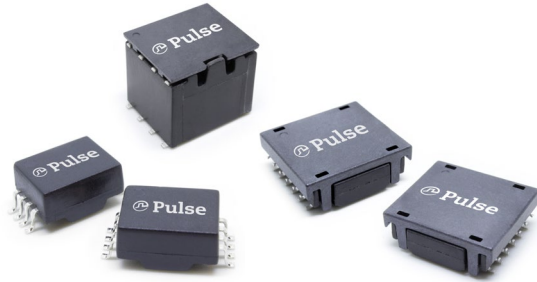


# SMT Power Line Communication (PLC) Transformers for Automotive use

BM6210HL, BM6220NL and BM6230HL



## Features and Benefits:

- ④ Wideband Frequency response 3~30MHz
- ④ Industrial and Automotive Temperature range from -40°C to +125°C
- ④ Eco-friendly - Halogen Free options
- ④ Turns ratio supports variety of PLC chipsets
- ④ Supports IEC-62368 for off-line 16Vdc and 500Vdc supply lines
- ④ Automotive designs meet AEC-Q200 and covered by ISO/IATF16949 and PPAP on request

## Electrical Specifications @ 25°C - Operating Temperature -40°C to +125°C

Part Number BM6210HL <sup>1,6,7</sup>	Turns Ratio +/- 2% (N1:N2:N3)	OC <sup>3</sup> (uH Min)	DCR (mΩ Max)			Insertion Loss <sup>4</sup> (dB Max)	Leakage <sup>5</sup> Inductance (uH Max)	Hi-Pot (Vac)	AEC-Q200 Qualified	Insulation <sup>6</sup> Class	Working Voltage	Clearance (mm Min)	Package Size (mm)
			N1	N2	N3								
BM6210HL <sup>9</sup>	1:1:1	5	500	500	500	-	0.5	500	Yes	Functional	500Vdc	-	6.9 x 12.0 x 5.0
BM6220NL	1:1	12	500	500	500	-1.0	0.25	500	Yes	Functional	16V	-	9.5 x 12.0 x 10.0
BM6230HL <sup>9</sup>	1:1:1	28	250	250	250	2.25	-	3000	Yes	Reinforced	500Vdc	-	14.6 x 16.15 x 6.0

## Notes:

1. Optional T&R packaging can be ordered by adding a T suffix to the part number (ie: BM6220NL becomes BM6220NLT)
2. Inductance spec is for -40°C to +125°C and measured at 100kHz, 100mVrms (BM6210HL), 2MHz, 100mVrms (BM6220NL), 100kHz, 10mVrms (BM6230HL)
3. OC represents special characteristic per IATF16949 for AEC-Q200 qualified parts on parts listed as AEC-Q200 qualified.
4. Insertion Loss measured from 1.5MHz to 30MHz across (1-4) for BM6220NL and (1-3) for BM6230HL
5. Leakage Inductance on BM6210HL measured on (1-4) with (5-6)&(7-8) shorted at 100kHz, 100mVrms, BM6220HL measured on(1-4) with (8-5) shorted at 2MHz, 100mVrms
6. Designed in accordance with EN/UL/IEC63268 (250Vrms working voltage unless stated, Material Group 3, Pollution Degree 2, Overvoltage Category 3)
7. Components are compliant to:
  - a. J-STD-002 (Solderability at 245°C reflow profile)
  - b. J-STD-020 (Level 1, Not Moisture Sensitive)
  - c. J-STD-075 (R7, 245C Max through Reflow Solder)
8. Operating Temperature is -40°C to 125°C and Storage Temperature is -50°C to 125°C on all parts
9. RoHS and Halogen Free design
10. Non-Automotive designs can be created for residential PLC solutions - parts ordering prefix code letters changes from BM to BX - discuss with FAE and Sales.

