

**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, cULus 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 <sup>1)</sup>	10A
Limiting making current			
max 4 s, duty factor 10%	35A	35A	35A
Breaking capacity max.	2500VA	4000VA	2500VA
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
	-	AgCdO	-
Frequency of operation, with/without load	180/18000h <sup>-1</sup>		
Operate/release time max.	12/6ms		
Bounce time max., form A/form B	3/20ms		

**Contact ratings**

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

Mechanical endurance, DC coil 10x10<sup>6</sup> 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 <sub>rms</sub>
between contact and coil	2000V <sub>rms</sub>
Clearance/creepage	
between contact and coil	≥2.5/2.5mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI325

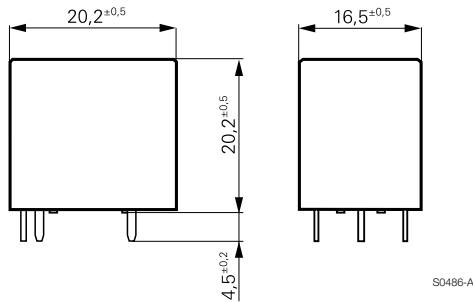
**Other Data**

	LN1	LN3	LNH
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.tycoelectronics.com/customer-support/rohssupportcenter">www.tycoelectronics.com/customer-support/rohssupportcenter</a>			
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°C <sup>1)</sup>		
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.		

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

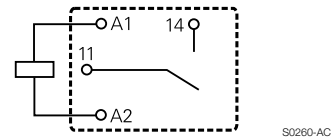
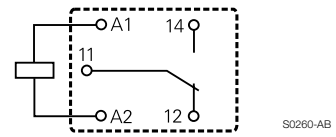
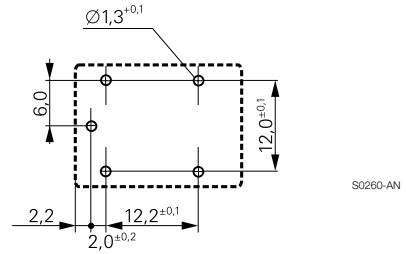
**Miniature Power PCB Relay LN/LNH (Continued)**

**Dimensions**



**PCB layout / terminal assignment**

Bottom view on solder pins



**Product code structure**

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

<b>Type</b>		LN Miniature Power Relay LN / LNH				
<b>Version</b>		1 10A, 85°C	3 16A, 85°C			
		H 10A, 105°C				
<b>Contact configuration</b>		1 1 form C contact (1 CO)	3 1 form A contact (1 NO)			
<b>Contact material</b>		0 AgCdO	3 AgSnO <sub>2</sub>			
<b>Coil</b>		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 <sub>2</sub>	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