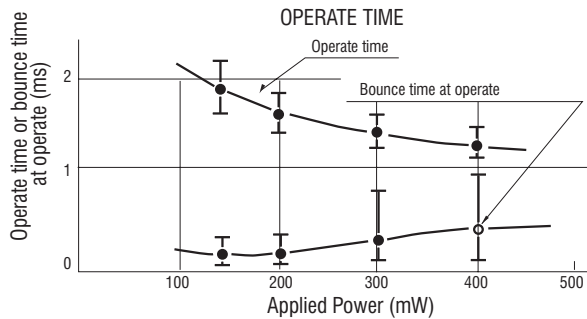
COIL TEMPERATURE RISE



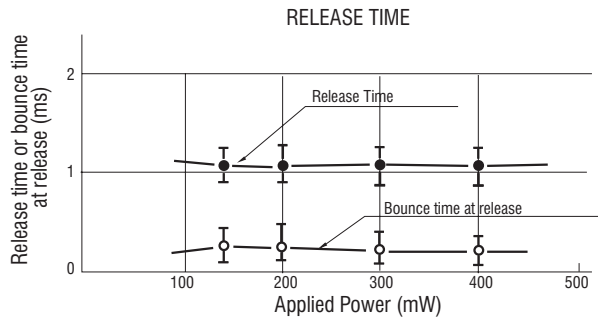
BREAKDOWN VOLTAGE



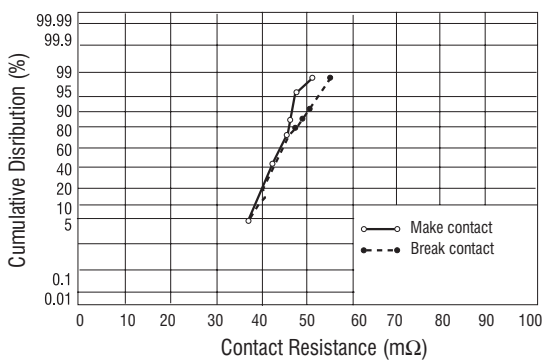
OPERATE TIME



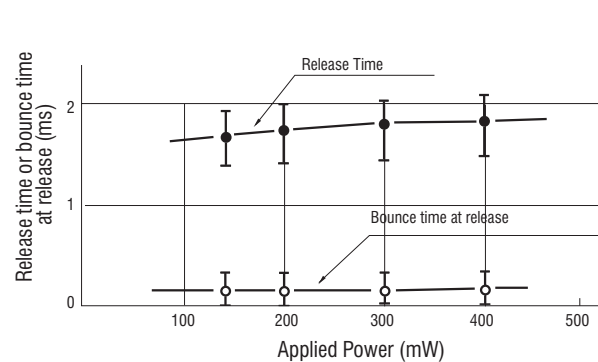
RELEASE TIME



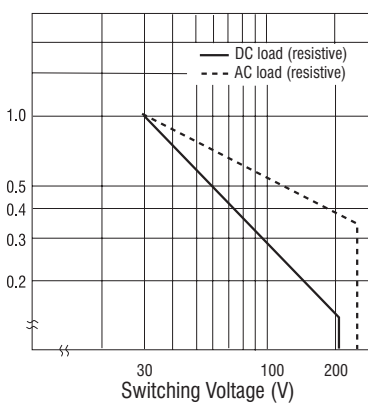
CONTACT RESISTANCE



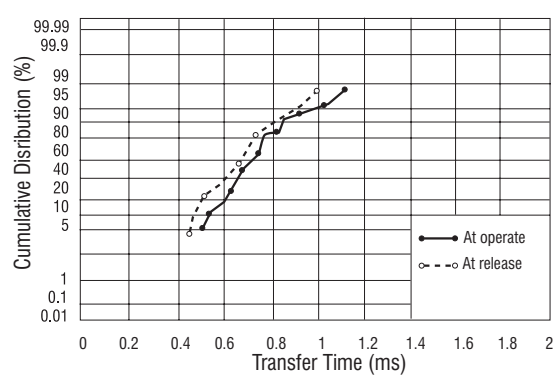
RELEASE TIME WITH DIODE



SWITCHING CAPACITY



TRANSFER TIME

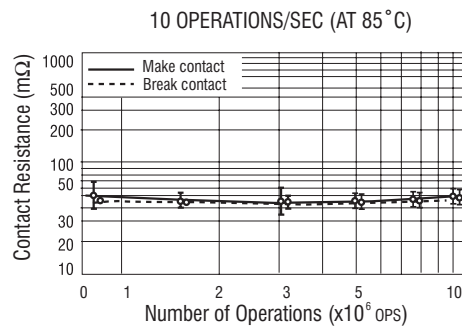
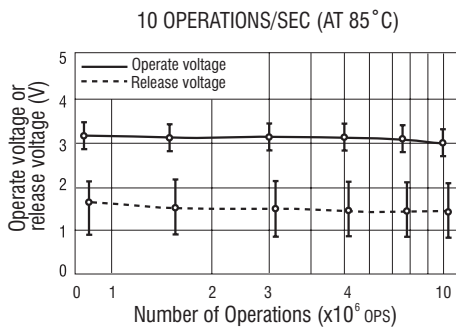
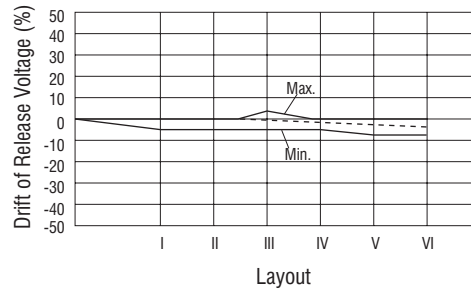
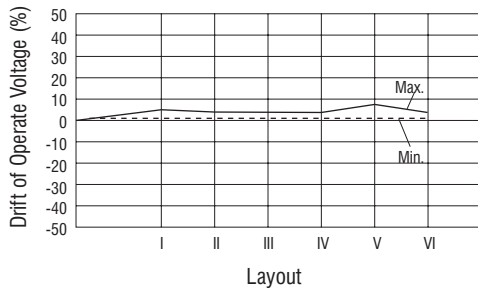


DPDT Signal Relay EA2



Characteristic Curve continued

Magnetic interface (EA2 relay)



Layout I



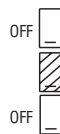
Layout II



Layout III



Layout IV



Layout V

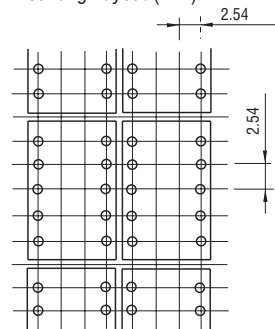


Layout VI



Sample

Mounting Layout (mm)



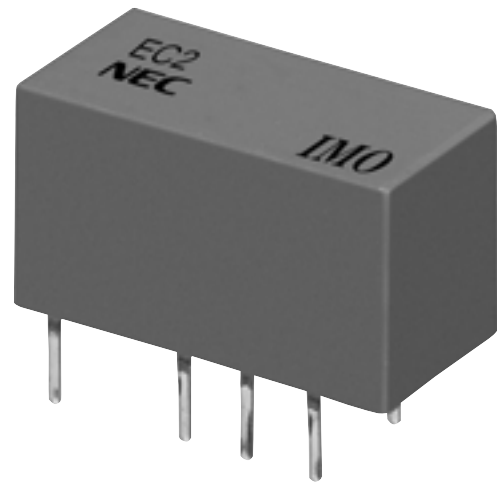
NOTE

1. The latch type relay should be initialised at the appointed position (set or reset position) when using, and should be energised or de-energised to the specified polarity to avoid wrong operations.
2. Ultrasonic cleaning is not recommended. Alcohol or chlorosene based solvents are acceptable as cleaning solvents.
3. Excessive stress on the relay cover is detrimental to reliable operation of the relay.

DPDT Signal Relay EC2



- DIL Package on 0.2" pitch
- Minimal board area
- High sensitivity coil
- Fully sealed for immersion cleaning
- Low magnetic interference
- 2.5kV Impulse withstand voltage to Bell-Core specifications
- Latching version available
- UL recognised (E73266), CSA Certified (LR46266)
- EN60950 version available on request



Options and ordering codes

EC2	-	5		S		NU
Coil Voltage						
3 VDC		3				
4.5 VDC		4.5				
5 VDC		5				
6 VDC		6				
9 VDC		9				
12 VDC		12				
24 VDC		24				
				NIL	Non Latching	
				S	Single Coil Latching	
				T	Double Coil Latching	
						NU UL/CSA approved