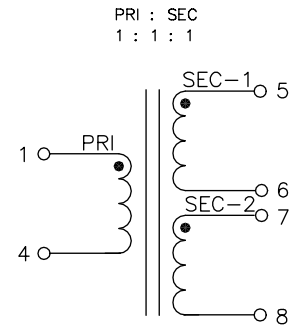
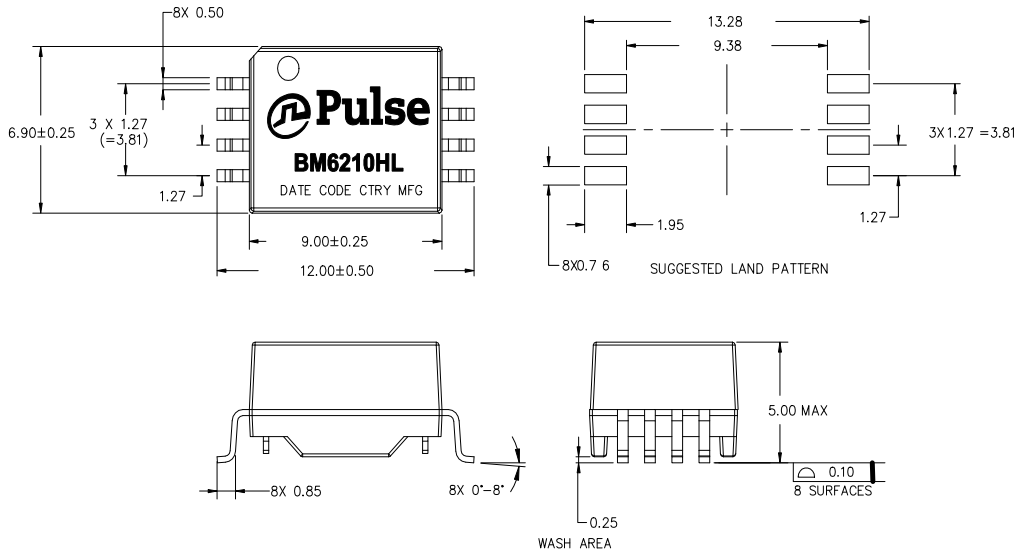
# SMT Power Line Communication (PLC) Transformers for Automotive use

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## MECHANICAL

## SCHEMATIC

### BM6210HL



### SCHEMATIC

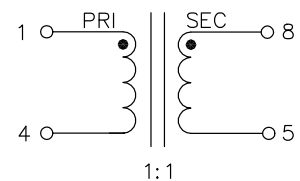
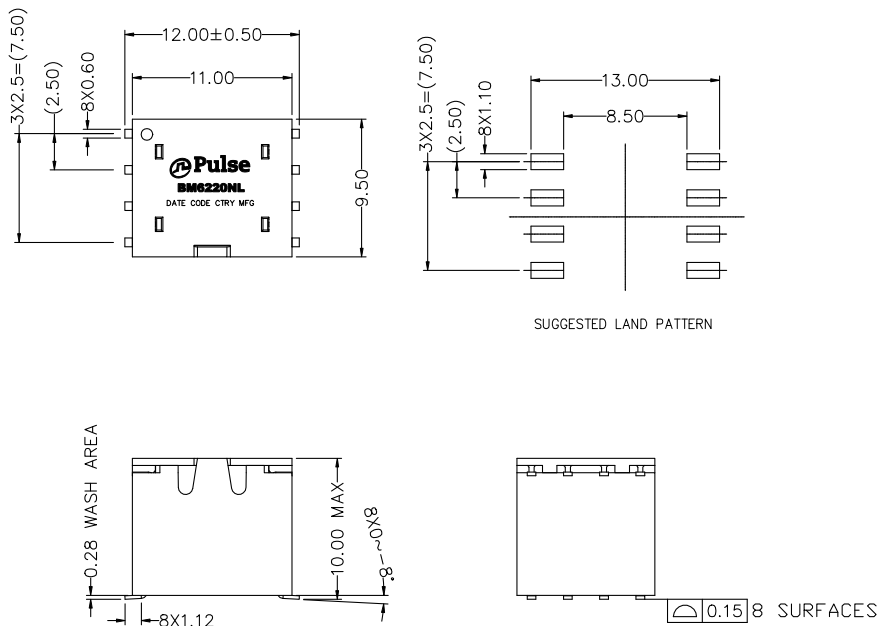
**Dimensions: mm**

