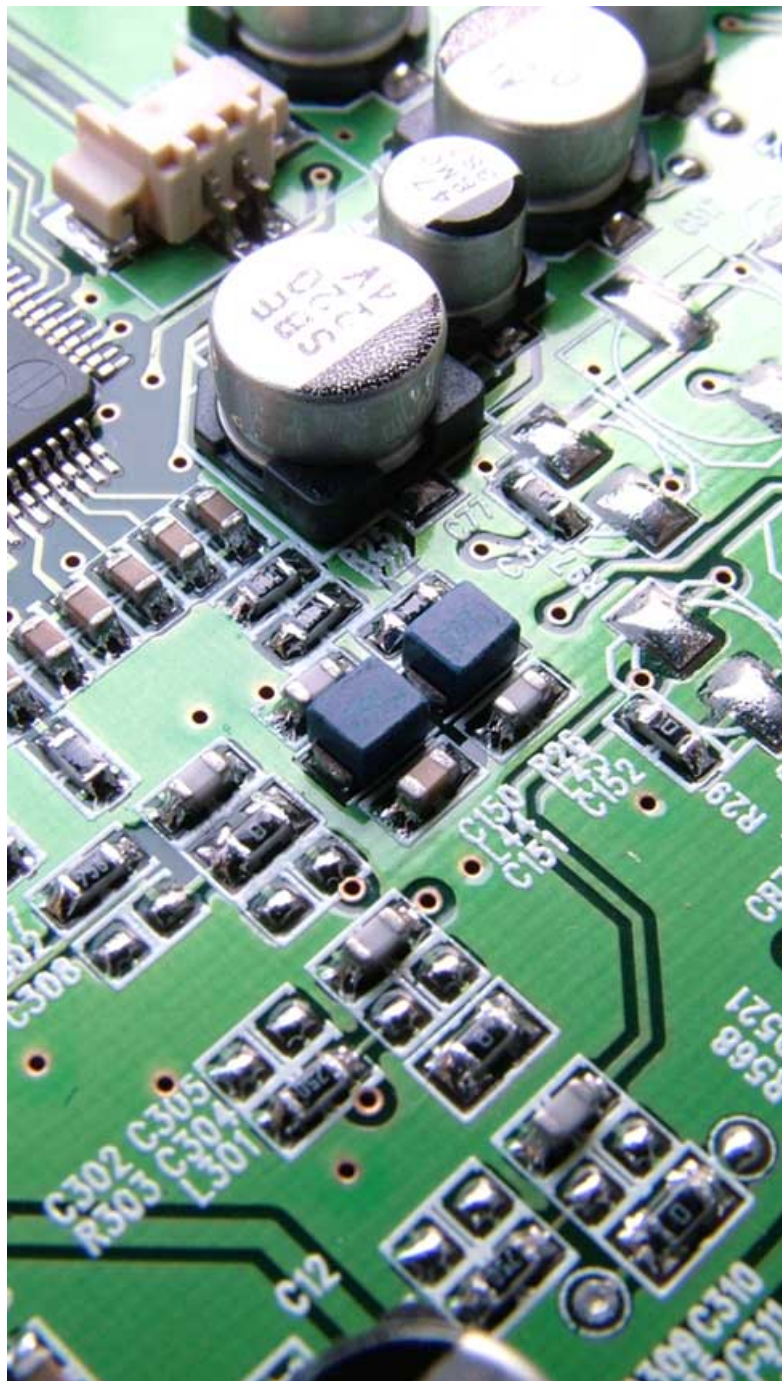
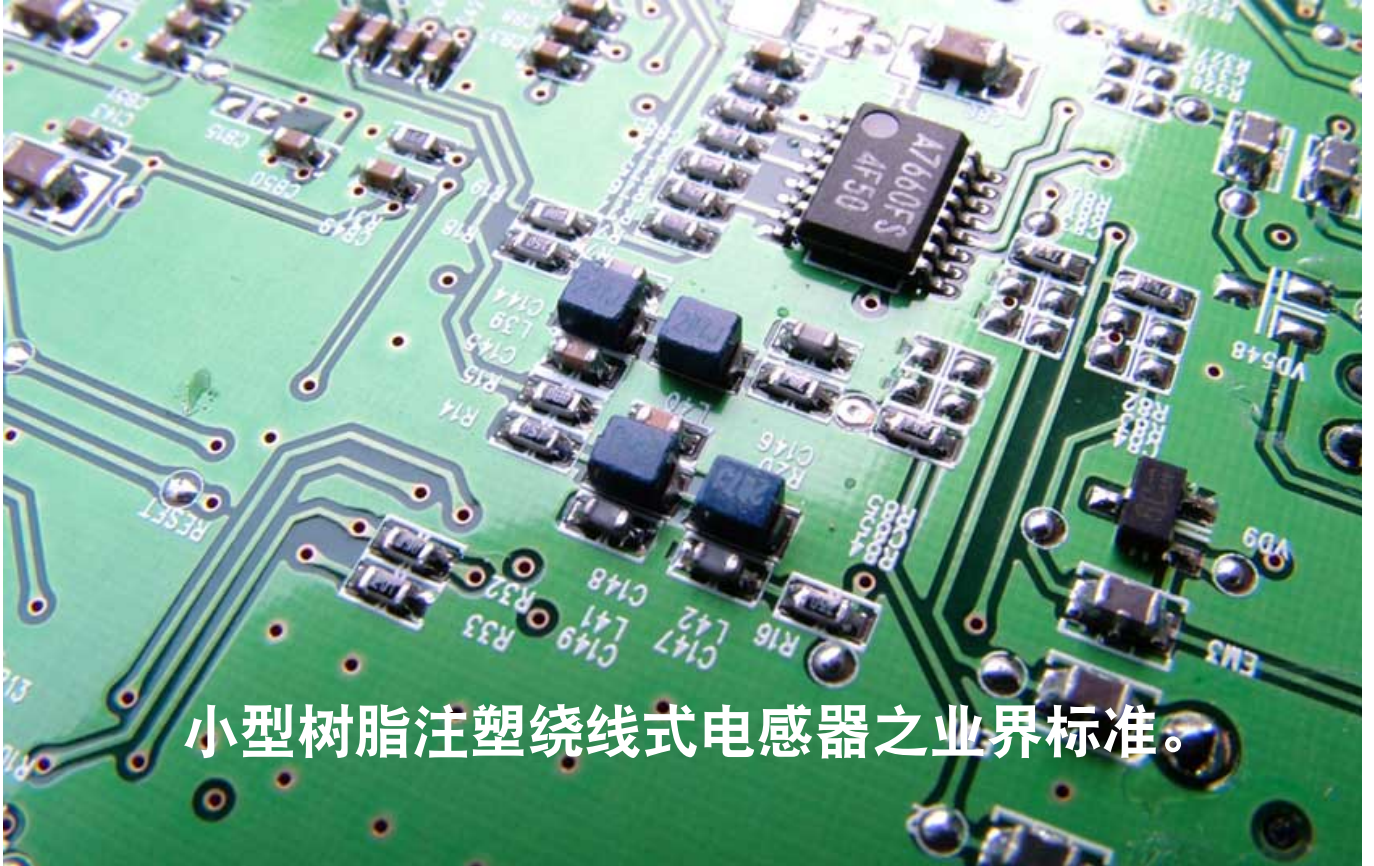


# 信号线/DC电源线用 表面贴装型小型绕线电感器

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Line

## NL/NLV, NLC/NLCV, NLFC/NLFV series



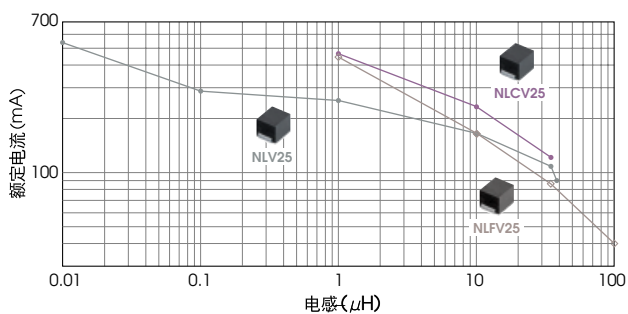


小型树脂注塑绕线式电感器之业界标准。



### 特性倾向比较-1

L2.5×W2.0×T1.8mm 代表产品的比较例

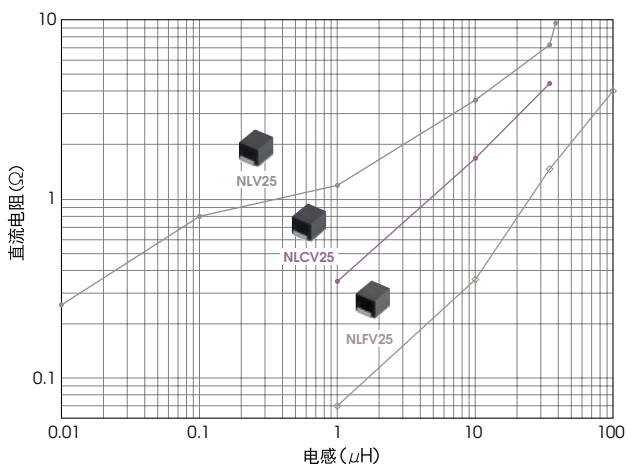


## Wire-wound Surface Mount Small Inductors For Signal Lines And DC Power Lines

# NL/NLV, NLC/NLCV, NLFC/NLFV series

### 特性倾向比较-2

L2.5×W2.0×T1.8mm 代表产品的比较例



自从1981年开发出最适于AV机器滤波电路的NL453232以来, NL产品家族以迅速对应需求的体制致力于品种扩充, 以含盖0.01~10000μH的3种特性类型和4种形状, 持续更新其超越340亿个累计生产量\*之全球性评价。

TDK追求信赖性的独有结构设计和构筑世界最先端的独有自动化量产线, 不仅使NL产品家族实现了高性价比, 这2个独有技术亦为NL家族获得高度可靠性和拥有超越群伦的应用实绩之基础。

为了适当地对应全球高度化需求, NL系列至今亦持续挑战新技术, 例如大幅降低Rdc、切换至减轻环境负荷的树脂材料、改良生产工程等。

下列3种特性类型中, 末端标示有「V」的系列为其最新研究成果。  
从泛用性高的形状开始, 陆续进行更新。



对应各种电路设计需求之3种特性类型

#### NL/NLV系列

用于信号线滤波, 拥有以高频领域的高Q特性为豪之4形状、共155种产品。为低公差±5%, 含盖0.01~10000μH的E12系列。

#### NLC/NLCV系列

为DC电源线的扼流用所开发。以独自开发的高Bs、高μ铁氧体磁芯和绕线的最佳化达到同形状NL/NLV系列的1.5~2倍的电流容量, 拥有4形状, 共97种产品。

#### NLFC/NLFV系列

对应电源线用扼流圈的低损耗化需求。以配合铁氧体微粒的独有磁性注塑树脂实现大幅的低Rdc化。拥有泛用性高的3形状, 共48种产品。

全品种皆对应RoHS指令\*\*

\* 1982.12~2006.12

\*\* 对应RoHS指令: 表示根据EU Directive 2002/95/EC, 除已被免除的用途外, 未使用铅、镉、汞、六价铬, 以及特定溴素系列阻燃剂的聚溴联苯(PBB)和聚溴二苯醚(PBDE)。

# 支援各种机器的最佳化设计之3种特性类型。 各个类型皆含有NL家族独有技术和先进优点。

TDK以丰富的累积数据所带来的独有且高精度的磁路分析模拟，开发出可使绕线直径和匝数达到最佳平衡的极小鼓形磁芯。此磁芯使用独有高 $\mu$ 、高B铁氧体材料，促使了NL产品家族的扩充，以较小的尺寸及较低的Rdc实现与其他公司产品同样的电感值。而处理绕线端的铁氧体磁芯(线圈部)与金属端子直接一体化的结构，亦为TDK之独有技术，其确立了NL产品家族小型、低损耗的优越性。

再者，通过构筑全自动制造系统——其以 $\pm$ 数十微米的精度

控制向金属端子装载线圈时的中心位置定位，提早确立了业界最小尺寸2016产品的量产体制，并支援机器的低成本化和小型化。

又，为了对应追求节电、电池驱动的小型携带机器设计之需求，通过高效率闭合磁路结构(即在包围整个线圈的注塑材料中高密度地扩散具有良好磁聚焦作用的高 $\mu$ 铁氧体微粒；亦即有效 $\mu$ 的加强)，使Rdc值较以往的扼流圈产品低减达50~20%。在节电效果上NL家族亦位于业界最高水平。

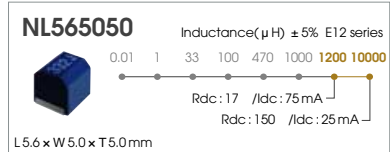
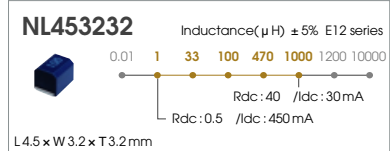
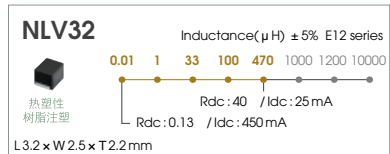
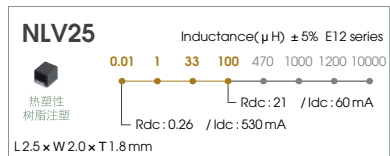
宽广L值范围  
高Q/低公差  
信号线用  
NL/NLV



数字电视调谐器/调谐器IC信号线应用例

### 最适于滤波、匹配用的优异特性

- 业界最高水平的高频高Q特性
- 4形状含盖0.01~10000 $\mu$ H
- E12系列、公差 $\pm$ 5%标准化



模拟电视调谐器/于模拟影像信号输入线之应用例

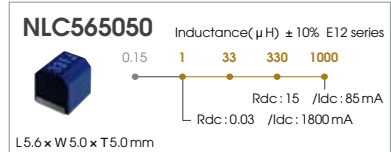
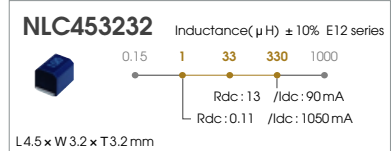
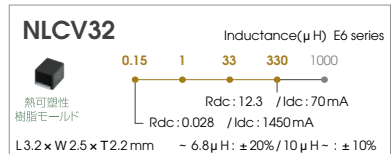
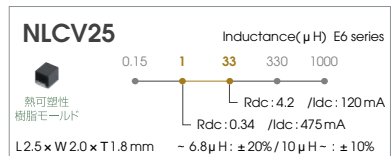
对应大电流  
扼流圈  
电源线用  
NLC/NLCV



ATA对应HDD/HDD控制器Vdd线应用例

### 电源线用SMD扼流圈的世界标准

- 实现较NL/NLV高出1.5~2倍的电流容量
- 4形状含盖0.15~1000 $\mu$ H
- 确立最先进、低成本的量产系统



汽车导航系统/DC电源线应用例

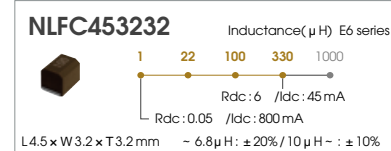
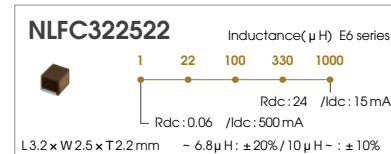
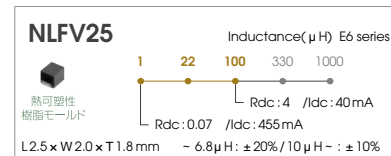
低Rdc  
扼流圈  
电源线用  
NLFC/NLFCV



