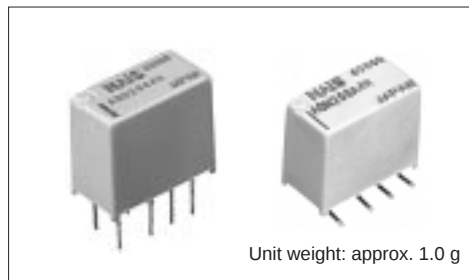


- PCB board type and surface mount type
- Coil assembly molding technology
- Micro-balanced armature mechanism
- Twin crossbar contacts

### Tentative data sheet

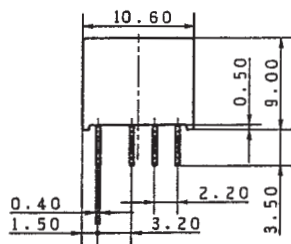


| Code No.   |          |                    |           | Nominal voltage<br>(DC, V) | Nominal operating<br>current (DC, mA) |          | Coil resistance (Ω)<br>(± 10% at 20°C) |          | Nominal operating<br>power (mW)<br>(± 10% at 20°C) |          |
|------------|----------|--------------------|-----------|----------------------------|---------------------------------------|----------|----------------------------------------|----------|----------------------------------------------------|----------|
| PCB type   |          | Surface mount type |           |                            |                                       |          |                                        |          |                                                    |          |
| monostable | bistable | monostable         | bistable  |                            | monostable                            | bistable | monostable                             | bistable | monostable                                         | bistable |
| AGN2001H   | AGN2101H | AGN200A1H          | AGN210A1H | 1.5                        | 93.3                                  | 66.7     | 16                                     | 22.5     | 140                                                | 100      |
| AGN20003   | AGN21003 | AGN200A03          | AGN210A03 | 3                          | 46.7                                  | 33.3     | 64.3                                   | 90       | 140                                                | 100      |
| AGN2004H   | AGN2104H | AGN200A4H          | AGN210A4H | 4.5                        | 31                                    | 22.2     | 145                                    | 202.5    | 140                                                | 100      |
| AGN20006   | AGN21006 | AGN200A06          | AGN210A06 | 6                          | 23.3                                  | 16.7     | 257                                    | 360      | 140                                                | 100      |
| AGN20009   | AGN21009 | AGN200A09          | AGN210A09 | 9                          | 15.5                                  | 11.1     | 579                                    | 810      | 140                                                | 100      |
| AGN20012   | AGN21012 | AGN200A12          | AGN210A12 | 12                         | 11.7                                  | 8.3      | 1028                                   | 1440     | 140                                                | 100      |
| AGN20024   | AGN21024 | AGN200A24          | AGN210A24 | 24                         | 9.6                                   | 5.0      | 2504                                   | 4800     | 230                                                | 120      |

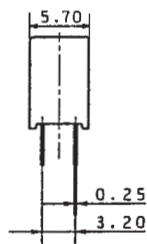
## SPECIFICATIONS (CONTACT AND CHARACTERISTICS)

|                                                         |                                  |                                                                                                                                               |
|---------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Coil data                                               | Pick-up voltage (initial)        | less than 75% of nominal voltage (at 20%) (square, pulse drive)                                                                               |
|                                                         | Drop-out voltage (initial)       | more than 10% of nominal voltage (at 20%) (square, pulse drive)                                                                               |
|                                                         | Max. allowable voltage           | 150% of nominal voltage (at 20%), (120% for 24V monostable type)                                                                              |
| Contact data                                            | Arrangement                      | 2c                                                                                                                                            |
|                                                         | Contact material                 | Au-clad, AgPd (stationary contact)<br>AgPd (movable contact)                                                                                  |
|                                                         | Contact resistance (initial)     | Max. 100 mΩ (by voltage drop 6V DC 1A)                                                                                                        |
|                                                         | Max. switching power (resistive) | 30W                                                                                                                                           |
|                                                         | Max. switching voltage           | 110V DC/ 125 V AC                                                                                                                             |
|                                                         | Max. switching current           | 1ADC                                                                                                                                          |
|                                                         | Min. switching load              | 10μA, 10 m V DC                                                                                                                               |
| Expected life                                           | Electric life (resistive)        | 1 x 10 <sup>6</sup> ope. at 1A 30V DC (at 20 cpm)                                                                                             |
|                                                         | Mechanical life                  | 5 x 10 <sup>7</sup> ope. (at 180 cpm)                                                                                                         |
| Breakdown voltage<br>(initial, Detection current: 10mA) | Between open contacts            | AC 750 Vrms for 1 min.                                                                                                                        |
|                                                         | Between contact sets             | AC 1,000 Vrms for 1 min.                                                                                                                      |
|                                                         | Between contacts and coil        | AC 1,500 Vrms for 1 min.                                                                                                                      |
| Surge withstand voltage (initial)                       | Between contacts and coil        | 1500 V (10 x 160 μs) [FCC P68], 2,500V (2 x 10μs) [Bellcore]                                                                                  |
| Insulation resistance (initial)                         |                                  | Min. 1000 MΩ at 500 V DC                                                                                                                      |
| Coil temperature rise value                             |                                  | Max. 50 K (resistance method)<br>(Contact carry current: 1A, Coil: nominal voltage)                                                           |
| Vibration resistance                                    | Functional                       | 10 to 55 Hz at double amplitude of 3 mm                                                                                                       |
|                                                         | Destructive                      | 10 to 55 Hz at double amplitude of 5 mm                                                                                                       |
| Shock resistance                                        | Functional                       | Min. 750 m/s <sup>2</sup>                                                                                                                     |
|                                                         | Destructive                      | Min. 1,000 m/s <sup>2</sup>                                                                                                                   |
| Operate time                                            |                                  | Max. 4 ms (at nominal voltage, without bounce)                                                                                                |
| Release time                                            |                                  | Max. 4 ms (at nominal voltage, without bounce) (without diode)<br>(If a diode is connected across the coil, the release time will be longer.) |

