Wire-wound Metal Power Inductors MCOIL™ LCEN series for Automotive Body & Chassis and Infotainment

Code in front of Series have been extracted from Part number, which describes the segment of products, such as kinds and characteristics.

REFLOW
AEC-Q200

AEC-Q200 Grade 2 (we conduct the evaluation at the test condition of Grade 2.)
*Operating environment Temp:-40～105℃

■PART NUMBER

＊ Operating Temp.:-40～+125℃(Including self-generated heat)

L	C	E	N	A	2	5	2	0	M	K	T	1	R	0	M	
①				②	③				④		⑤	⑥			⑦	⑧

①Series

Code (1)(2)(3)(4)	
LCEN	Wire-wound Metal Power Inductor for Automotive Body & Chassis and Infotainment

(1) Product Group

Code	
L	Inductors

(2) Category

Code	Recommended equipment	Quality Grade
C	Automotive Electronic Equipment (Body & Chassis, Infotainment)	2

(3) Type

Code	
E	Metal Wire-wound (High filling type)

(4) Features, Characteristics

Code	
N	Standard Power choke

②Features

Code	Feature
A	5-surface electrode (Ag-resin×Sn-plate)

③Dimensions(L×W)

Code	Dimensions(L×W)[mm]
2016	2.0×1.6
2520	2.5×2.0

④Dimensions(T)

Code	Dimensions(T)[mm]
MK	1.2

⑤Packaging

Code	Packaging
T	Taping

⑥Nominal inductance

Code (example)	Nominal inductance[μH]
R47	0.47
1R0	1.0
4R7	4.7

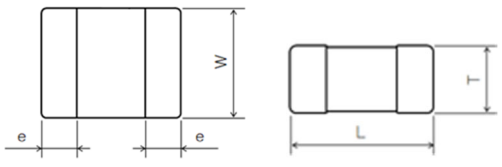
※R=Decimal point

⑦Inductance tolerance

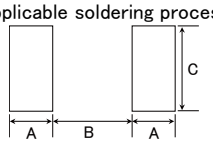
Code	Inductance tolerance
M	±20%

⑧Internal code

■STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Recommended Land Patterns
Surface Mounting
・Mounting and soldering conditions should be checked beforehand.
・Applicable soldering process to these products is reflow soldering only.



Type	A	B	C
2016	0.8	0.8	1.8
2520	0.85	1.2	2.2

Unit:mm

Type	L	W	T	e	Standard quantity[pcs] Taping
2016MK	2.0±0.2 (0.079±0.008)	1.6±0.2 (0.063±0.008)	1.2 max (0.047 max)	0.5±0.2 (0.020±0.008)	3000
2520MK	2.5±0.2 (0.098±0.008)	2.0±0.2 (0.079±0.008)	1.2 max (0.047 max)	0.6±0.3 (0.020±0.012)	3000

Unit:mm(inch)

■PART NUMBER

・All the Wire-wound Metal Power Inductors of the catalog lineup are RoHS compliant.

Notes)
・The exchange of individual specifications is necessary depending on your application and/or circuit condition. Please contact TAIYO YUDEN's official sales channel.
・For Automotive (AEC-Q200 Qualified) products for BODY & CHASSIS, and INFOTAINMENT. Please check "Automotive Application Guide" for further details before using the products.
＜ AEC-Q200 ：AEC-Q200 qualified＞
All the Wire-wound Metal Power Inductors for Automotive products are tested based on the test conditions and methods defined in AEC-Q200 by family item.
Please consult with TAIYO YUDEN's official sales channel for the details of the product specifications and AEC-Q200 test results, etc.,
and please review and approve the product specifications before ordering.

●2016MK type 【Thickness：1.2mm max.】

New part number	Old part number (for reference)	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rated current ※) [mA] (max.)			Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current① Idc2	Temperature rise current② Idc2	
LCENA2016MKTR24M0NK	MEMK2016TR24MGNKV	0.24	±20%	–	0.018	6,800	3,500	5,500	1
LCENA2016MKTR33M0NK	MEMK2016TR33MGNKV	0.33	±20%	–	0.022	5,400	3,000	4,900	1
LCENA2016MKTR47M0NK	MEMK2016TR47MGNKV	0.47	±20%	–	0.025	4,800	2,900	4,700	1
LCENA2016MKT1R0M0NK	MEMK2016T1R0MGNKV	1.0	±20%	–	0.045	3,100	2,000	3,200	1
LCENA2016MKT2R2M0NK	MEMK2016T2R2MGNKV	2.2	±20%	–	0.120	2,200	1,100	1,800	1

●2520MK type 【Thickness：1.2mm max.】

New part number	Old part number (for reference)	Nominal inductance [μH]	Inductance tolerance	Self-resonant frequency [MHz] (min.)	DC Resistance [Ω] (max.)	Rated current ※) [mA] (max.)			Measuring frequency [MHz]
						Saturation current Idc1	Temperature rise current① Idc2	Temperature rise current② Idc2	
LCENA2520MKTR15M0NK	MEMK2520TR15MGNKV	0.15	±20%	–	0.009	10,200	4,900	6,700	1
LCENA2520MKTR33M0NK	MEMK2520TR33MGNKV	0.33	±20%	–	0.015	7,000	4,000	5,600	1
LCENA2520MKTR47M0NK	MEMK2520TR47MGNKV	0.47	±20%	–	0.020	5,900	3,700	5,000	1
LCENA2520MKT1R0M0NK	MEMK2520T1R0MGNKV	1.0	±20%	–	0.042	4,400	2,400	3,200	1
LCENA2520MKT1R5M0NK	MEMK2520T1R5MGNKV	1.5	±20%	–	0.057	3,300	2,100	2,800	1
LCENA2520MKT2R2M0NK	MEMK2520T2R2MGNKV	2.2	±20%	–	0.077	3,000	1,700	2,400	1
LCENA2520MKT3R3M0NK	MEMK2520T3R3MGNKV	3.3	±20%	–	0.131	2,300	1,300	1,800	1
LCENA2520MKT4R7M0NK	MEMK2520T4R7MGNKV	4.7	±20%	–	0.185	2,100	1,100	1,500	1

※) The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20℃)
※) The temperature rise current value (Idc2)① is the DC current value having temperature increase up to 20℃. (at 20℃)
※) The temperature rise current value (Idc2)② is the DC current value having temperature increase up to 40℃. (at 20℃)
※) The rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.
※) Idc2 Measurement board data Material:FR4
Board dimensions：100×50×1.6t ㎜
Pattern dimensions：43×59.2 ㎜
Pattern thickness：50μm

■Derating of Rated Current

●LCEN series
Derating of current is necessary for LCEN series depending on ambient temperature.
Please refer to the chart shown below for appropriate derating of current.