Unless otherwise specified,  
all tolerances are ± 0,25

## MECHANICAL

## SCHEMATIC

### BM6220NL



### SCHEMATIC

**Dimensions: mm**

Unless otherwise specified,  
all tolerances are ± 0,25

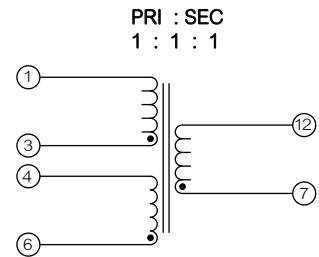
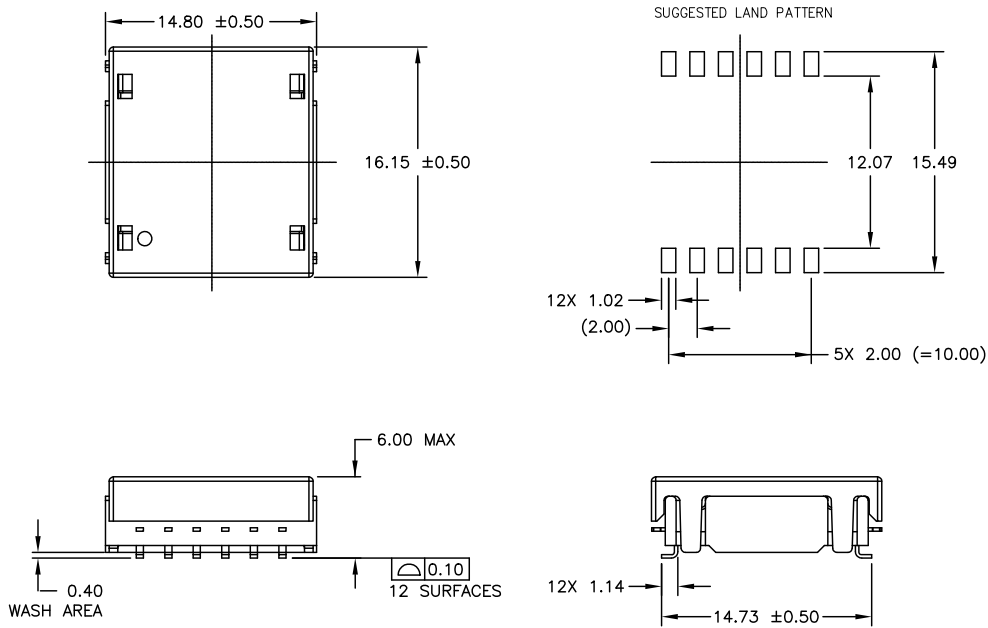
# SMT Power Line Communication (PLC) Transformers for Automotive use

