

Miniature Power PCB Relay LN/LNH

- 1 pole 10A/16A, 1 form C (CO) or 1 form A (NO)
- High performance 10A version (LN1)
- 16A High capacity version available (LN3)
- Version for HOT-applications (LNH)
- Flux proof
- Plastic materials according to IEC 60335-1 (domestic appliances)



F0278-B



Typical applications
Domestic appliances

Approvals

VDE REG.-Nr. 40004596, UL E214025
Technical data of approved types on request

| Contact Data | LN1 | LN3 | LNH |
|---|--------------------------------|--------------------|--------------------|
| Contact arrangement | 1 form C (CO) or 1 form A (NO) | | |
| Rated voltage | 250VAC | | |
| Max. switching voltage | 400VAC | | |
| Rated current | 10A | 16A ¹⁾ | 10A |
| Limiting making current | | | |
| max 4 s, duty factor 10% | 35A | 35A | 35A |
| Breaking capacity max. | 2500VA | 4000VA | 2500VA |
| Contact material | AgSnO ₂ | AgSnO ₂ | AgSnO ₂ |
| | - | AgCdO | - |
| Frequency of operation, with/without load | 180/18000h ⁻¹ | | |
| Operate/release time max. | 12/6ms | | |
| Bounce time max., form A/form B | 3/20ms | | |

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------|------------------------------------|---------------------|
| IEC 61810 | | | |
| LN133 | A (NO) | 10A, 250VAC, cosφ=1, 85°C | 250x10 ³ |
| LN333 | A (NO) | 16A, 250VAC, cosφ=1, 85°C | 50x10 ³ |
| LNH33 | A (NO) | 10A, 250VAC, cosφ=1, 105°C | 200x10 ³ |
| LNH33 | A (NO) | 8A, 250VAC, cosφ=1, 105°C | 250x10 ³ |
| UL 508 | | | |
| LN1 | A (NO) | 10A, 250VAC, general purpose, 85°C | 200x10 ³ |
| LN3 | A (NO) | 16A, 250VAC, general purpose, 85°C | 50x10 ³ |
| LNH | A (NO) | 10A, 250VAC, resistive, 85°C | 200x10 ³ |

Mechanical endurance, DC coil 10x10⁶ operations

1) LN3: For 16A at 85°C: coil power reduction to 50% necessary, for 16A with 100% coil power: max. ambient temperature 75°C, for 100% coil power at 85°C: max. contact current 15A

| Coil Data | LN1 | LN3 | LNH |
|--|-------------|-------------|--------------|
| Coil voltage range | 5 to 48 VDC | 5 to 48 VDC | 5 to 48 VDC |
| Operative range, IEC 61810 | 2 | 2 | - |
| Operative voltage range, % of rated coil voltage | - | - | 90 ... 110 % |
| Coil insulation system according UL1446 | class F | class F | class F |

Coil Data (continued)

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 005 | 5 | 3.5 | 0.5 | 62 | 400 |
| 006 | 6 | 4.2 | 0.6 | 90 | 400 |
| 009 | 9 | 6.3 | 0.9 | 202 | 401 |
| 012 | 12 | 8.4 | 1.2 | 360 | 400 |
| 024 | 24 | 16.8 | 2.4 | 1440 | 400 |
| 036 | 36 | 25.2 | 3.6 | 3240 | 400 |
| 048 | 48 | 33.6 | 4.8 | 5760 | 400 |

All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coil voltages on request.

Insulation Data

| | |
|------------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1000V _{rms} |
| between contact and coil | 2000V _{rms} |
| Clearance/creepage | |
| between contact and coil | ≥2.5/2.5mm |
| Material group of insulation parts | IIIa |
| Tracking index of relay base | PTI325 |

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter

Resistance to heat and fire according EN 60335, par.30
Ambient temperature, DC coil -40 to 85°C -40 to 75°C -40 to 105°C 85°C¹⁾

Category of environmental protection IEC 61810 RTII - flux proof

Vibration resistance (functional), form A/form B, 30 to 400Hz >14/8g
Shock resistance (destructive) 100g
Terminal type PCB-THT
Weight 12 g

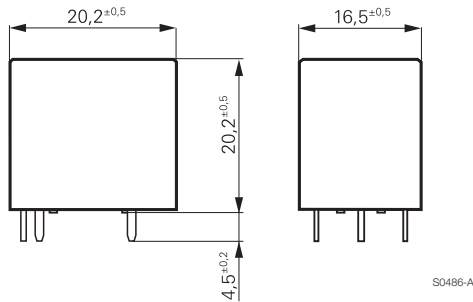
Resistance to soldering heat THT IEC 60068-2-20 270°C/10s

Packaging/unit tube/25 pcs., box/1000 pcs.

