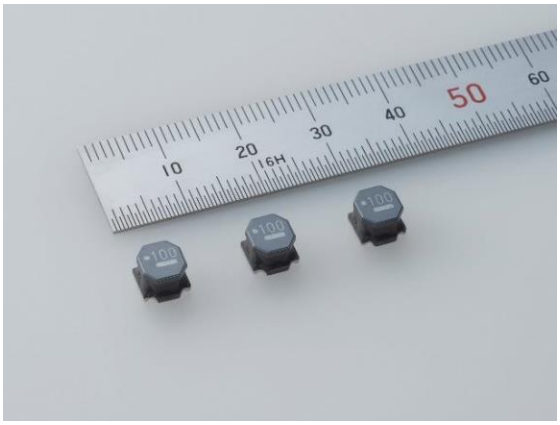
For immediate release

TAIYO YUDEN Launches the Automotive Power Inductors LAXH Series

Designed for high temperatures up to 150°C, and suitable for choke coils and filters in powertrains



TOKYO, February 9, 2023—TAIYO YUDEN CO., LTD. has announced today the launch of the AEC-Q200 (reliability qualification test standard for automotive passive components) qualified LAXH series of ferrite power inductors, and has begun the mass production of 16 items including the LAXHG6060YEL1R0NMR (6.0x6.0x4.5mm).

These products are designed for choke coils and noise filters for DC-DC converters, which are power supply circuits used in automobile engines, transmissions, and other powertrain components.

The LAXH series adopts a sleeveless structure with its advantageous compact size and high current capacity, and the upper limit of its operating temperature range has been raised to 150°C from that of our existing LCXH series (operating temperature range: -40°C to +125°C).

Furthermore, by applying our metal material technology and using metal material for the outer resin, the series delivers a large current capacity at a DC saturation allowable current of 13.5A (inductance value 1.0µH), or twice that of our existing LAYP series "LAYPH06045DL1R0NGA" (6.3x6.0x4.5mm, inductance value 1.0µH, DC saturation allowable current: 6.7A) with an operating temperature limit of 150°C.

Production of the products commenced at our overseas subsidiary company, TAIYO YUDEN (PHILIPPINES), INC. (Lapulapu City, Cebu, the Philippines) in January 2023, with a sample price of 150 yen per unit.

Technology Background

Recently, new vehicles have been equipped with an ever-greater number of electronic control units, typified by ADAS units. This requires a greater number of power supply circuits, which boosts the demand for power inductors used inside them. In particular, ECUs are increasingly being installed in high-temperature engine compartments, and the electronic components installed must be able to handle high temperatures.

In response to these needs, TAIYO YUDEN has adopted a sleeveless structure with its advantageous compact size and high current capacity, and applied the metal materials technologies it has nurtured in its metal power inductors “MCOIL™” to commercialize this LAXH series which delivers an operating temperature limit of 150°C, and large current capacity at a DC saturation allowable current of 13.5A (inductance value 1.0µH).

TAIYO YUDEN focuses on the development of products that meet market needs, and will continue to expand its power inductor product lineup.

■Application

Designed for choke coils and noise filters for DC-DC converters, which are power supply circuits used in automobile engines, transmissions, and other powertrain components.

■Characteristics

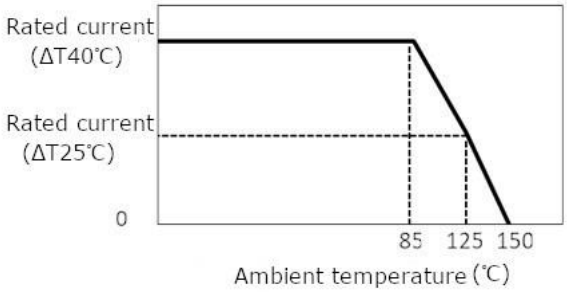
Part number	Nominal inductance [µH]	Inductance tolerance [%]	Rated current*3 [A] max.		DC resistance [Ω] max.	Operating Temp. range [°C]
			Saturation current Idc1*1	Temperature rise current Idc2*2		
LAXHG6060YEL1R0NMR	1.0	± 30	13.5	6.2	0.013	-40～ +150
LAXHG6060YEL1R5NMR	1.5	± 30	10	5.5	0.019	
LAXHG6060YEL2R2NMR	2.2	± 30	8.5	4.4	0.023	
LAXHG6060YEL3R3MMR	3.3	± 20	7	4	0.028	
LAXHG6060YEL4R7MMR	4.7	± 20	6	3.6	0.036	
LAXHG6060YEL6R8MMR	6.8	± 20	5.1	3.1	0.052	
LAXHG6060YEL100MMR	10	± 20	4	2.6	0.06	
LAXHG6060YEL150MMR	15	± 20	3.1	2.15	0.105	
LAXHG6060YEL220MMR	22	± 20	2.5	1.8	0.132	
LAXHG6060YEL470MMR	47	± 20	1.55	1.2	0.272	
LAXHG6060YEL680MMR	68	± 20	1.2	1.05	0.385	
LAXHG6060YEL101MMR	100	± 20	1.05	0.85	0.6	
LAXHG6060YEL151MMR	150	± 20	0.83	0.76	0.816	
LAXHG6060YEL221MMR	220	± 20	0.7	0.57	1.32	
LAXHG6060YEL331MMR	330	± 20	0.55	0.45	1.872	
LAXHG6060YEL471MMR	470	± 20	0.45	0.38	2.76	

*1 The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

*2 The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

*3 The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

* Derating of rated current is necessary depending on the ambient temperature. Derate the current to use by referring to the following graph.



For the detailed product lineup, refer to TAIYO YUDEN's Web site:
https://ds.yuden.co.jp/TYCOMPAS/or/specificationSearcher?cid=L&u=M&Seri=LAXH_A&SR2=LM%2CMP

* “MCOIL” is a registered trademark or a trademark of TAIYO YUDEN CO., LTD. in Japan and other countries.
*The names of series noted in the text are excerpted from part numbers that indicate the types and characteristics of the products, and therefore are neither product names nor trademarks.

Note: Products are tested based on the test conditions and methods defined in AEC-Q200. Please consult with TAIYO YUDEN for details of the product specifications and AEC-Q200 test results, etc., and please review and approve TAIYO YUDEN's product specifications before ordering.

TAIYO YUDEN CO., LTD. Product Inquiries: https://www.yuden.co.jp/or/contact/