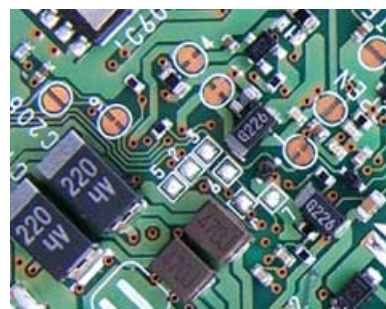
数码相机/Vcc线应用例

### 达到低Rdc化顶点之节电扼流圈

- 较NLC/NLCV的Rdc低50~20%
- 以小型化3形状对应1~1000 $\mu$ H
- 最适于随身机器的电源线设计



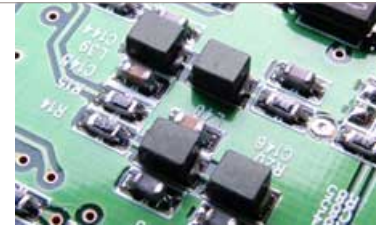
在信号线上发挥低损耗优势之应用例



便携式CD播放机/音频输出线(构成LPP)

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFCV series



对应高度化电路设计需求之  
品种扩充和小型化展开

1981年,在电视调谐器中搭载最初的NL电感器。从那以后,伴随著卓越的技术革新,NL亦逐年进化。

与模拟电路的表面贴装化并行而来的数码化浪潮。陆续推出的便携式机器。加速发展的小型化和薄型化。一口气高涨的节电需求。汽车电子的发达。信息家电的跃进。还有,顾虑到地球未来之环境设计的规划。

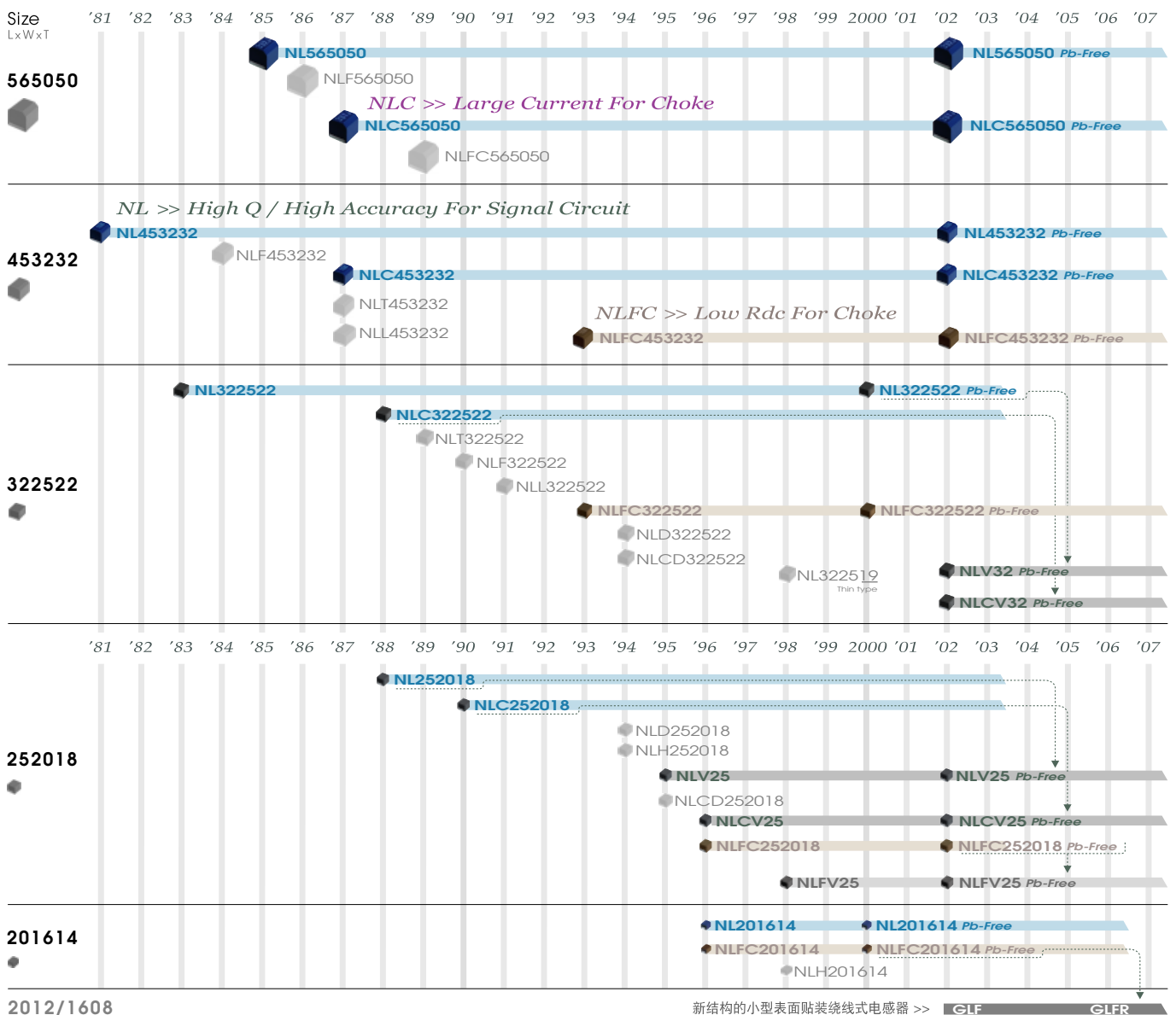
现在回顾起来亦是令人侧目的技术革新潮流,在每一阶段随之而来的电路设计需求,正是构筑今日NL产品家族的原动力。「迅速对应最新电路设计需求之产品阵容」,为开发初期以来不变的NL家族开发概念。

电视调谐器	LD播放器	便携式CD播放器	笔记本电脑	手机	数码相机	ADSL调制解调器
家用录像机/家用摄像机		小型摄像机	打印机	MD播放器		DVD录像机
文字处理机	电脑	CD播放器	ISDN(DSU)	CS/BS调谐器		VICS对应汽车导航
硬盘驱动器	传真机	电视游戏机	车载CD播放器	无线电话		CD-ROM汽车导航
便携式磁带机			DAT播放器	GPS汽车导航		DVD播放器
汽车音响	CATV调谐器		DAT刻录机	高保真电视		DVD汽车导航
						HDD/DVD汽车导航
						PDA
						地面数字电视调谐器
						等离子/大型液晶电视(调谐器)
						车载显示器(multi-display)

模拟电路 >> 信号匹配用/各种滤波电路用 >> 对应低Rdc/小型化需求 >>

数字电路 >> 去耦对策/电源线EMI对策用 >> 对应大电流/低Rdc/小型化需求 >>

追求环境对应产品和小型合理化结构 >>



# 领先世界之TDK独有合理化生产线。

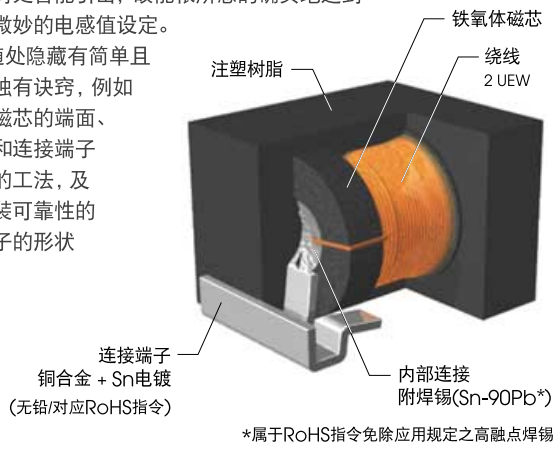
## 现在, NL产品家族进一步切换到更简易的省资源自动化生产线。

右下图的注塑工程为利用热固性树脂的以往品种的过程。在这一流程中,省去「热固化促进」、「毛边去除」、「平滑处理」等工程之新的注塑工程,为左下图所示之使用可回收再利用的热塑性树脂的流程。

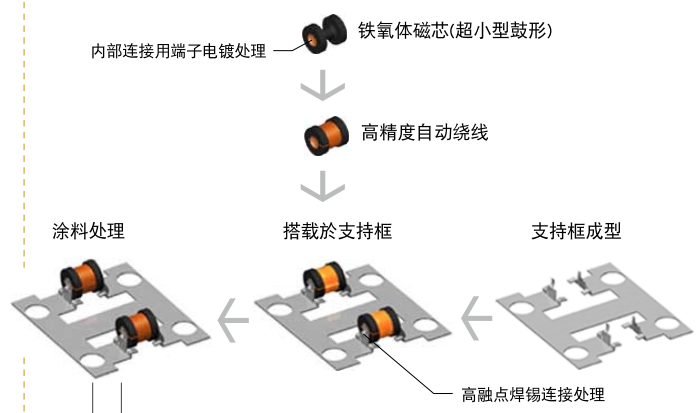
TDK灵活应用热塑性树脂的物性(以温度控制可自在地调整粘度)之工程设计,构筑了完全自动化生产线。系列名称的末端中附有「V」的品种为使用此生产线的新型号。为对应环境保护的彻底化和低价格化需求,正陆续进行切换至新型号。

### 内部结构

结构中亦凝聚了TDK独有设计诀窍。例如,绕线的引出位置为360度、无论何处皆能引出,故能依所想的确实地达到微细且微妙的电感值设定。此外,随处隐藏着简单且高度的独有诀窍,例如把鼓状磁芯的端面、绕线端和连接端子一体化的工法,及追求贴装可靠性的连接端子的形状设计等。

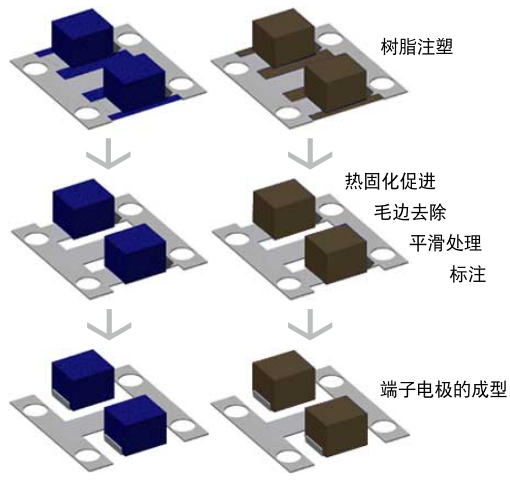


### 制造过程



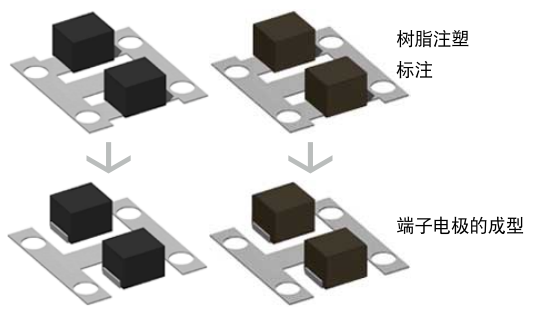
### 热固性树脂注塑产品

**NL/NLC** 树脂100%  
**NLFC** F: 铁氧体微粒混合(闭合磁路结构)



### 热塑性树脂注塑产品

**NLV/NLCV** 树脂100%  
**NLFV** F: 铁氧体微粒混合(闭合磁路结构)



宽广L值范围  
高Q/低公差  
信号线用  
**NL/NLV**

对应大电流  
扼流圈  
电源线用  
**NLC/NLCV**

低Rdc  
扼流圈  
电源线用  
**NLFC/NLFV**

外观检查(自动检查)  
特性检查(自动检测)

编带

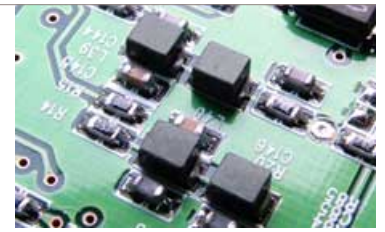
NLV25 NLV32  
NLCV25 NLCV32  
NLFV25



特性检查(自动检测)  
外观检查(自动检查)

编带

NL453232 NL565050  
NLC453232 NLC565050  
NLFC322522 NLFC453232



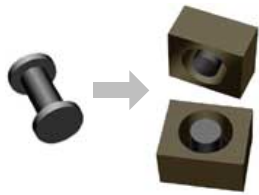
最新系列开发概念  
业界首创之举

## 构筑独有低Rdc结构和省资源、无废料生产线

### 利用磁性粒子复合树脂达到低Rdc化

NLFC series

于低Rdc需求实现了前所未有的有效性之NLFC系列，采用TDK独有的电感特性加强对策——除了鼓形磁芯的材质、形状最佳化，于注塑成型树脂中混合铁氧体微粒。



形成与罐形(Pot)磁芯等效的闭合磁路结构

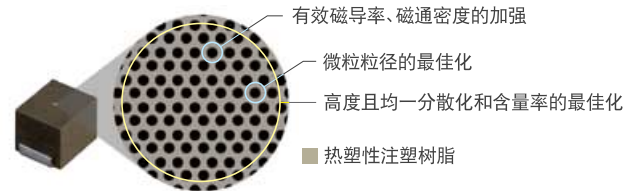
在密着于鼓形磁芯的两面并包围整个线圈的注塑树脂中加入铁氧体微粒(即附加磁性)，藉此实现与罐形磁芯线圈等效的闭合磁路结构。其结果，线圈中产生的磁通得到加强，不用加大磁芯形状即可用较粗的绕线(较少的匝数)确保与非磁性树脂注塑之同形状以往产品得到相同的电感值。

### 构筑业界首创的省资源一贯生产线

NLV,NLCV,NLFV series

至今一般被广范采用的热固性树脂，其在制造工程中发生大量的废料(如浇道=runner/或浇口=gate的毛边等)是不能循环利用的。那些废料在收集后被废弃处分，成为环境的负荷。与此相比，热塑性树脂依其物性容易回收再利用，占材料容积大部分比率的浇道部可完全再利用，亦可通过粘度调整的最佳化来完全消除不要的毛边。再者，热塑性树脂利用温度调整可达到可逆的粘度控制，灵活应用热塑性树脂这一独有的特点，可大幅缩短使用热固性树脂的以往生产线的生产周期。

TDK在NLV、NLCV、NLFV系列的开发中，开发出新的加工手法和过程控制技术以彻底利用热塑性树脂的这些特点。除了浇道部的回收再利用之外，并构筑了高效率的一贯生产线，大幅缩减了制造所需时间并实现了省能源化。



此外，如上述模型所示的，于NLFV系列中，亦推进如铁氧体微粒的磁性加强、微粒粒径和混合比率的最佳化等特性面的改良对策，在主要特性和形状中，在确保与先行系列(NLFC)相容性的同时，并实现Rdc更进一步的低减化。

### 结构比较

系列	NL NLC	NLV NLCV	NLFC	NLFV
注塑树脂	热固性树脂	热塑性树脂	热固性树脂 + 铁氧体微粒	热塑性树脂+ 铁氧体微粒
树脂颜色	蓝	黑	棕	深棕色
标注	印刷	雷射印字或是无印字	印刷	无印字
磁芯	铁氧体	铁氧体	铁氧体	铁氧体
绕线材料	2UEW	2UEW	2UEW	2UEW
内部连接*1	附焊锡 (Sn-90Pb)	附焊锡 (Sn-90Pb)	附焊锡 (Sn-90Pb)	附焊锡 (Sn-90Pb)
连接端子	铜合金	铜合金	铜合金	铜合金
连接端子的电镀处理	Sn (无铅)	Sn (无铅)	Sn (无铅)	Sn (无铅)
特性检测*2	自动检测	自动检测	自动检测	自动检测
外观检查*2	目视检查	目视检查	目视检查	目视检查