BM6210HL, BM6220NL and BM6230HL

## MECHANICAL

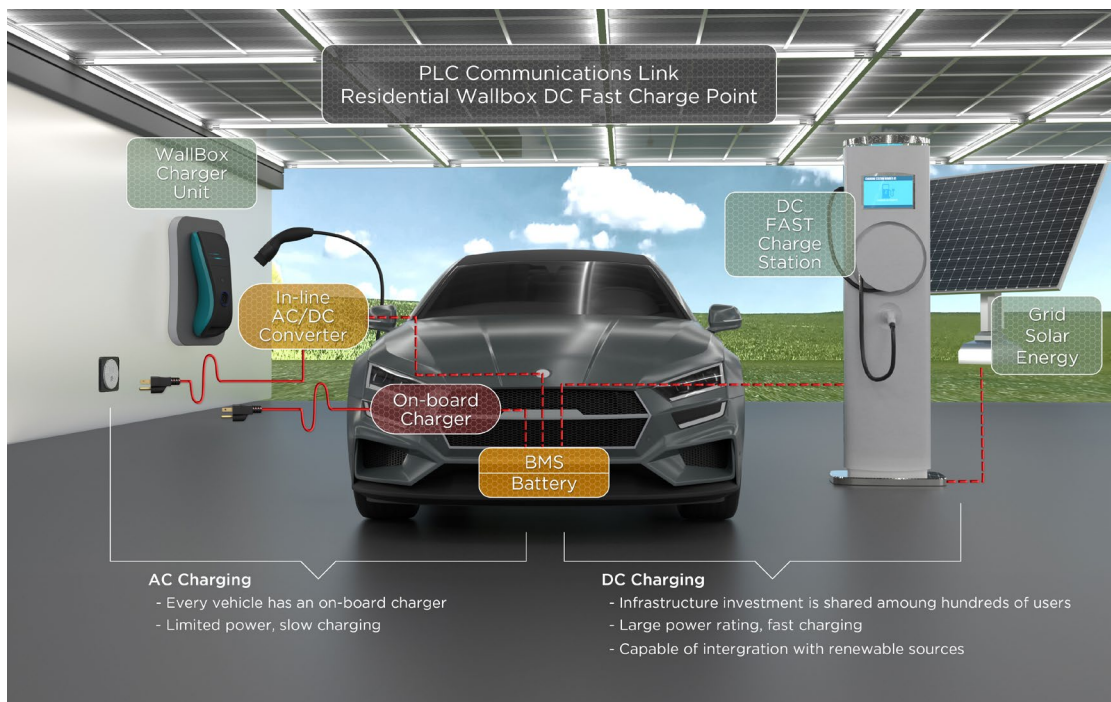
## SCHEMATIC

### BM6230HL



**Dimensions: mm**  
Unless otherwise specified,  
all tolerances are  $\pm 0,25$

## APPLICATION OF POWER LINE COMMUNICATION IN EV CHARGING

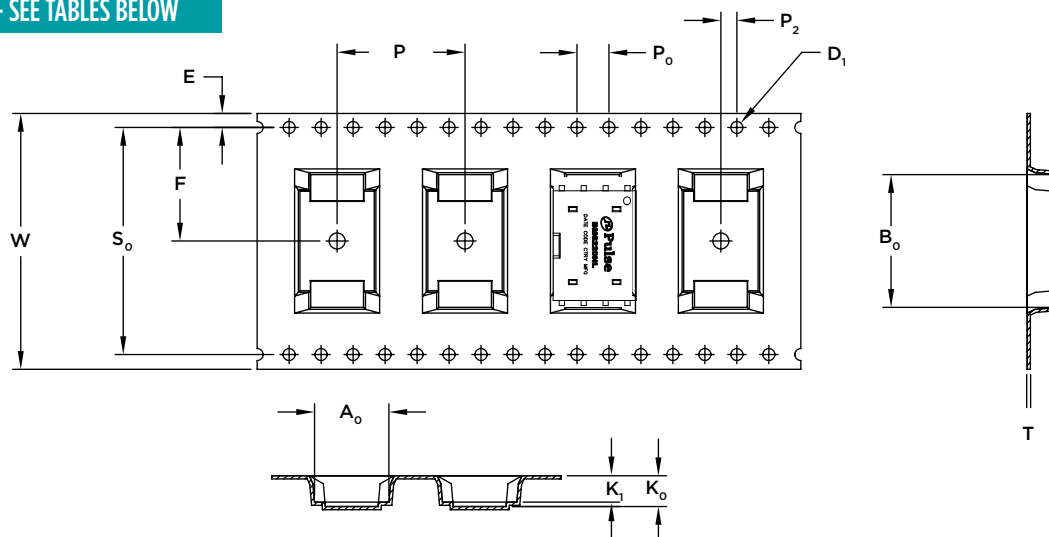


# SMT Power Line Communication (PLC) Transformers for Automotive use

BM6210HL, BM6220NL and BM6230HL

## TAPE and REEL

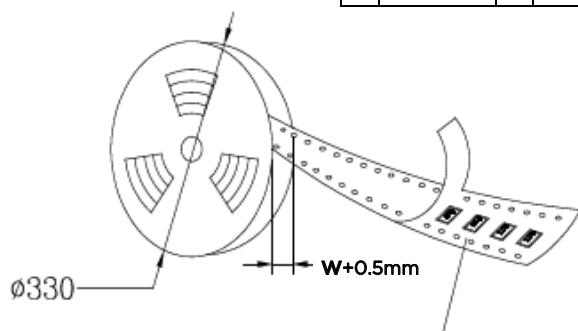
### CARRIER TAPE - SEE TABLES BELOW



BM6210HLT							
W	24.0+/-0.30	P	16.00	A <sub>0</sub>	7.01+/-0.10	B <sub>0</sub>	12.61+/-0.10
S <sub>0</sub>	No 2nd row feeder holes	P <sub>0</sub>	4.00	A <sub>1</sub>	-----	B <sub>1</sub>	-----
E	1.75 +/-0.10	P <sub>2</sub>	2.00	A <sub>2</sub>	-----	B <sub>2</sub>	-----
F	11.50+/-0.10	D <sub>0</sub>	-----	K <sub>0</sub>	5.35	K <sub>1</sub>	3.91
T	0.40±0.05	D <sub>1</sub>	1.50 ±0.10 -0.00	QUANTITY PER REEL		650 pieces	

BM6220NLT							
W	24.0+/-0.30	P	20.00	A <sub>0</sub>	9.80+/-0.10	B <sub>0</sub>	12.4+/-0.10
S <sub>0</sub>	No 2nd row feeder holes	P <sub>0</sub>	4.00	A <sub>1</sub>	-----	B <sub>1</sub>	-----
E	1.75 +/-0.10	P <sub>2</sub>	2.00	A <sub>2</sub>	-----	B <sub>2</sub>	-----