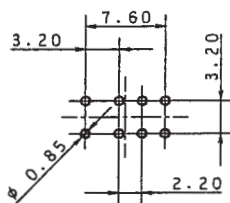
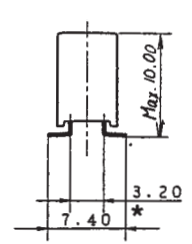
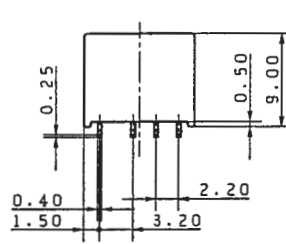
## DIMENSIONS



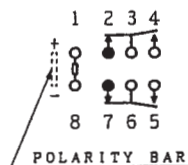
D I M E N S I O N (TOLERANCE:  $\pm 0.3$ )  
(through hole type)



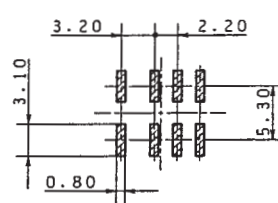
D I M E N S I O N (TOLERANCE:  $\pm 0.3$ )  
(surface mounted type)\*



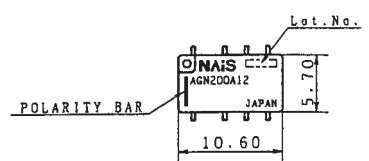
P/C BOARD PATTERN  
(TOLERANCE:  $\pm 0.1$ )



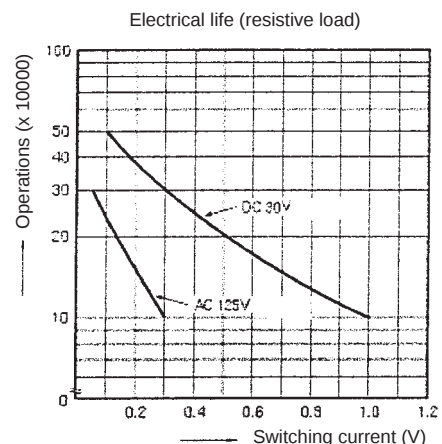
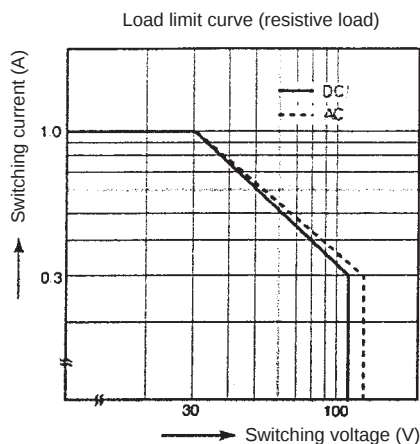
SCHEMATIC  
(BOTTOM VIEW)  
Deenergized position



SUGGESTED MOUNTING PADS  
(TOP VIEW)  
(TOLERANCE:  $\pm 0.1$ )



\* special version (-SS) with reduced pin length (5.70 mm top – top) on request



Please contact our European Sales Companies in:

- Austria Matsushita Automation Controls Austria Ges.m.b.H., Stojanstraße 12, A-2344 Maria Enzersdorf, Tel. (0 22 36) 2 68 46, Fax (0 22 36) 4 61 33
- Benelux Matsushita Automation Controls Benelux B.V., Nijverheidsweg 29, (Postbus 211), 5683 CJ Best, (5680 AE Best), Netherlands, Tel. (0 4 99) 37 27 27, Fax (0 4 99) 37 21 85
- France Matsushita Automation Controls France SARL, B.P. 44, F-91371 Verrières le Buisson CEDEX, Tél. 01 60 13 57 57, Fax 01 69 20 38 97
- Germany Matsushita Automation Controls Deutschland GmbH, Rudolf-Diesel-Ring 2, D-83 607 Holzkirchen, Tel. (0 80 24) 6 48-0, Fax (0 80 24) 6 48-555, Postfach 1330, D-83 603 Holzkirchen
- Ireland Matsushita Automation Controls Ltd., Irish Branch Office, Waverley, Old Naas Road, Bluebell, Dublin 12, Republic of Ireland, Tel: (01) 4600969, Fax: (01) 4601131
- Italy Matsushita Automation Controls Italia s.r.l., Via del Commercio 3-5 (Z.I. Ferlina), I-37012 Bussolengo (VR), Tel. (045) 6 70 04 40, Fax (045) 6 70 04 44
- Spain Matsushita Automation Controls España S.A., Rufino Gonzalez 40, E-28037 Madrid, Tel. (91) 327 1638, Fax (91) 327 2964
- Switzerland Matsushita Automation Controls (Schweiz) AG, Grundstrasse 8, CH-6343 Rotkreuz, Tel. (041) 799 70 50, Fax (041) 799 70 55
- United Kingdom Matsushita Automation Controls Ltd., Sunrise Parkway, Linford Wood East, Milton Keynes, MK14 6LF, England, Tel. (01908) 231555, Fax (019 08) 231599

**NAIS** is the new global brand for automation products.

Printed in Germany

Copyright © 1998  
1087 eu en 3/98