\*1. 属于RoHS指令免除应用规定之附高熔点焊锡过程

\*2. 全数检测/全数检查

# NL的4种形状为 树脂注塑型的小型固定电感器之业界事实标准。

但内部结构藏有TDK独有技术与诀窍。亦是说，3种特性类型所分别设定的电感范围，以业界最小等级的形状予以展开。在相同电感值下，较其他公司类似产品追求更小形状和优越

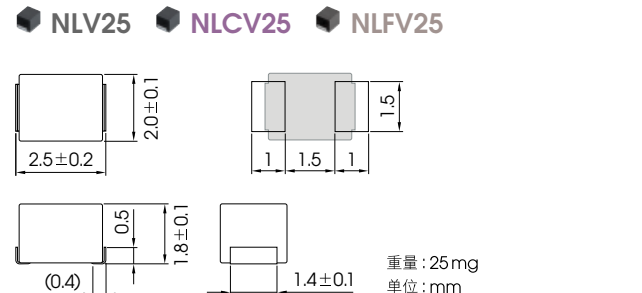
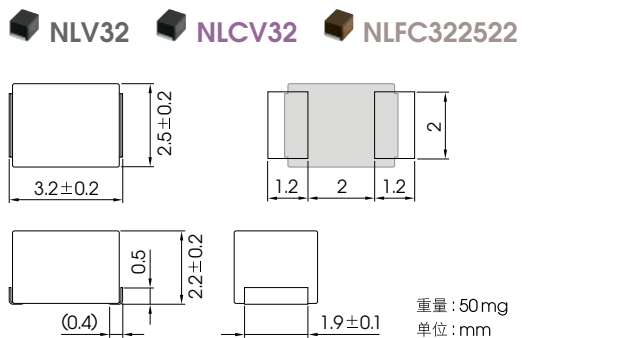
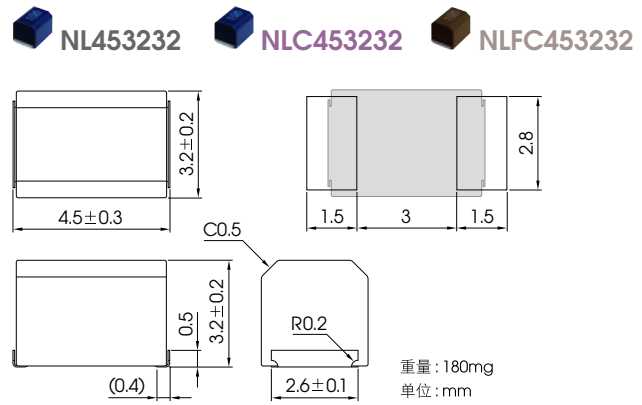
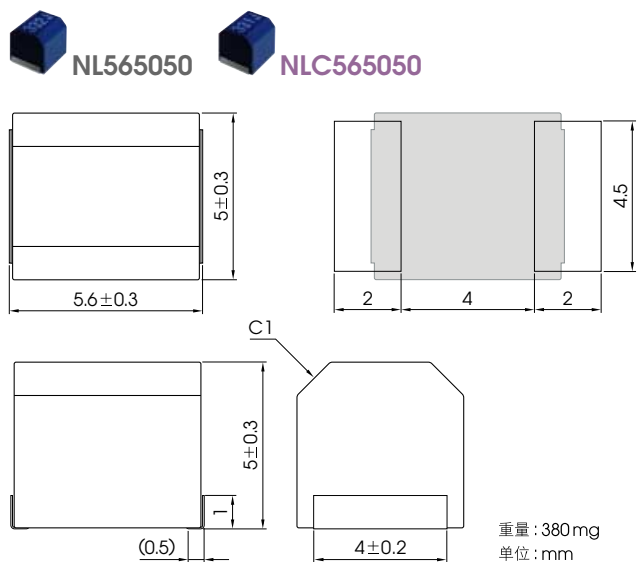
的频率特性。此外，不仅是无铅高温再流焊过程，全品种亦对应最高温260℃的流焊过程。于贴装可靠性上亦达成业界最高水平。

## 形状·尺寸/推荐焊盘图形(回流)

宽广L值范围  
高Q/低公差  
信号线用  
NL/NLV

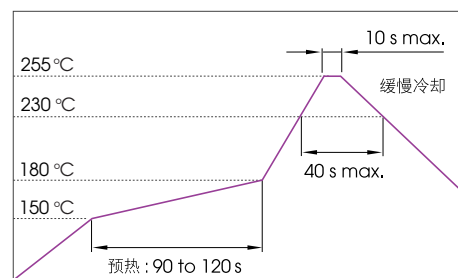
对应大电流  
扼流圈  
电源线用  
NLC/NLCV

低Rdc  
扼流圈  
电源线用  
NLFC/NLFV



### 推荐焊接条件

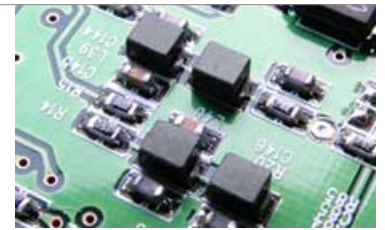
无铅焊料·高温回流焊过程



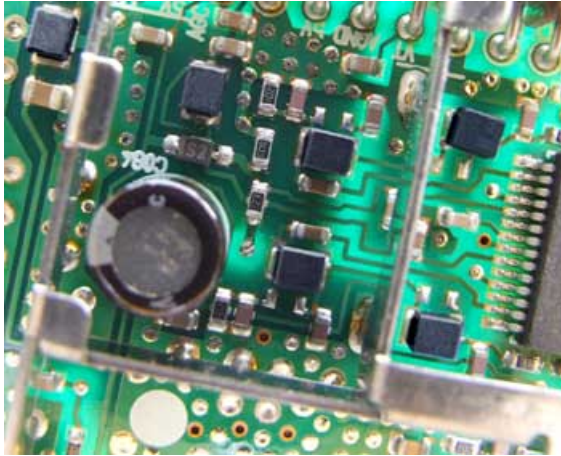


# Wire-wound Surface Mount Small Inductors For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series

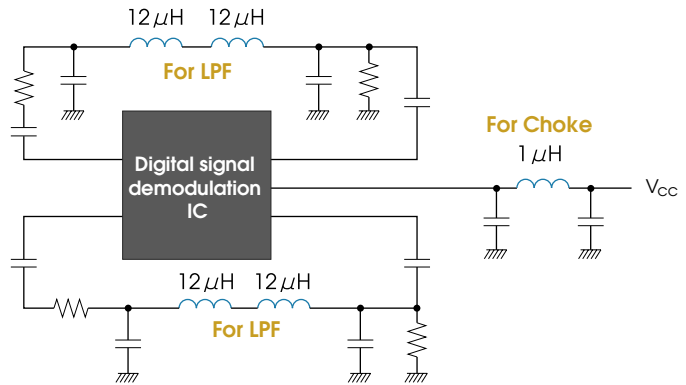


## 应用例



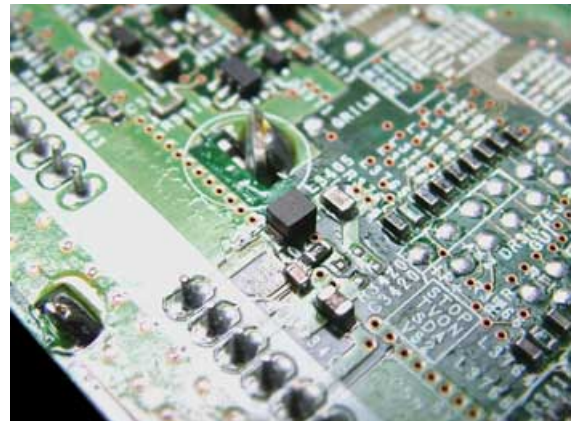
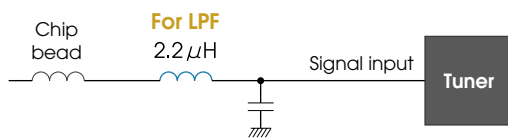
### 数字电视调谐器

于调谐器IC的信号线、DC电源线之应用例



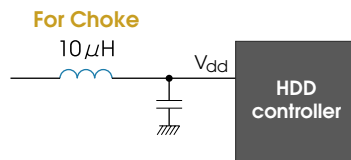
### 模拟电视调谐器

于模拟影像信号输入线之应用例

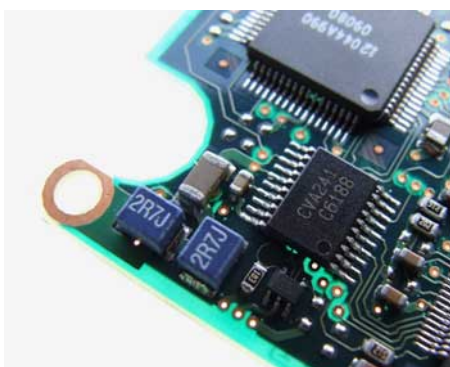
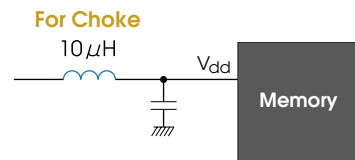


### ATA对应HDD

于HDD控制器的DC电源线之应用例

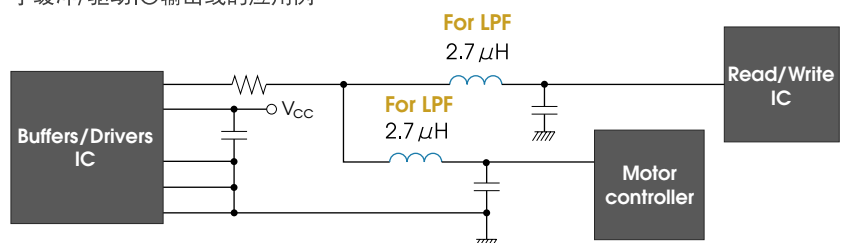


于存储器DC电源线的应用例

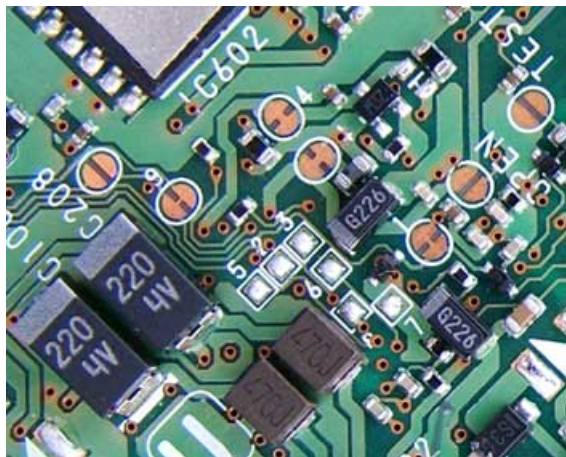


### 笔记本电脑内存HDD

于缓冲/驱动IC输出线的应用例

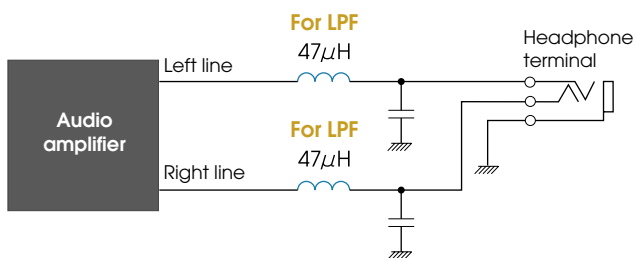


应用例



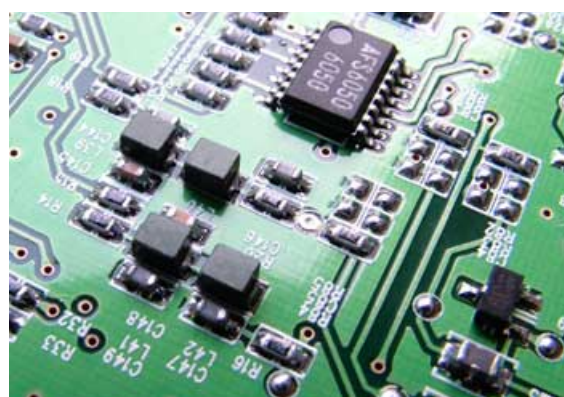
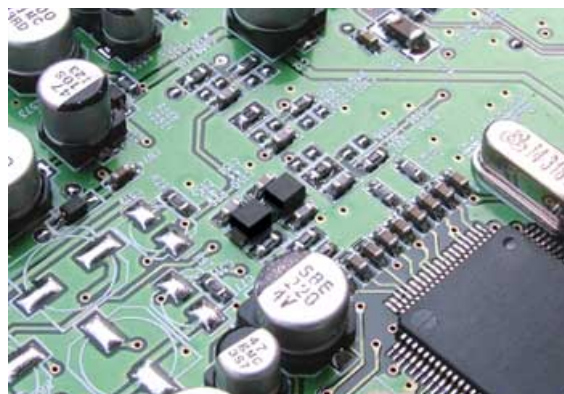
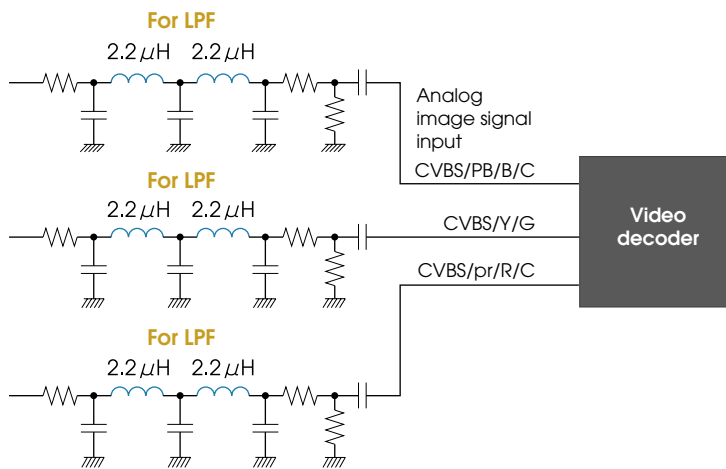
便携式CD播放器

于音频输出线的应用例

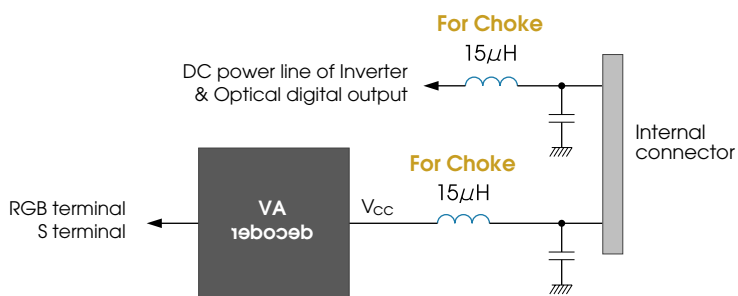


便携式DVD播放器

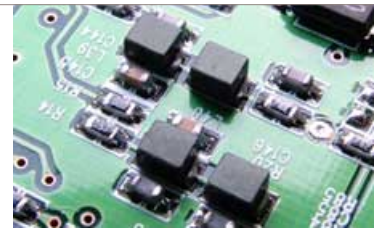
于模拟影像信号输入线的应用例



于DC电源线的应用例

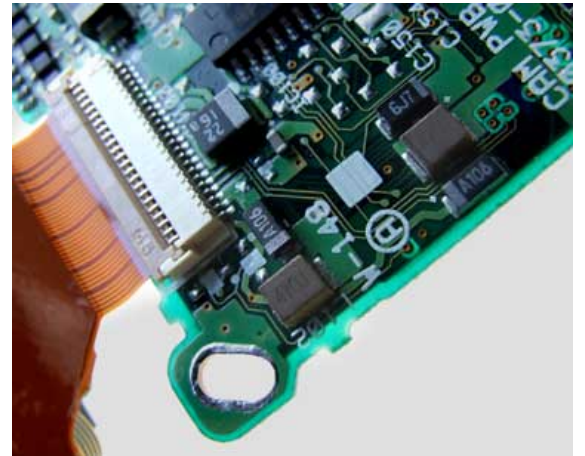
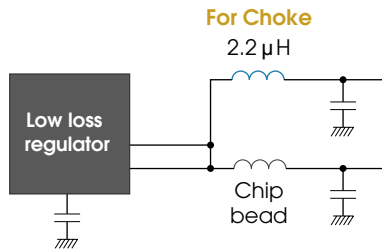


Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines  
NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



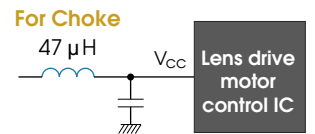
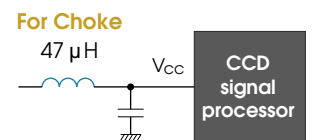
**车载显示器 (multi-display)**