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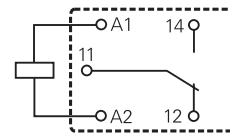
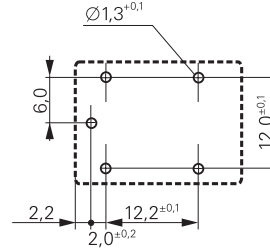
Miniature Power PCB Relay LN/LNH (Continued)

Dimensions



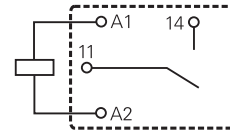
PCB layout / terminal assignment

Bottom view on solder pins



S0260-AN

S0260-AB



S0260-AC

Product code structure

Typical product code **LN 1 3 3 012**

| | | | |
|------------------------------|--|-----------------------------------|---------------------------|
| Type | | LN Miniature Power Relay LN / LNH | |
| Version | | 1 10A, 85°C | 3 16A, 85°C |
| | | H 10A, 105°C | |
| Contact configuration | | 1 1 form C contact (1 CO) | 3 1 form A contact (1 NO) |
| Contact material | | 0 AgCdO | 3 AgSnO ₂ |
| Coil | | 005 5VDC | 012 12VDC |
| | | 006 6VDC | 024 24VDC |
| | | 009 9VDC | 036 36VDC |

Miniature Power PCB Relay LN/LNH (Continued)

| Product code | Version | Cont. material | Cont.arrangement | Coil | Part number |
|--------------|---------|--------------------|------------------|-------|-------------|
| LN133005 | LN1 | AgSnO ₂ | 1 form A | 5VDC | 1-1721249-4 |
| LN133006 | 10 A | | 1 NO contact | 6VDC | 1721249-1 |
| LN133009 | 85°C | | | 9VDC | 1721249-2 |
| LN133012 | | | | 12VDC | 1721249-3 |
| LN133024 | | | | 24VDC | 1721249-4 |
| LN133036 | | | | 36VDC | 1721249-5 |
| LN133048 | | | | 48VDC | 1721249-6 |
| LN113006 | | | 1 form C | 6VDC | 1721249-7 |
| LN113009 | | | 1 CO contact | 9VDC | 1721249-8 |
| LN113012 | | | | 12VDC | 1721249-9 |
| LN113024 | | | | 24VDC | 1-1721249-0 |
| LN113036 | | | | 36VDC | 1-1721249-2 |
| LN113048 | | | | 48VDC | 1-1721249-3 |
| LNH33005 | LNH | | 1 form A | 5VDC | 1721253-1 |
| LNH33006 | 10 A | | 1 NO contact | 6VDC | 1721253-2 |
| LNH33009 | 105°C | | | 9VDC | 1721253-3 |
| LNH33012 | | | | 12VDC | 1721253-4 |
| LNH33024 | | | | 24VDC | 1721253-5 |
| LNH33036 | | | | 36VDC | 1721253-6 |
| LNH33048 | | | | 48VDC | 1721253-7 |
| LNH13005 | | | 1 form C | 5VDC | 1721253-8 |
| LNH13006 | | | 1 CO contact | 6VDC | 1721253-9 |
| LNH13009 | | | | 9VDC | 1-1721253-0 |
| LNH13012 | | | | 12VDC | 1-1721253-1 |
| LNH13024 | | | | 24VDC | 1-1721253-2 |
| LNH13036 | | | | 36VDC | 1-1721253-3 |
| LNH13048 | | | | 48VDC | 1-1721253-4 |
| LN333005 | LN3 | | 1 form A | 5VDC | 1721743-6 |
| LN333006 | 16 A | | 1 NO contact | 6VDC | 1721743-1 |
| LN333009 | 85°C | | | 9VDC | 1721743-4 |
| LN333012 | | | | 12VDC | 1721743-2 |
| LN333024 | | | | 24VDC | 1721743-3 |
| LN313005 | | | 1 form C | 5VDC | 1721548-5 |
| LN313006 | | | 1 CO contact | 6VDC | 1721548-1 |
| LN313009 | | | | 9VDC | 1721548-2 |
| LN313012 | | | | 12VDC | 1721548-3 |
| LN313024 | | | | 24VDC | 1721548-4 |