Contact Data

Contact form	2 Form C
Contact rating	
Max. switching power	60W/125VA
Max. switching voltage	220VDC/250VAC
Max. switching current	2A
Max. carrying current	2A
Initial contact resistance	50mΩ TYP.
Contact material	Silver alloy with gold overlay
Nominal operating power	
Non-latch type & double coil latch type	140mW (3 to 12V) 200mW (24V)
Single coil latch type	100mW
Minimum operating power	
Non-latch type & double coil latch type	79mW (3 to 12V) 113mW (24V)
Single coil latch type	56mW
Mechanical Life	100x10 ⁶ ops
Electrical Life	30VDC 2A (resistive) 100x10 ³ ops 125VAC 1A (resistive) 100x10 ³ ops

Characteristics

Operate time (excluding bounce)	Approx. 2ms without diode	
Release time (excluding bounce)	Approx. 1ms without diode	
Insulation resistance	1000MΩ at 500 VDC	
Breakdown voltage	Between open contact	1000VAC 1min
	Between adjacent contacts	1500 V surge (10x150μs)
	Between coil & contact	1500VAC 1min 2500 V surge (2x10μs)
Shock resistance	75G (misoperating)	
Vibration resistance	20G (misoperating)	
Ambient temperature	-40 to 85 °C	
Coil temperature rise	18° at nominal coil voltage (140mW)	
Weight	Approx 1.9 grams	

DPDT Signal Relay EC2



Coil Data: Standard Type 20 °C

Part Number	Nominal Voltage VDC 75%-150%	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EC2-3	3	64.3	2.25	0.3
EC2-4.5	4.5	145	3.38	0.45
EC2-5	5	178	3.75	0.5
EC2-6	6	257	4.5	0.6
EC2-9	9	579	6.75	0.9
EC2-12	12	1028	9	1.2
EC2-24	24	2880	18	2.4

Latching Type (Double Wound Coil) 20 °C

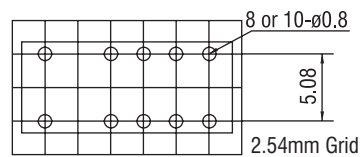
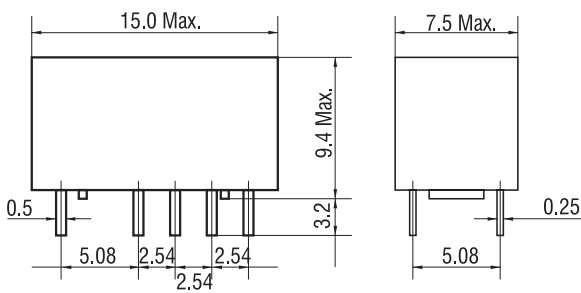
Part Number	Nominal Voltage VDC 75%-150%	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EC2-3T	3	64.3 (PS)	2.25 P	2.25 S
EC2-4.5T	4.5	145 (PS)	3.38 P	3.38 S
EC2-5T	5	178 (PS)	3.75 P	3.75 S
EC2-6T	6	257 (PS)	4.5 P	4.5 S
EC2-9T	9	579 (PS)	6.75 P	6.75 S
EC2-12T	12	1028 (PS)	9 P	9 S
EC2-24T	24	4114 (PS)	18 P	18 S

P-Primary (set) coil S-Secondary (reset) coil

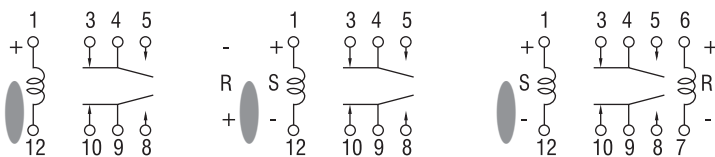
Latching Type (Single Wound Coil) 20 °C

Part Number	Nominal Voltage VDC 75%-150%	Coil Resistance $\Omega \pm 10\%$	Operate Voltage (VDC)	Release Voltage (VDC)
EC2-3S	3	90	2.25	2.25
EC2-4.5S	4.5	202	3.38	3.38
EC2-5S	5	250	3.75	3.75
EC2-6S	6	360	4.5	4.5
EC2-9S	9	810	6.75	6.75
EC2-12S	12	1440	9	9
EC2-24S	24	5760	18	18

Outline dimensions (mm) Wiring diagram and PC Board layout



Note: Tolerance ± 0.1 unless otherwise specified



Non-latch type (not energised position)

Single coil latch type (reset position)

Double coil latch type (reset position)