于电压控制电路之应用例



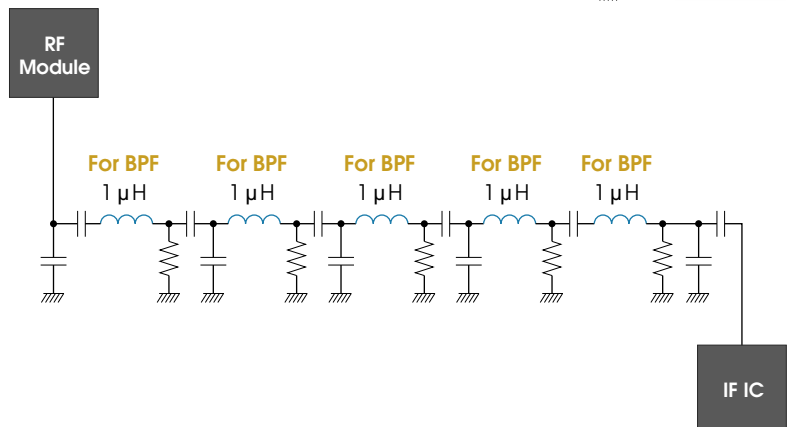
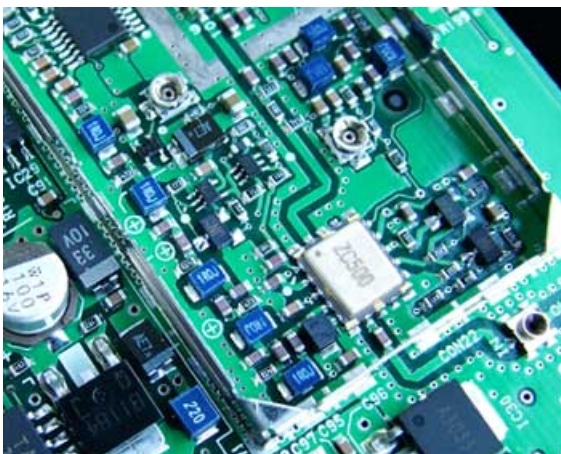
**数码相机**

于DC电源线之应用例



**ETC车载器**

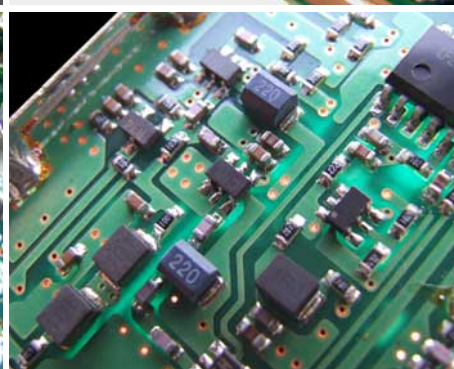
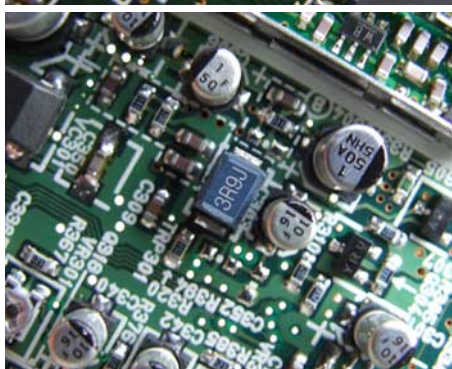
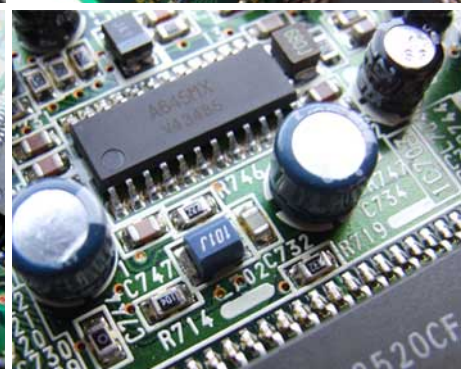
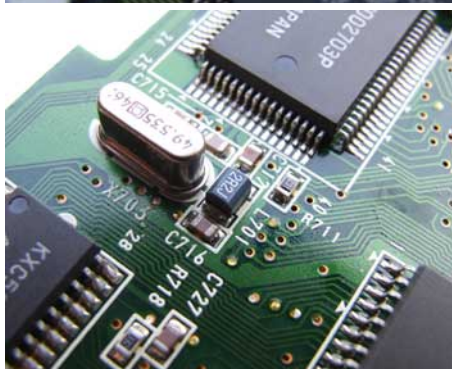
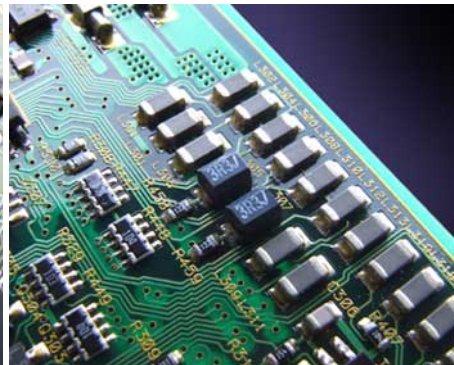
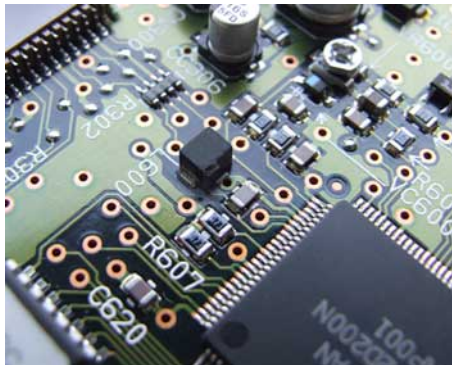
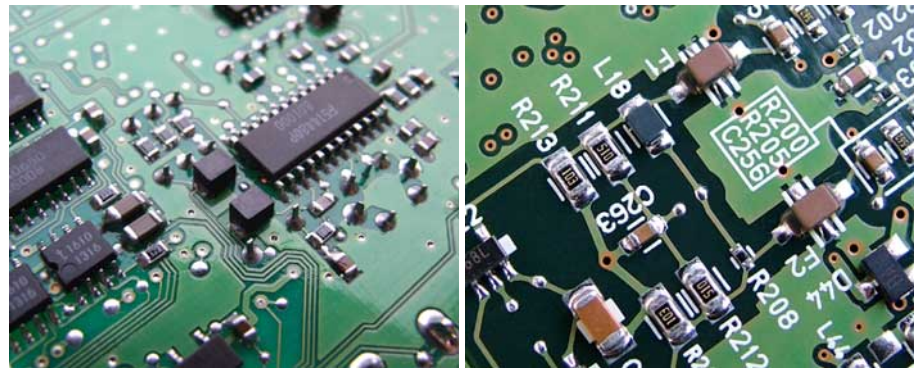
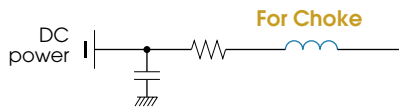
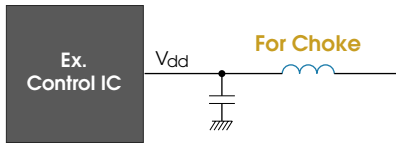
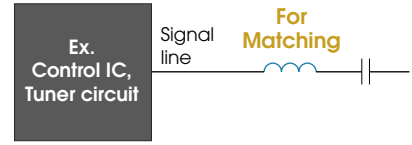
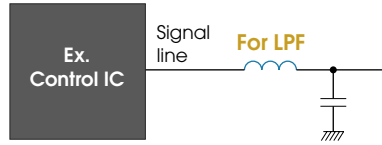
于接收电路IF信号线之应用例



## 应用例

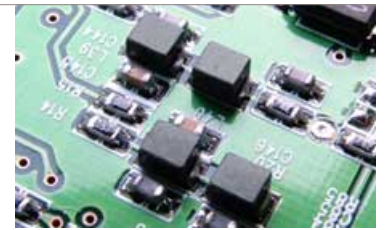
### 汽车导航系统

电源电路  
DC电源线  
GPS接收电路  
数字电视调谐器  
影像信号处理电路等



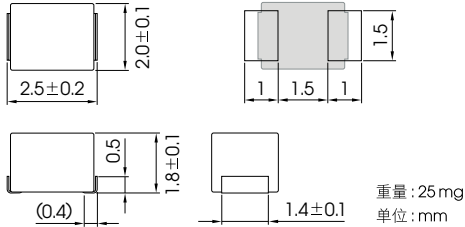
Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



个别产品数据

形状·尺寸/推荐焊盘图形(回流焊)



重量: 25 mg  
单位: mm

NLV25  
series

宽广L值范围  
高Q / 低公差  
信号线用  
**NL / NLV**

对应大电流  
扼流圈  
电源线用  
**NLC/NLCV**

低Rdc  
扼流圈  
电源线用  
**NLFC/NLFV**

电气特性例 0.01~2.7 μH

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
0.01	±5	15	100	2150	0.26	530	NLV25T-010J-PF
0.012	±5	15	100	2050	0.27	500	NLV25T-012J-PF
0.015	±5	15	100	2000	0.29	480	NLV25T-015J-PF
0.018	±5	15	100	1850	0.31	450	NLV25T-018J-PF
0.022	±5	15	100	1650	0.37	420	NLV25T-022J-PF
0.027	±5	15	100	1550	0.4	410	NLV25T-027J-PF
0.033	±5	20	100	1450	0.42	400	NLV25T-033J-PF
0.039	±5	20	100	1350	0.45	380	NLV25T-039J-PF
0.047	±5	20	100	1200	0.5	360	NLV25T-047J-PF
0.056	±5	20	100	1100	0.6	340	NLV25T-056J-PF
0.068	±5	20	100	1050	0.65	320	NLV25T-068J-PF
0.082	±5	20	100	900	0.75	300	NLV25T-082J-PF
0.1	±5	20	100	800	0.8	280	NLV25T-R10J-PF
0.12	±5	30	25.2	700	0.3	550	NLV25T-R12J-PF
0.15	±5	30	25.2	550	0.35	500	NLV25T-R15J-PF
0.18	±5	30	25.2	500	0.4	460	NLV25T-R18J-PF
0.22	±5	30	25.2	450	0.5	430	NLV25T-R22J-PF
0.27	±5	30	25.2	425	0.55	420	NLV25T-R27J-PF
0.33	±5	30	25.2	400	0.6	400	NLV25T-R33J-PF
0.39	±5	30	25.2	375	0.65	375	NLV25T-R39J-PF
0.47	±5	30	25.2	350	0.68	350	NLV25T-R47J-PF
0.56	±5	30	25.2	325	0.75	325	NLV25T-R56J-PF
0.68	±5	30	25.2	300	0.85	300	NLV25T-R68J-PF
0.82	±5	30	25.2	260	1	260	NLV25T-R82J-PF
1	±5	30	7.96	245	1.1	245	NLV25T-1R0J-PF
1.2	±5	30	7.96	230	1.2	230	NLV25T-1R2J-PF
1.5	±5	30	7.96	182	1.3	220	NLV25T-1R5J-PF
1.8	±5	30	7.96	135	1.45	210	NLV25T-1R8J-PF
2.2	±5	30	7.96	105	1.55	200	NLV25T-2R2J-PF
2.7	±5	30	7.96	70	1.7	195	NLV25T-2R7J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20℃)之数值间的最小值

Measuring Instruments

L/Q (L ≤ 0.1 μH): HP4191A Impedance/gain-phase analyzer(16092A) / L/Q (L ≥ 0.12 μH): HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter

## 个别产品数据

形状·尺寸/推荐焊盘图形(回流焊)


 NLV25  
series
电气特性例 3.3~100 $\mu$ H

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
3.3	$\pm 5$	30	7.96	55	1.9	185	NLV25T-3R3J-PF
3.9	$\pm 5$	30	7.96	48	2.1	180	NLV25T-3R9J-PF
4.7	$\pm 5$	30	7.96	43	2.3	175	NLV25T-4R7J-PF
5.6	$\pm 5$	25	7.96	42	2.5	170	NLV25T-5R6J-PF
6.8	$\pm 5$	25	7.96	39	2.7	165	NLV25T-6R8J-PF
8.2	$\pm 5$	25	7.96	36	3.05	160	NLV25T-8R2J-PF
10	$\pm 5$	25	2.52	33	3.5	155	NLV25T-100J-PF
12	$\pm 5$	25	2.52	30	3.8	150	NLV25T-120J-PF
15	$\pm 5$	25	2.52	26	4.4	140	NLV25T-150J-PF
18	$\pm 5$	25	2.52	24	4.8	130	NLV25T-180J-PF
22	$\pm 5$	25	2.52	22	5.5	125	NLV25T-220J-PF
27	$\pm 5$	25	2.52	21	6.3	115	NLV25T-270J-PF
33	$\pm 5$	25	2.52	20	7.1	110	NLV25T-330J-PF
39	$\pm 5$	20	2.52	18	9.5	90	NLV25T-390J-PF
47	$\pm 5$	20	2.52	17	11.1	80	NLV25T-470J-PF
56	$\pm 5$	20	2.52	16	12.1	75	NLV25T-560J-PF
68	$\pm 5$	20	2.52	15	16.6	70	NLV25T-680J-PF
82	$\pm 5$	20	2.52	13	19	66	NLV25T-820J-PF
100	$\pm 5$	15	0.796	12	21	60	NLV25T-101J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20 $^{\circ}$ C)之数值间的最小值

Measuring Instruments

L/Q: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

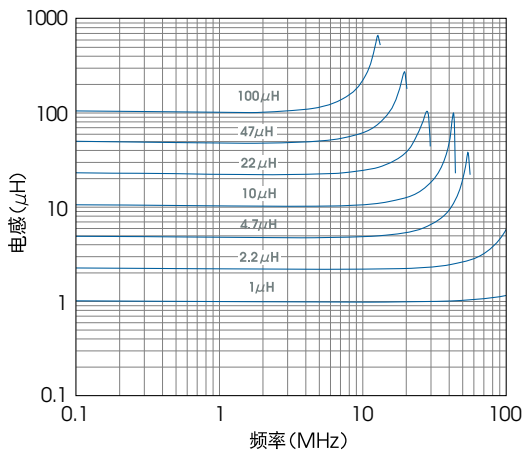
NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