F	11.50+/-0.10	D <sub>0</sub>	-----	K <sub>0</sub>	10.40	K <sub>1</sub>	-----
T	0.50±0.05	D <sub>1</sub>	1.50 ±0.10 -0.00	QUANTITY PER REEL		250 pieces	

BM6230HLT							
W	32.0+/-0.30	P	24.00	A <sub>0</sub>	16.10+/-0.10	B <sub>0</sub>	15.10+/-0.10
S <sub>0</sub>	28.4+/-0.30	P <sub>0</sub>	4.00	A <sub>1</sub>	-----	B <sub>1</sub>	-----
E	1.75 +/-0.10	P <sub>2</sub>	2.00	A <sub>2</sub>	-----	B <sub>2</sub>	-----
F	14.20+/-0.10	D <sub>0</sub>	-----	K <sub>0</sub>	7.00	K <sub>1</sub>	-----
T	0.50±0.05	D <sub>1</sub>	1.50 ±0.10 -0.00	QUANTITY PER REEL		360 pieces	



All Dimensions meet EIA-481-D requirements.

Component

1. Material: Black Conductive Polystyrene
2. Components per Reel: see table
3. Quantity per carton:

24mm Tape = 6x full reels  
32mm Tape = 5x full reels

### For More Information:

Americas - [prodinfo\\_network\\_americas@yageo.com](mailto:prodinfo_network_americas@yageo.com) | Europe - [prodinfo\\_network\\_emea@yageo.com](mailto:prodinfo_network_emea@yageo.com) | Asia - [prodinfo\\_network\\_asia@yageo.com](mailto:prodinfo_network_asia@yageo.com)

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