NLV25  
series

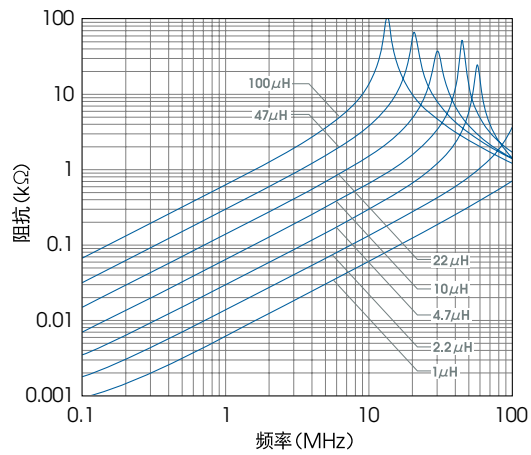
电感频率特性例

HP 4194A



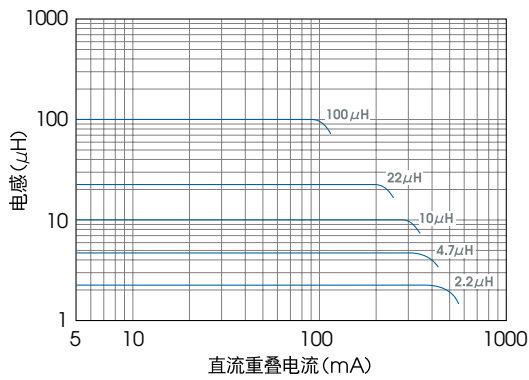
阻抗频率特性例

HP 4194A



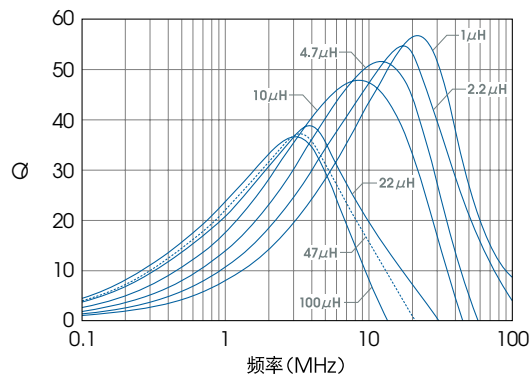
电感直流重叠特性例

HP 4194A



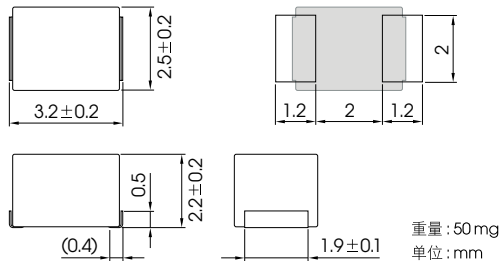
Q频率特性例

HP 4194A



## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



# NLV32

series



### 电气特性例 0.01~0.82 $\mu$ H

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
0.01	±5	15	100	2500	0.13	450	NLV32T-010J-PF
0.012	±5	17	100	2300	0.14	450	NLV32T-012J-PF
0.015	±5	19	100	2100	0.16	450	NLV32T-015J-PF
0.018	±5	21	100	1900	0.18	450	NLV32T-018J-PF
0.022	±5	23	100	1700	0.2	450	NLV32T-022J-PF
0.027	±5	23	100	1500	0.22	450	NLV32T-027J-PF
0.033	±5	25	100	1400	0.24	450	NLV32T-033J-PF
0.039	±5	25	100	1300	0.27	450	NLV32T-039J-PF
0.047	±5	26	100	1200	0.3	450	NLV32T-047J-PF
0.056	±5	26	100	1100	0.33	450	NLV32T-056J-PF
0.068	±5	27	100	1000	0.36	450	NLV32T-068J-PF
0.082	±5	27	100	900	0.4	450	NLV32T-082J-PF
0.1	±5	28	100	700	0.44	450	NLV32T-R10J-PF
0.12	±5	30	25.2	500	0.22	450	NLV32T-R12J-PF
0.15	±5	30	25.2	450	0.25	450	NLV32T-R15J-PF
0.18	±5	30	25.2	400	0.28	450	NLV32T-R18J-PF
0.22	±5	30	25.2	350	0.32	450	NLV32T-R22J-PF
0.27	±5	30	25.2	320	0.36	450	NLV32T-R27J-PF
0.33	±5	30	25.2	300	0.4	450	NLV32T-R33J-PF
0.39	±5	30	25.2	250	0.45	450	NLV32T-R39J-PF
0.47	±5	30	25.2	220	0.5	450	NLV32T-R47J-PF
0.56	±5	30	25.2	180	0.55	450	NLV32T-R56J-PF
0.68	±5	30	25.2	160	0.6	450	NLV32T-R68J-PF
0.82	±5	30	25.2	140	0.65	450	NLV32T-R82J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

Measuring Instruments

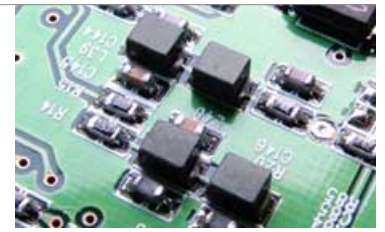
L,Q (L $\leq$ 0.1 $\mu$ H): HP4191A Impedance/gain-phase analyzer(16092A) / L,Q (L $\geq$ 0.12 $\mu$ H): HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter



Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLHV  
series



NLV32  
series

电气特性例 1~470 $\mu$ H

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
1	$\pm 5$	30	7.96	120	0.7	400	NLV32T-1R0J-PF
1.2	$\pm 5$	30	7.96	100	0.75	390	NLV32T-1R2J-PF
1.5	$\pm 5$	30	7.96	85	0.85	370	NLV32T-1R5J-PF
1.8	$\pm 5$	30	7.96	80	0.9	350	NLV32T-1R8J-PF
2.2	$\pm 5$	30	7.96	75	1	320	NLV32T-2R2J-PF
2.7	$\pm 5$	30	7.96	70	1.1	290	NLV32T-2R7J-PF
3.3	$\pm 5$	30	7.96	60	1.2	260	NLV32T-3R3J-PF
3.9	$\pm 5$	30	7.96	55	1.3	250	NLV32T-3R9J-PF
4.7	$\pm 5$	30	7.96	50	1.5	220	NLV32T-4R7J-PF
5.6	$\pm 5$	30	7.96	45	1.6	200	NLV32T-5R6J-PF
6.8	$\pm 5$	30	7.96	40	1.8	180	NLV32T-6R8J-PF
8.2	$\pm 5$	30	7.96	35	2	170	NLV32T-8R2J-PF
10	$\pm 5$	30	2.52	30	2.1	150	NLV32T-100J-PF
12	$\pm 5$	30	2.52	20	2.5	140	NLV32T-120J-PF
15	$\pm 5$	30	2.52	20	2.8	130	NLV32T-150J-PF
18	$\pm 5$	30	2.52	20	3.3	120	NLV32T-180J-PF
22	$\pm 5$	30	2.52	20	3.7	110	NLV32T-220J-PF
27	$\pm 5$	30	2.52	20	5	80	NLV32T-270J-PF
33	$\pm 5$	30	2.52	17	5.6	70	NLV32T-330J-PF
39	$\pm 5$	30	2.52	16	6.4	65	NLV32T-390J-PF
47	$\pm 5$	30	2.52	15	7	60	NLV32T-470J-PF
56	$\pm 5$	30	2.52	13	8	55	NLV32T-560J-PF
68	$\pm 5$	30	2.52	12	9	50	NLV32T-680J-PF
82	$\pm 5$	30	2.52	11	10	45	NLV32T-820J-PF
100	$\pm 5$	20	0.796	10	10	40	NLV32T-101J-PF
120	$\pm 5$	20	0.796	10	11	70	NLV32T-121J-PF
150	$\pm 5$	20	0.796	8	15	65	NLV32T-151J-PF
180	$\pm 5$	20	0.796	7	17	60	NLV32T-181J-PF
220	$\pm 5$	20	0.796	7	21	50	NLV32T-221J-PF
270	$\pm 5$	20	0.796	6	28	45	NLV32T-271J-PF
330	$\pm 5$	20	0.796	5	34	40	NLV32T-331J-PF
390	$\pm 5$	20	0.796	5	36	35	NLV32T-391J-PF
470	$\pm 5$	20	0.796	4	40	25	NLV32T-471J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20 $^{\circ}$ C)之数值间的最小值

Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

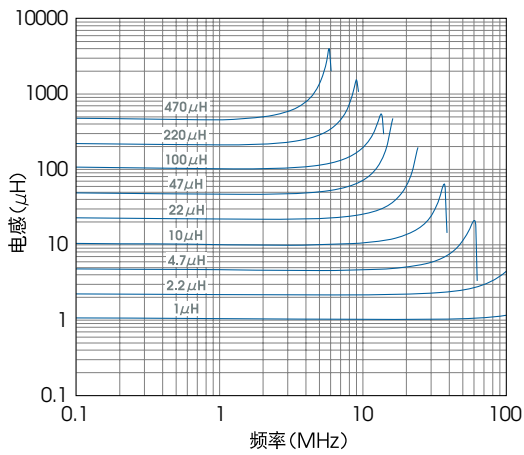
SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter

个别产品数据



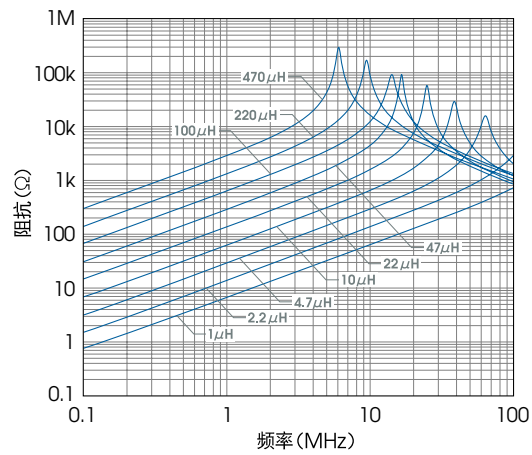
电感频率特性例

HP 4194A



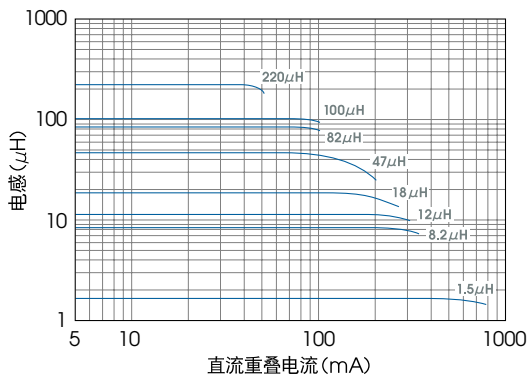
阻抗频率特性例

HP 4194A



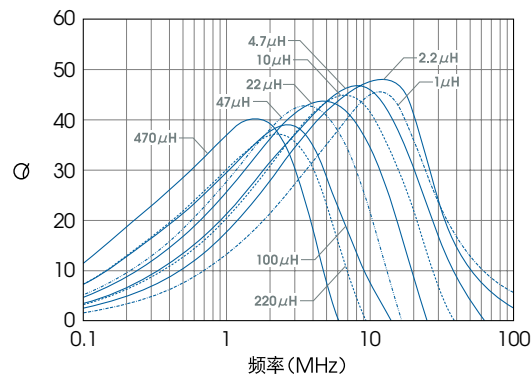
电感直流重叠特性例

HP 4194A



Q频率特性例

HP 4194A

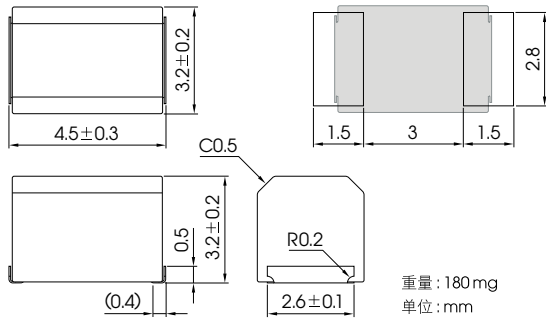


Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



形状·尺寸/推荐焊盘图形(回流焊)



NL453232  
series



电气特性例 1~100 μH

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
1	±5	50	7.96	100	0.5	450	NL453232T-1R0J-PF
1.2	±5	50	7.96	80	0.55	430	NL453232T-1R2J-PF
1.5	±5	50	7.96	70	0.6	410	NL453232T-1R5J-PF
1.8	±5	50	7.96	60	0.65	390	NL453232T-1R8J-PF
2.2	±5	50	7.96	55	0.7	380	NL453232T-2R2J-PF
2.7	±5	50	7.96	50	0.75	370	NL453232T-2R7J-PF
3.3	±5	50	7.96	45	0.8	355	NL453232T-3R3J-PF
3.9	±5	50	7.96	40	0.9	330	NL453232T-3R9J-PF
4.7	±5	50	7.96	35	1	315	NL453232T-4R7J-PF
5.6	±5	50	7.96	33	1.1	300	NL453232T-5R6J-PF
6.8	±5	50	7.96	27	1.2	285	NL453232T-6R8J-PF
8.2	±5	50	7.96	25	1.4	270	NL453232T-8R2J-PF
10	±5	50	2.52	20	1.6	250	NL453232T-100J-PF
12	±5	50	2.52	18	2	225	NL453232T-120J-PF
15	±5	50	2.52	17	2.5	200	NL453232T-150J-PF
18	±5	50	2.52	15	2.8	190	NL453232T-180J-PF
22	±5	50	2.52	13	3.2	180	NL453232T-220J-PF
27	±5	50	2.52	12	3.6	170	NL453232T-270J-PF
33	±5	50	2.52	11	4	160	NL453232T-330J-PF
39	±5	50	2.52	10	4.5	150	NL453232T-390J-PF
47	±5	50	2.52	10	5	140	NL453232T-470J-PF
56	±5	50	2.52	9	5.5	135	NL453232T-560J-PF
68	±5	50	2.52	9	6	130	NL453232T-680J-PF
82	±5	50	2.52	8	7	120	NL453232T-820J-PF
100	±5	40	0.796	8	8	110	NL453232T-101J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer (16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer (Zin=Zout=50Ω) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

## 个别产品数据

# NL453232



## series

电气特性例 120~1000 $\mu$ H

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
120	$\pm 5$	40	0.796	6	8	110	NL453232T-121J-PF
150	$\pm 5$	40	0.796	5	9	105	NL453232T-151J-PF
180	$\pm 5$	40	0.796	5	9.5	102	NL453232T-181J-PF
220	$\pm 5$	40	0.796	4	10	100	NL453232T-221J-PF
270	$\pm 5$	40	0.796	4	12	92	NL453232T-271J-PF
330	$\pm 5$	40	0.796	3.5	14	85	NL453232T-331J-PF
390	$\pm 5$	40	0.796	3	16	80	NL453232T-391J-PF
470	$\pm 5$	40	0.796	3	26	62	NL453232T-471J-PF
560	$\pm 5$	30	0.796	3	30	50	NL453232T-561J-PF
680	$\pm 5$	30	0.796	3	30	50	NL453232T-681J-PF
820	$\pm 5$	30	0.796	2.5	35	30	NL453232T-821J-PF
1000	$\pm 5$	30	0.252	2.5	40	30	NL453232T-102J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20 $^{\circ}$ C)之数值间的最小值

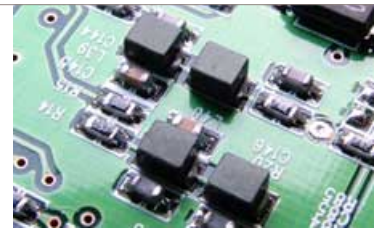
Measuring Instruments

L,Q: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer(Zin=Zout=50 $\Omega$ ) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLHV  
series



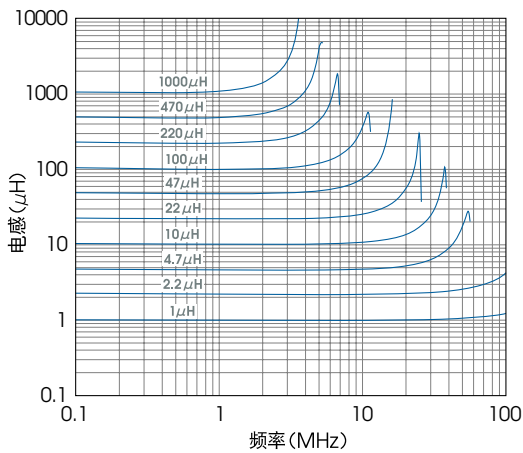
NL453232



series

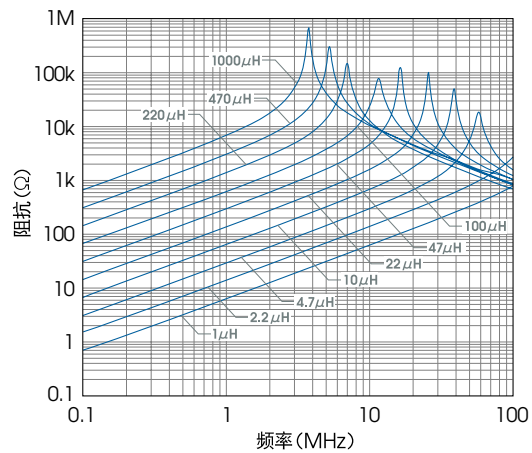
电感频率特性例

HP 4194A



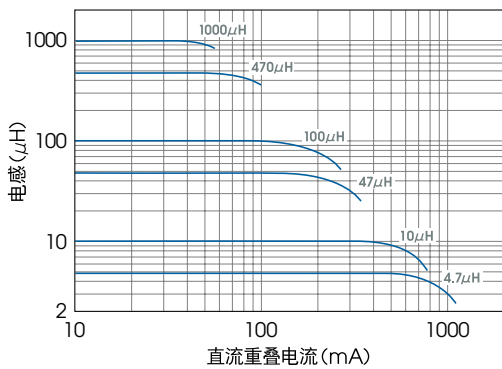
阻抗频率特性例

HP 4194A



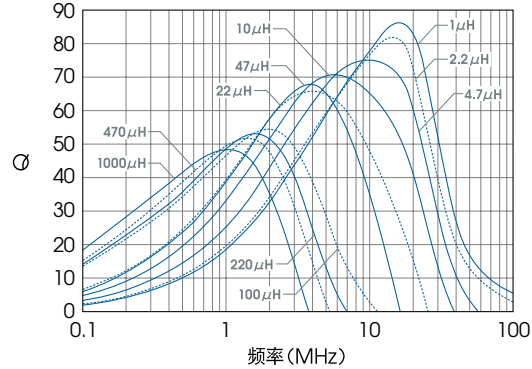
电感直流重叠特性例

HP 4194A



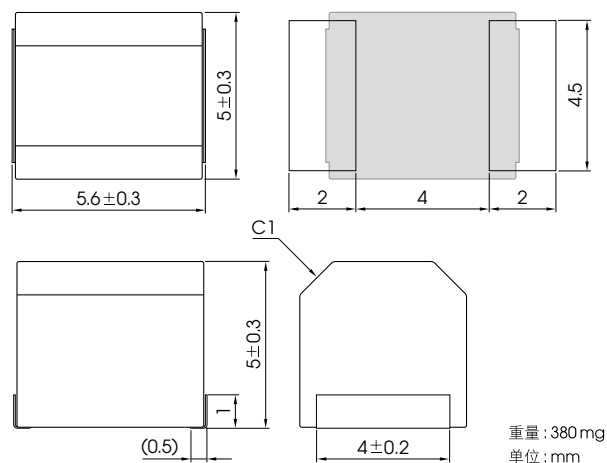
Q频率特性例

HP 4194A

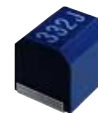


## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



## NL565050 series



### 电气特性例

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
1200	±5	30	0.252	1.5	17	75	NL565050T-122J-PF
1500	±5	30	0.252	1.4	20	70	NL565050T-152J-PF
1800	±5	30	0.252	1.3	30	60	NL565050T-182J-PF
2200	±5	30	0.252	1.2	35	55	NL565050T-222J-PF
2700	±5	30	0.252	1.1	55	45	NL565050T-272J-PF
3300	±5	30	0.252	1	60	40	NL565050T-332J-PF
3900	±5	30	0.252	1	70	38	NL565050T-392J-PF
4700	±5	30	0.252	0.9	78	36	NL565050T-472J-PF
5600	±5	30	0.252	0.8	85	33	NL565050T-562J-PF
6800	±5	30	0.252	0.7	110	30	NL565050T-682J-PF
8200	±5	30	0.252	0.6	125	28	NL565050T-822J-PF
10000	±5	20	0.0796	0.5	150	25	NL565050T-103J-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer (16085A+16093B+TDK TF-1)

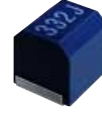
SRF: HP8753C Network analyzer (Zin=Zout=50 $\Omega$ ) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series

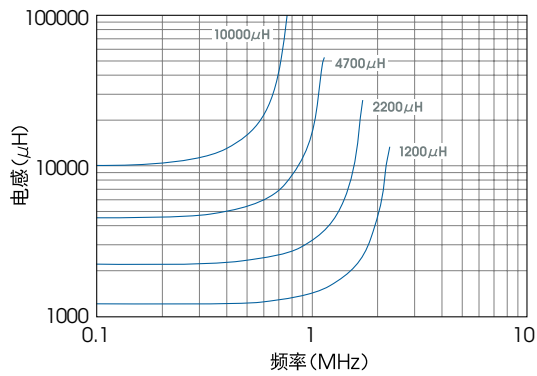


NL565050  
series



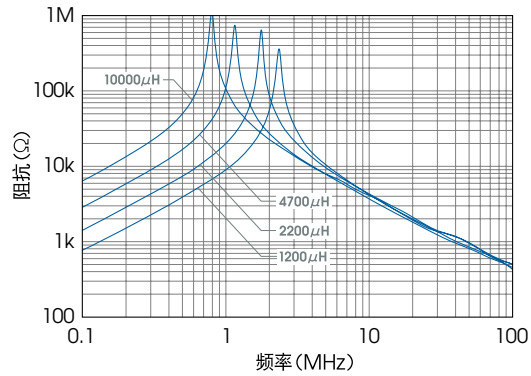
电感频率特性例

HP 4194A



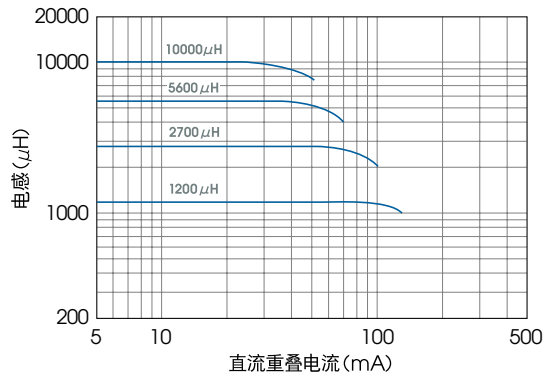
阻抗频率特性例

HP 4194A



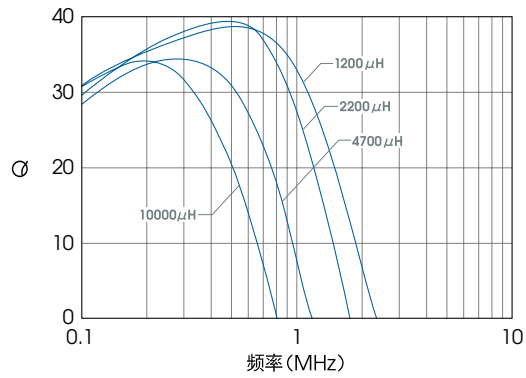
电感直流重叠特性例

HP 4194A



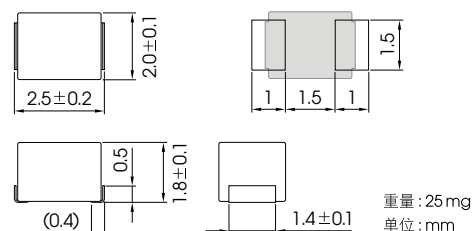
Q频率特性例

HP 4194A



## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



# NLCV25

series



### 电气特性例

电感 ( $\mu\text{H}$ )	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
1	$\pm 20$	20	7.96	200	0.34	475	NLCV25T-1R0M-PF
1.5	$\pm 20$	20	7.96	165	0.42	435	NLCV25T-1R5M-PF
2.2	$\pm 20$	20	7.96	95	0.5	390	NLCV25T-2R2M-PF
3.3	$\pm 20$	20	7.96	55	0.65	340	NLCV25T-3R3M-PF
4.7	$\pm 20$	20	7.96	43	0.8	285	NLCV25T-4R7M-PF
6.8	$\pm 20$	20	7.96	39	1	275	NLCV25T-6R8M-PF
10	$\pm 10$	30	2.52	32	1.69	210	NLCV25T-100K-PF
15	$\pm 10$	30	2.52	21	2.2	175	NLCV25T-150K-PF
22	$\pm 10$	30	2.52	18	2.8	160	NLCV25T-220K-PF
33	$\pm 10$	30	2.52	16	4.2	120	NLCV25T-330K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

Measuring Instruments

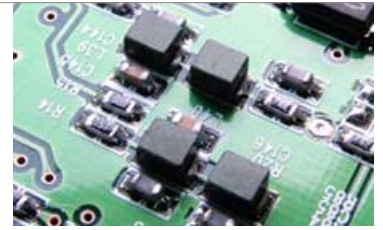
L/Q: HP4194A Impedance/gain-phase analyzer (16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter



Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

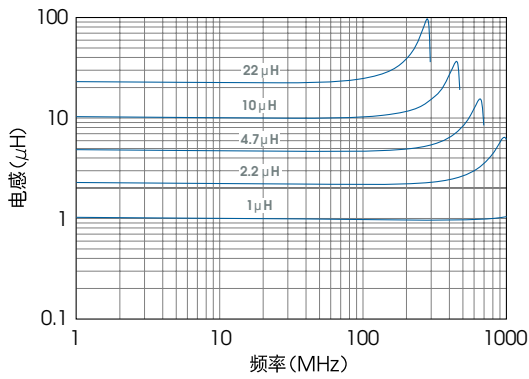
NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



NLCV25  
series

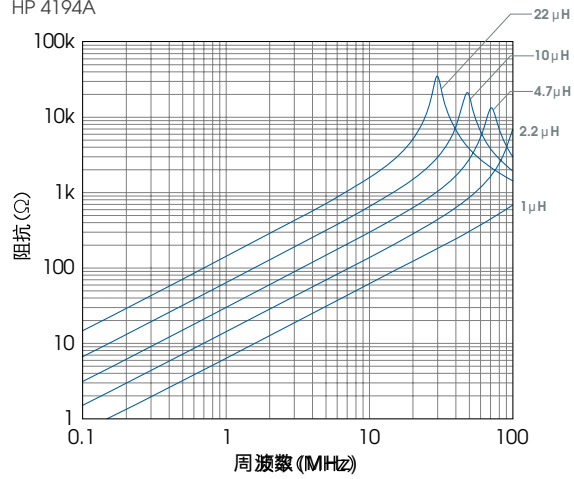
电感频率特性例

HP 4194A



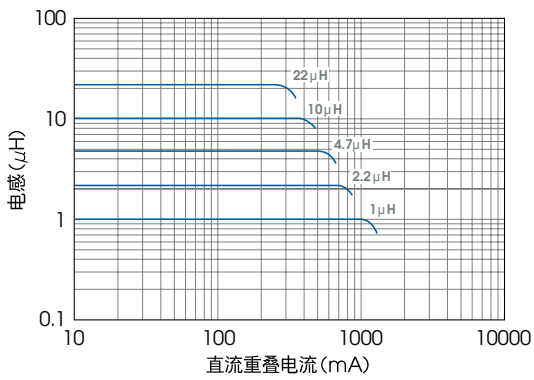
阻抗频率特性例

HP 4194A



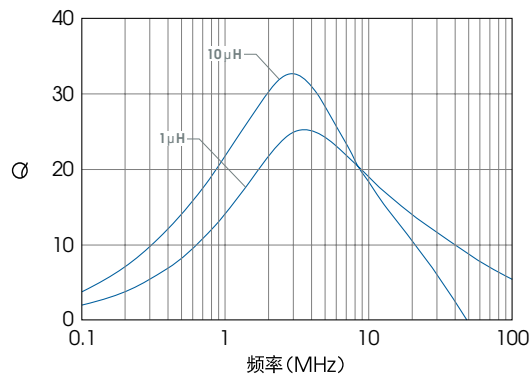
电感直流重叠特性例

HP 4194A



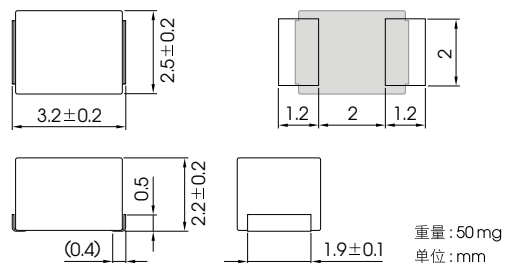
Q频率特性例

HP 4194A



## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



# NLCV32

series



### 电气特性例

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
0.15	±20	5	25.2	400	0.028	1450	NLCV32T-R15M-PF
0.22	±20	5	25.2	250	0.034	1250	NLCV32T-R22M-PF
0.47	±20	5	25.2	150	0.042	1100	NLCV32T-R47M-PF
1	±20	10	7.96	100	0.06	1000	NLCV32T-1R0M-PF
1.5	±20	10	7.96	80	0.11	830	NLCV32T-1R5M-PF
2.2	±20	10	7.96	68	0.13	770	NLCV32T-2R2M-PF
3.3	±20	10	7.96	54	0.16	690	NLCV32T-3R3M-PF
4.7	±20	15	7.96	46	0.2	620	NLCV32T-4R7M-PF
6.8	±20	15	7.96	38	0.27	530	NLCV32T-6R8M-PF
10	±10	15	2.52	30	0.36	450	NLCV32T-100K-PF
15	±10	15	2.52	26	0.56	370	NLCV32T-150K-PF
22	±10	15	2.52	21	0.77	300	NLCV32T-220K-PF
33	±10	15	2.52	17	1.1	240	NLCV32T-330K-PF
47	±10	15	2.52	14	1.64	180	NLCV32T-470K-PF
68	±10	15	2.52	12	2.8	140	NLCV32T-680K-PF
100	±10	15	0.796	10	3.7	120	NLCV32T-101K-PF
150	±10	20	0.796	8	6.1	100	NLCV32T-151K-PF
220	±10	20	0.796	7	8.4	80	NLCV32T-221K-PF
330	±10	20	0.796	6	12.3	70	NLCV32T-331K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

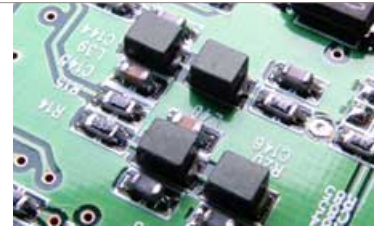
Measuring Instruments

L,Q: HP4194A Impedance analyzer + YHP16085A+YHP16093B+TF-1

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

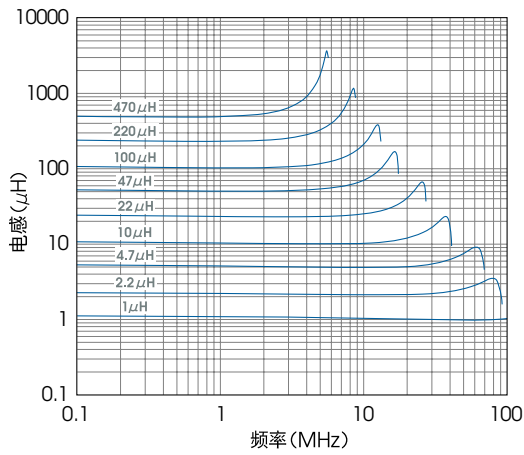
NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



NLCV32  
series

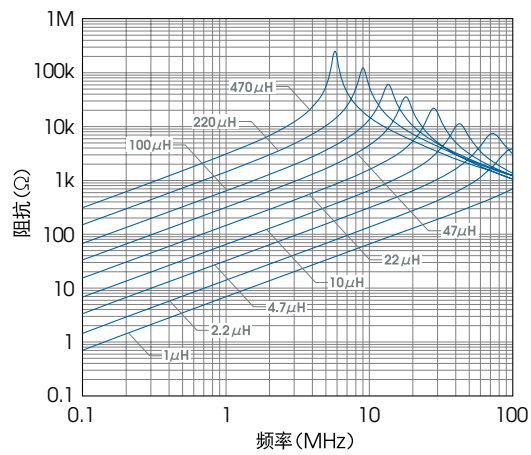
电感频率特性例

HP 4194A



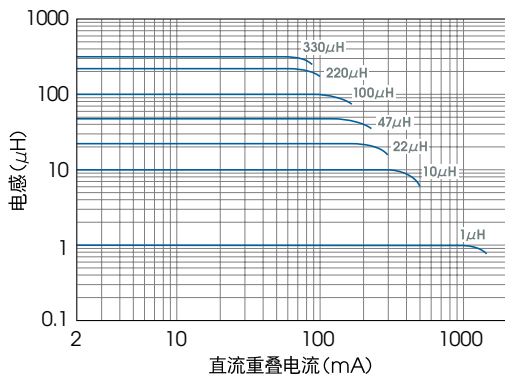
阻抗频率特性例

HP 4194A



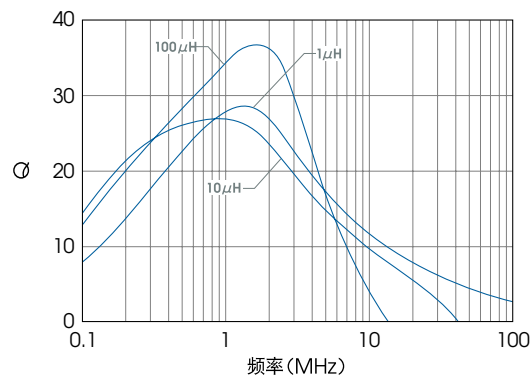
电感直流重叠特性例

HP 4194A



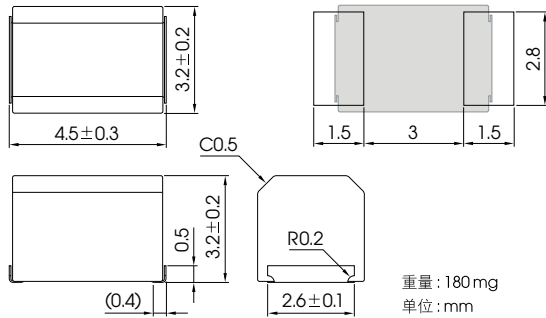
Q频率特性例

HP 4194A



个别产品数据

形状·尺寸/推荐焊盘图形(回流焊)



NLC453232 series



宽广L值范围  
高Q / 低公差  
信号线用  
**NL / NLV**

对应大电流  
扼流圈  
电源线用  
**NLC / NLCV**

低Rdc  
扼流圈  
电源线用  
**NLFC / NLFV**

电气特性例

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
1	±10	10	7.96	200	0.11	1050	<a href="#">NLC453232T-1R0K-PF</a>
1.2	±10	10	7.96	160	0.12	1000	<a href="#">NLC453232T-1R2K-PF</a>
1.5	±10	10	7.96	130	0.15	950	<a href="#">NLC453232T-1R5K-PF</a>
1.8	±10	10	7.96	100	0.16	900	<a href="#">NLC453232T-1R8K-PF</a>
2.2	±10	10	7.96	80	0.18	850	<a href="#">NLC453232T-2R2K-PF</a>
2.7	±10	10	7.96	60	0.2	800	<a href="#">NLC453232T-2R7K-PF</a>
3.3	±10	10	7.96	45	0.22	750	<a href="#">NLC453232T-3R3K-PF</a>
3.9	±10	10	7.96	40	0.24	700	<a href="#">NLC453232T-3R9K-PF</a>
4.7	±10	10	7.96	35	0.27	650	<a href="#">NLC453232T-4R7K-PF</a>
5.6	±10	10	7.96	30	0.3	650	<a href="#">NLC453232T-5R6K-PF</a>
6.8	±10	10	7.96	28	0.35	600	<a href="#">NLC453232T-6R8K-PF</a>
8.2	±10	10	7.96	25	0.4	600	<a href="#">NLC453232T-8R2K-PF</a>
10	±10	10	2.52	22	0.5	550	<a href="#">NLC453232T-100K-PF</a>
12	±10	10	2.52	21	0.6	500	<a href="#">NLC453232T-120K-PF</a>
15	±10	10	2.52	20	0.7	450	<a href="#">NLC453232T-150K-PF</a>
18	±10	10	2.52	19	0.8	400	<a href="#">NLC453232T-180K-PF</a>
22	±10	10	2.52	18	0.9	370	<a href="#">NLC453232T-220K-PF</a>
27	±10	10	2.52	16	1.2	330	<a href="#">NLC453232T-270K-PF</a>
33	±10	10	2.52	14	1.4	300	<a href="#">NLC453232T-330K-PF</a>
39	±10	10	2.52	12	1.6	280	<a href="#">NLC453232T-390K-PF</a>
47	±10	10	2.52	11.5	1.9	260	<a href="#">NLC453232T-470K-PF</a>
56	±10	10	2.52	11	2.2	240	<a href="#">NLC453232T-560K-PF</a>
68	±10	10	2.52	10	2.6	220	<a href="#">NLC453232T-680K-PF</a>
82	±10	10	2.52	9	3.5	200	<a href="#">NLC453232T-820K-PF</a>
100	±10	20	0.796	8	4	180	<a href="#">NLC453232T-101K-PF</a>
120	±10	20	0.796	7.5	4.5	160	<a href="#">NLC453232T-121K-PF</a>
150	±10	20	0.796	7	6.5	140	<a href="#">NLC453232T-151K-PF</a>
180	±10	20	0.796	6.5	7.5	120	<a href="#">NLC453232T-181K-PF</a>
220	±10	20	0.796	5.5	9	120	<a href="#">NLC453232T-221K-PF</a>
270	±10	20	0.796	5	11	100	<a href="#">NLC453232T-271K-PF</a>
330	±10	20	0.796	4	13	90	<a href="#">NLC453232T-331K-PF</a>

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

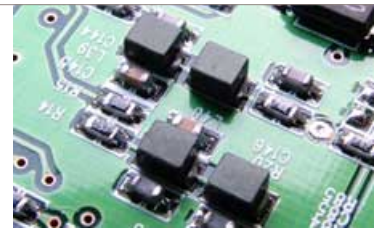
Measuring Instruments

L,Q: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer(Zin=Zout=50Ω) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series

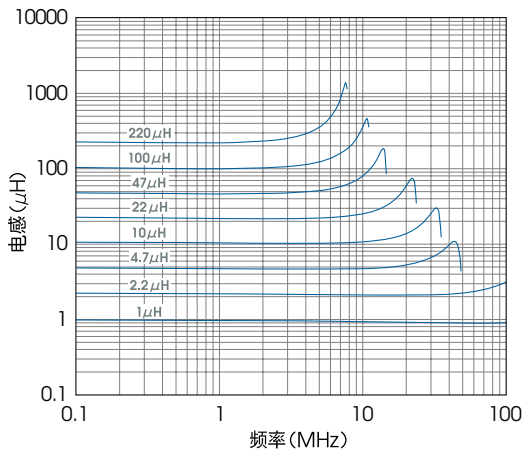


NLC453232  
series



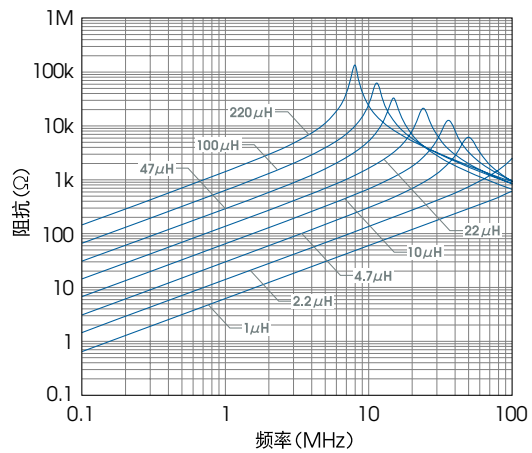
电感频率特性例

HP 4194A



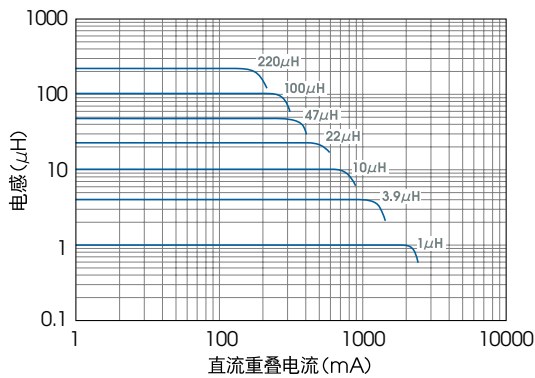
阻抗频率特性例

HP 4194A



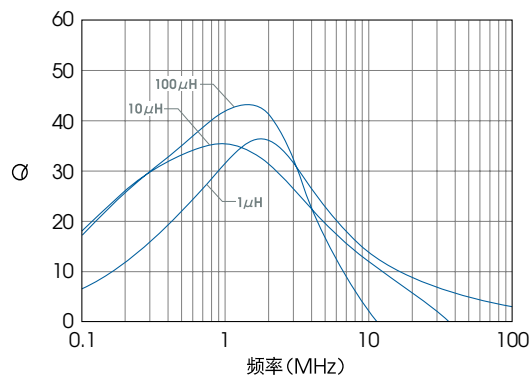
电感直流重叠特性例

HP 4194A



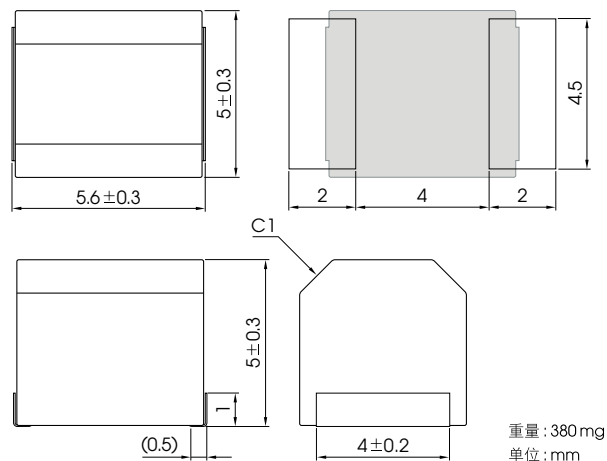
Q频率特性例

HP 4194A



## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



## NLC565050 series



### 电气特性例 1~220 μH

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
1	±10	10	7.96	95	0.03	1800	NLC565050T-1R0K-PF
1.2	±10	10	7.96	70	0.035	1700	NLC565050T-1R2K-PF
1.5	±10	10	7.96	55	0.04	1600	NLC565050T-1R5K-PF
1.8	±10	10	7.96	47	0.05	1400	NLC565050T-1R8K-PF
2.2	±10	10	7.96	42	0.06	1300	NLC565050T-2R2K-PF
2.7	±10	10	7.96	37	0.07	1200	NLC565050T-2R7K-PF
3.3	±10	10	7.96	34	0.08	1120	NLC565050T-3R3K-PF
3.9	±10	10	7.96	32	0.09	1050	NLC565050T-3R9K-PF
4.7	±10	10	7.96	29	0.11	950	NLC565050T-4R7K-PF
5.6	±10	10	7.96	26	0.13	880	NLC565050T-5R6K-PF
6.8	±10	10	7.96	24	0.15	810	NLC565050T-6R8K-PF
8.2	±10	10	7.96	22	0.18	750	NLC565050T-8R2K-PF
10	±10	10	2.52	19	0.21	690	NLC565050T-100K-PF
12	±10	10	2.52	17	0.25	630	NLC565050T-120K-PF
15	±10	10	2.52	16	0.3	580	NLC565050T-150K-PF
18	±10	10	2.52	14	0.36	530	NLC565050T-180K-PF
22	±10	10	2.52	13	0.43	480	NLC565050T-220K-PF
27	±10	10	2.52	11.5	0.52	440	NLC565050T-270K-PF
33	±10	10	2.52	10.5	0.62	400	NLC565050T-330K-PF
39	±10	10	2.52	9.5	0.72	370	NLC565050T-390K-PF
47	±10	10	2.52	8.5	0.85	340	NLC565050T-470K-PF
56	±10	10	2.52	7.8	1	310	NLC565050T-560K-PF
68	±10	10	2.52	7	1.2	290	NLC565050T-680K-PF
82	±10	10	2.52	6.4	1.4	270	NLC565050T-820K-PF
100	±10	20	0.796	6	1.6	250	NLC565050T-101K-PF
120	±10	20	0.796	5.4	1.9	230	NLC565050T-121K-PF
150	±10	20	0.796	4.8	2.2	210	NLC565050T-151K-PF
180	±10	20	0.796	4.4	2.8	190	NLC565050T-181K-PF
220	±10	20	0.796	3.9	3.4	170	NLC565050T-221K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

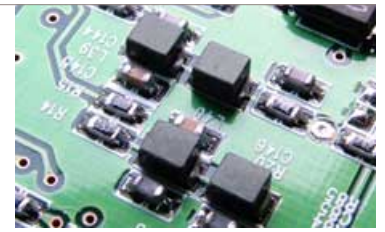
Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer (16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer (Zin=Zout=50Ω) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



NLC565050  
series



电气特性例 270~1000 $\mu$ H

电感 ( $\mu$ H)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
270	$\pm 10$	20	0.796	3.6	4.2	155	NLC565050T-271K-PF
330	$\pm 10$	20	0.796	3.2	4.9	140	NLC565050T-331K-PF
390	$\pm 10$	20	0.796	2.9	5.8	130	NLC565050T-391K-PF
470	$\pm 10$	20	0.796	2.6	7	120	NLC565050T-471K-PF
560	$\pm 10$	20	0.796	2.4	8.5	110	NLC565050T-561K-PF
680	$\pm 10$	20	0.796	2.2	10	100	NLC565050T-681K-PF
820	$\pm 10$	20	0.796	2	13	90	NLC565050T-821K-PF
1000	$\pm 10$	20	0.252	1.8	15	85	NLC565050T-102K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20 $^{\circ}$ C)之数值间的最小值

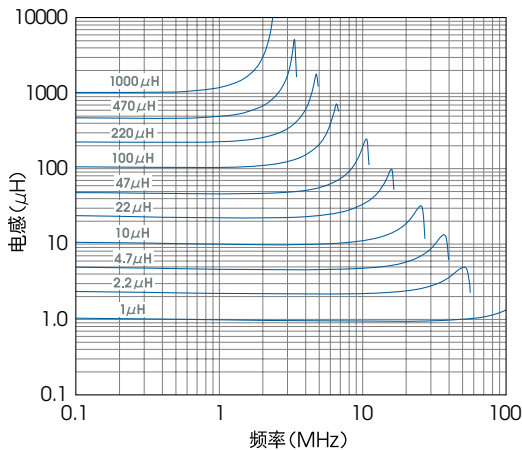
Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer(Zin=Zout=50 $\Omega$ ) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

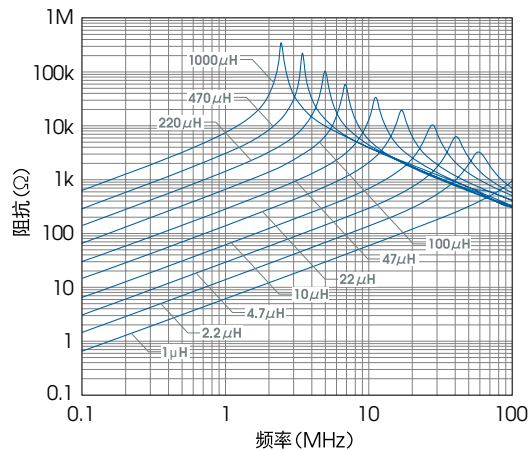
电感频率特性例

HP 4194A



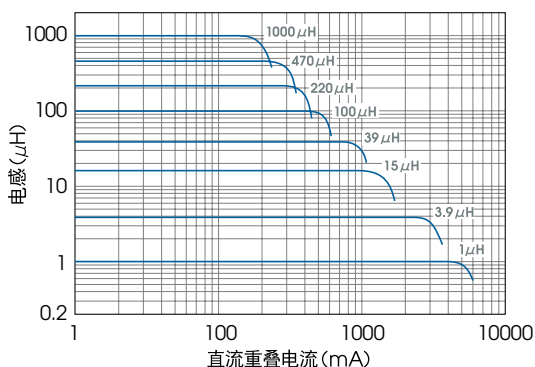
阻抗频率特性例

HP 4194A



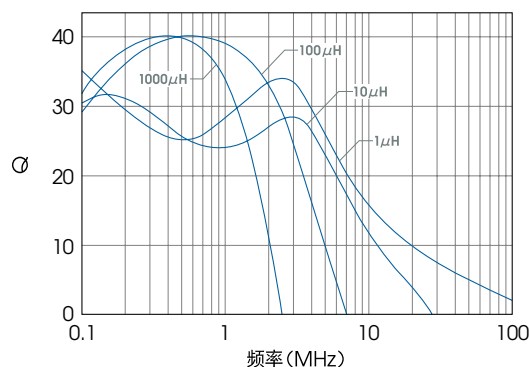
电感直流重叠特性例

HP 4194A



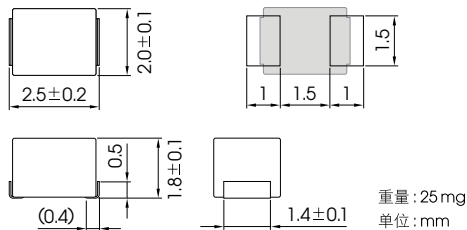
Q频率特性例

HP 4194A



## 个别产品数据

### 形状·尺寸/推荐焊盘图形(回流焊)



# NLFV25

series



### 电气特性例

电感 ( $\mu\text{H}$ )	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 ( $\Omega$ ) max.	额定电流* (mA) max.	品名
1	$\pm 20$	5	7.96	100	0.07	455	NLFV25T-1R0M-PF
1.5	$\pm 20$	5	7.96	80	0.09	350	NLFV25T-1R5M-PF
2.2	$\pm 20$	5	7.96	70	0.1	315	NLFV25T-2R2M-PF
3.3	$\pm 20$	5	7.96	55	0.2	280	NLFV25T-3R3M-PF
4.7	$\pm 20$	5	7.96	45	0.24	210	NLFV25T-4R7M-PF
6.8	$\pm 20$	5	7.96	38	0.29	175	NLFV25T-6R8M-PF
10	$\pm 10$	10	2.52	32	0.36	155	NLFV25T-100K-PF
15	$\pm 10$	10	2.52	28	0.75	130	NLFV25T-150K-PF
22	$\pm 10$	10	2.52	16	1	105	NLFV25T-220K-PF
33	$\pm 10$	10	2.52	14	1.4	85	NLFV25T-330K-PF
47	$\pm 10$	10	2.52	11	1.7	60	NLFV25T-470K-PF
68	$\pm 10$	10	2.52	10	3.3	50	NLFV25T-680K-PF
100	$\pm 10$	10	0.796	8	4	40	NLFV25T-101K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20°C)之数值间的最小值

Measuring Instruments

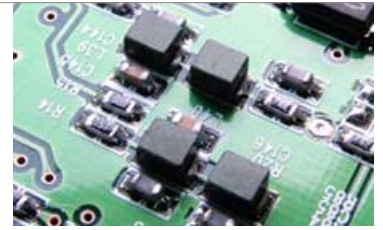
LQ: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer Rdc: MATSUSHITA VP-2941A Digital milliohm meter



Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

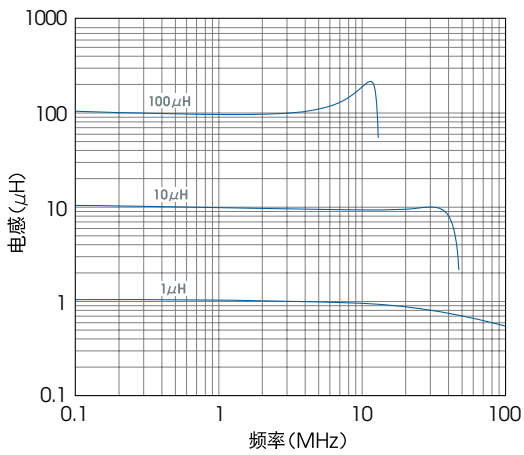
NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series



NLFV25  
series

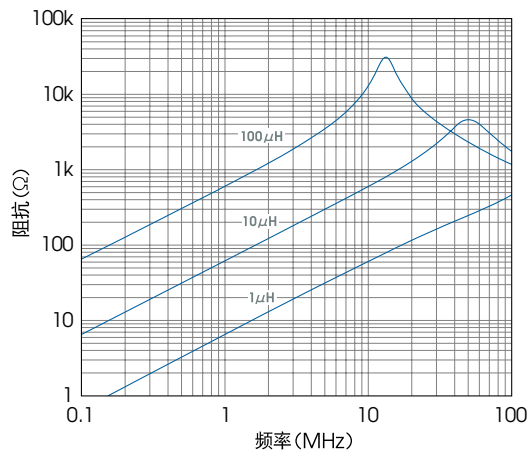
电感频率特性例

HP 4194A



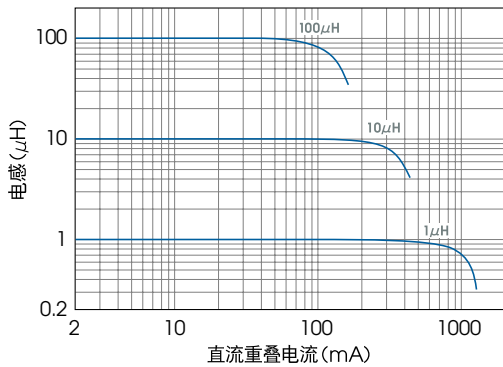
阻抗频率特性例

HP 4194A



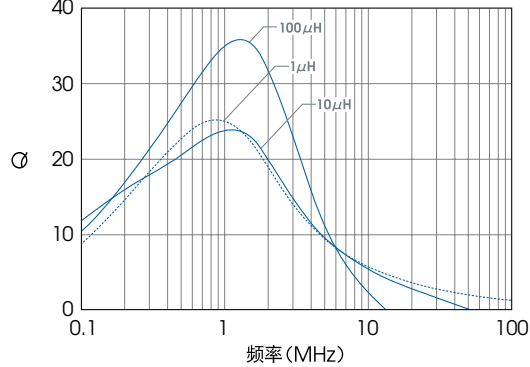
电感直流重叠特性例

HP 4194A



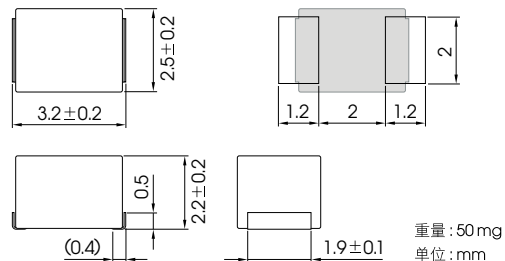
Q频率特性例

HP 4194A



个别产品数据

形状·尺寸/推荐焊盘图形(回流焊)



NLFC322522  
series



电气特性例

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
1	±20	5	7.96	100	0.06	500	NLFC322522T-1R0M-PF
1.5	±20	5	7.96	80	0.08	400	NLFC322522T-1R5M-PF
2.2	±20	5	7.96	68	0.09	340	NLFC322522T-2R2M-PF
3.3	±20	5	7.96	54	0.11	270	NLFC322522T-3R3M-PF
4.7	±20	5	7.96	46	0.13	240	NLFC322522T-4R7M-PF
6.8	±20	5	7.96	38	0.17	195	NLFC322522T-6R8M-PF
10	±10	10	2.52	30	0.26	165	NLFC322522T-100K-PF
15	±10	10	2.52	26	0.32	145	NLFC322522T-150K-PF
22	±10	10	2.52	21	0.5	115	NLFC322522T-220K-PF
33	±10	10	2.52	17	0.75	95	NLFC322522T-330K-PF
47	±10	10	2.52	14	0.95	85	NLFC322522T-470K-PF
68	±10	10	2.52	12	1.5	70	NLFC322522T-680K-PF
100	±10	10	0.796	10	2.5	55	NLFC322522T-101K-PF
150	±10	10	0.796	8	3.2	45	NLFC322522T-151K-PF
220	±10	10	0.796	7	5.4	35	NLFC322522T-221K-PF
330	±10	10	0.796	5	7	30	NLFC322522T-331K-PF
470	±10	10	0.796	4	16	25	NLFC322522T-471K-PF
680	±10	10	0.796	3	20	20	NLFC322522T-681K-PF
1000	±10	10	0.252	2.4	24	15	NLFC322522T-102K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20℃)之数值间的最小值

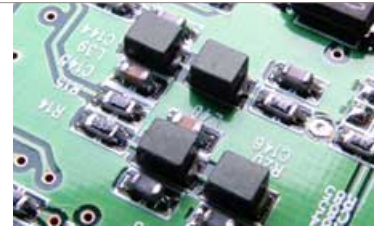
Measuring Instruments

L,Q: HP4194A Impedance/gain-phase analyzer(16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer (Zin=Zout=50Ω) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLFV  
series

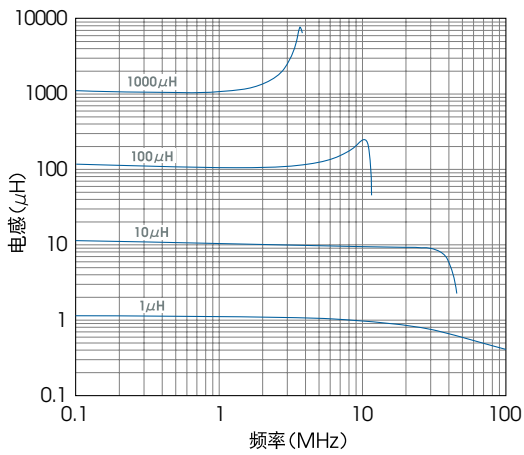


NLFC322522  
series



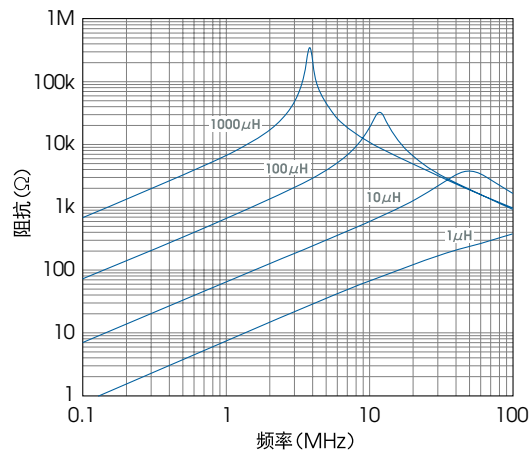
电感频率特性例

HP 4194A



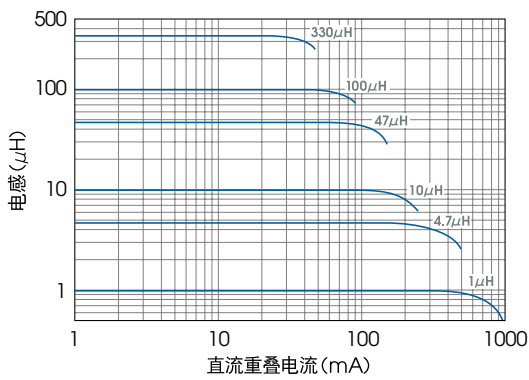
阻抗频率特性例

HP 4194A



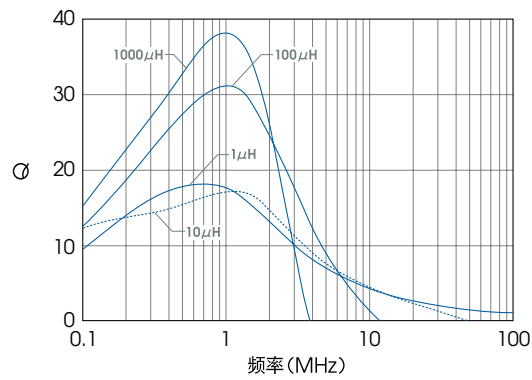
电感直流重叠特性例

HP 4194A



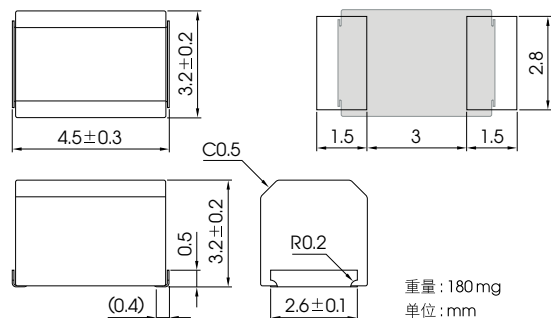
Q频率特性例

HP 4194A



个别产品数据

形状·尺寸/推荐焊盘图形(回流焊)



NLFC453232 series



宽广L值范围  
高Q / 低公差  
信号线用  
**NL / NLV**

对应大电流  
扼流圈  
电源线用  
**NLC / NLCV**

低Rdc  
扼流圈  
电源线用  
**NLFC / NLFV**

电气特性例

电感 (μH)	电感公差 (%)	Q min.	L/Q测定频率 (MHz)	自振频率 (MHz) min.	直流电阻 (Ω) max.	额定电流* (mA) max.	品名
1	±20	10	7.96	200	0.05	800	NLFC453232T-1R0M-PF
1.5	±20	10	7.96	130	0.06	700	NLFC453232T-1R5M-PF
2.2	±20	10	7.96	80	0.07	600	NLFC453232T-2R2M-PF
3.3	±20	10	7.96	45	0.09	460	NLFC453232T-3R3M-PF
4.7	±20	10	7.96	35	0.1	400	NLFC453232T-4R7M-PF
6.8	±20	10	7.96	28	0.14	300	NLFC453232T-6R8M-PF
10	±10	10	2.52	22	0.21	250	NLFC453232T-100K-PF
15	±10	10	2.52	20	0.3	200	NLFC453232T-150K-PF
22	±10	10	2.52	18	0.46	170	NLFC453232T-220K-PF
33	±10	10	2.52	14	0.63	140	NLFC453232T-330K-PF
47	±10	10	2.52	11.5	0.85	120	NLFC453232T-470K-PF
68	±10	10	2.52	10	1.2	100	NLFC453232T-680K-PF
100	±10	10	0.796	8	1.	90	NLFC453232T-101K-PF
150	±10	10	0.796	7	2.3	65	NLFC453232T-151K-PF
220	±10	10	0.796	5.5	3.8	55	NLFC453232T-221K-PF
330	±10	10	0.796	4	6	45	NLFC453232T-331K-PF

\* 额定电流: 采用基于电感变化率(较标称电感值低10%)和基于温度上升(因自我发热使温度上升20℃)之数值间的最小值

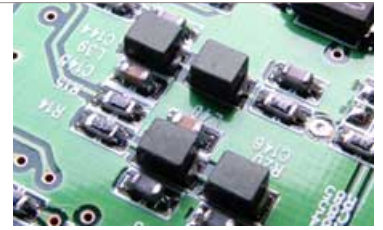
Measuring Instruments

LQ: HP4194A Impedance/gain-phase analyzer (16085A+16093B+TDK TF-1)

SRF: HP8753C Network analyzer (Zin=Zout=50Ω) Rdc: MATSUSHITA VP-2941A Digital milliohm meter

Wire-wound Surface Mount Small Inductors  
For Signal Lines And DC Power Lines

NL/NLV, NLC/NLCV,  
NLFC/NLHV  
series

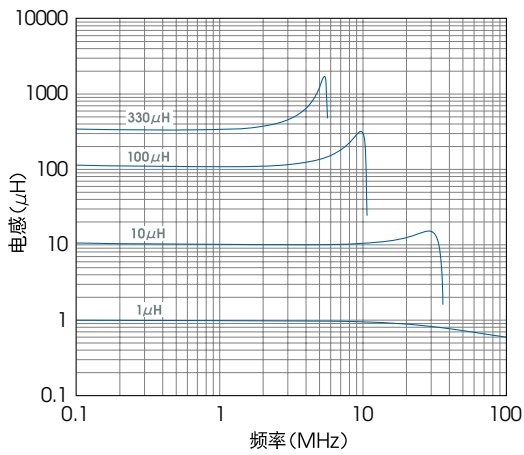


# NLFC453232 series



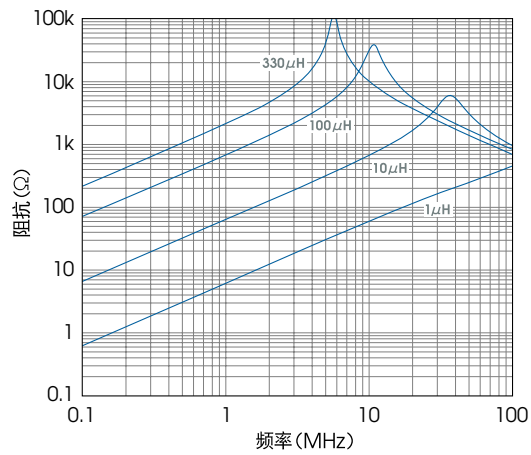
## 电感频率特性例

HP 4194A



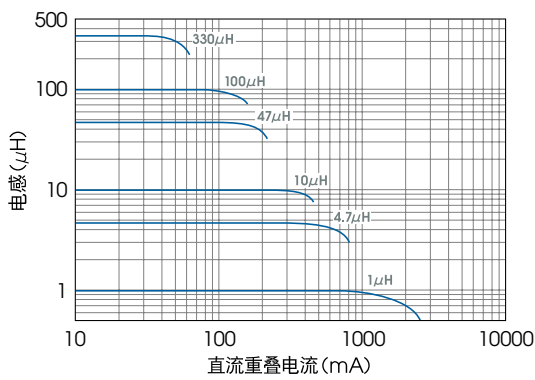
## 阻抗频率特性例

HP 4194A



## 电感直流重叠特性例

HP 4194A



## Q频率特性例

HP 4194A

