

## 测试报告

No. CANEC2005721502

日期: 2020年05月06日 第1页,共10页

威迪电子(东莞)有限公司

中国东莞市寮步镇新旧围龙泉工业区

以下测试之样品是由申请者所提供及确认: 金属膜电容器

SGS工作编号: CP20-017861 - SZ

型号: MPP

客户参考信息: MEF, MEM, MPM, PEN, MPH, MEH, PPN, MPPS, MTF, MTP, PSM, MMS, MPJ, EMPP, EMPE, TMPE, FMPE, DMPE, DMPP, PEM, PEI, PPI, TMPE, TMPP, EPEM, MPEM

料号: MPP

样品接收日期: 2020年04月23日

测试周期: 2020年04月23日 - 2020年04月28日

测试要求: 根据客户要求测试

测试方法: 请参见下一页

测试结果: 请参见下一页

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸酯(如邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苄酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的测试结果符合欧盟RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863的限值要求。

通标标准技术服务有限公司广州分公司  
授权签名

史丽兰

Violet, Shi 史丽兰  
批准签署人



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测试结果:

### 测试样品描述:

样品编号	SGS样品ID	描述
SN1	CAN20-057215.001	带黄色印字的红色物料
SN2	CAN20-057215.002	带灰色表层的无色透明膜
SN3	CAN20-057215.003	银色金属
SN4	CAN20-057215.004	银色金属
SN5	CAN20-057215.005	"金属膜电容器"(混合)

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 方法检测限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

### RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863

测试方法: 参考IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 和 IEC 62321-8:2017, 采用 ICP-OES, UV-Vis 和 GC-MS 进行分析.

测试项目	限值	单位	MDL	001	002
镉 (Cd)	100	mg/kg	2	ND	ND
铅 (Pb)	1,000	mg/kg	2	ND	ND
汞 (Hg)	1,000	mg/kg	2	ND	ND
六价铬(Cr(VI))	1,000	mg/kg	8	ND	ND
多溴联苯之和(PBBs)	1,000	mg/kg	-	ND	ND
一溴联苯	-	mg/kg	5	ND	ND
二溴联苯	-	mg/kg	5	ND	ND
三溴联苯	-	mg/kg	5	ND	ND
四溴联苯	-	mg/kg	5	ND	ND
五溴联苯	-	mg/kg	5	ND	ND
六溴联苯	-	mg/kg	5	ND	ND
七溴联苯	-	mg/kg	5	ND	ND
八溴联苯	-	mg/kg	5	ND	ND
九溴联苯	-	mg/kg	5	ND	ND
十溴联苯	-	mg/kg	5	ND	ND
多溴二苯醚之和(PBDEs)	1,000	mg/kg	-	ND	ND



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测试项目	限值	单位	MDL	001	002
一溴二苯醚	-	mg/kg	5	ND	ND
二溴二苯醚	-	mg/kg	5	ND	ND
三溴二苯醚	-	mg/kg	5	ND	ND
四溴二苯醚	-	mg/kg	5	ND	ND
五溴二苯醚	-	mg/kg	5	ND	ND
六溴二苯醚	-	mg/kg	5	ND	ND
七溴二苯醚	-	mg/kg	5	ND	ND
八溴二苯醚	-	mg/kg	5	ND	ND
九溴二苯醚	-	mg/kg	5	ND	ND
十溴二苯醚	-	mg/kg	5	ND	ND
邻苯二甲酸二丁酯 (DBP)	1,000	mg/kg	50	ND	ND
邻苯二甲酸丁苄酯(BBP)	1,000	mg/kg	50	ND	ND
邻苯二甲酸二(2-乙基己基)酯(DEHP)	1,000	mg/kg	50	ND	ND
邻苯二甲酸二异丁酯(DIBP)	1,000	mg/kg	50	ND	ND

备注:

(1)最大允许极限值引用自RoHS指令(EU) 2015/863。IEC 62321系列等同于 EN 62321 系列  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)

(2) 2021年7月22号开始, DEHP, BBP, DBP 和 DIBP的限制适用于医疗器械, 包括体外医疗器械, 监控仪表, 包括工业监测和控制仪器。

(3) DEHP, BBP, DBP 和 DIBP的限制不适用于玩具产品, 因为No.1907/2006附录XVII第51条已对玩具产品中的DEHP, BBP, DBP 和 DIBP含量进行了限制。

**RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863**

测试方法: 参考IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC 62321-7-1:2015, 采用 ICP-OES 和 UV-Vis 进行分析。

测试项目	限值	单位	MDL	003	004
镉 (Cd)	100	mg/kg	2	ND	ND
铅 (Pb)	1,000	mg/kg	2	17	ND
汞 (Hg)	1,000	mg/kg	2	ND	ND
六价铬(Cr(VI))▼	-	µg/cm²	0.10	ND	ND

备注:

(1) 最大允许极限值引用自RoHS指令(EU) 2015/863。  
 IEC 62321系列等同于 EN 62321 系列

[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)



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- (2) ▼=a. 当六价格的浓度高于 $0.13 \mu\text{g}/\text{cm}^2$ 时, 样品为阳性, 即含有六价格;  
 b. 当六价格的浓度为ND(低于 $0.10 \mu\text{g}/\text{cm}^2$ )时, 样品为阴性, 即未检测到六价格;  
 c. 当六价格的浓度介于 $0.10 \mu\text{g}/\text{cm}^2$ 与 $0.13 \mu\text{g}/\text{cm}^2$ 之间时, 无法直接判定是否检测到六价格, 因不同个体的样品表面差异可能会影响测定结果;  
 由于未获知样品的存储条件和生产日期, 样品的六价格测试结果仅能代表测试时样品含六价格的状态。

## 卤素

测试方法: 参考EN 14582:2016, 用 IC 分析。

测试项目	单位	MDL	005
氟 (F)	mg/kg	50	64
氯 (Cl)	mg/kg	50	263
溴 (Br)	mg/kg	50	ND
碘 (I)	mg/kg	50	ND

备注:

备注: 样品的测试是基于申请人要求混合测试, 报告中的混合测试结果不代表其中个别单一材质的含量, 该测试数据仅供参考。

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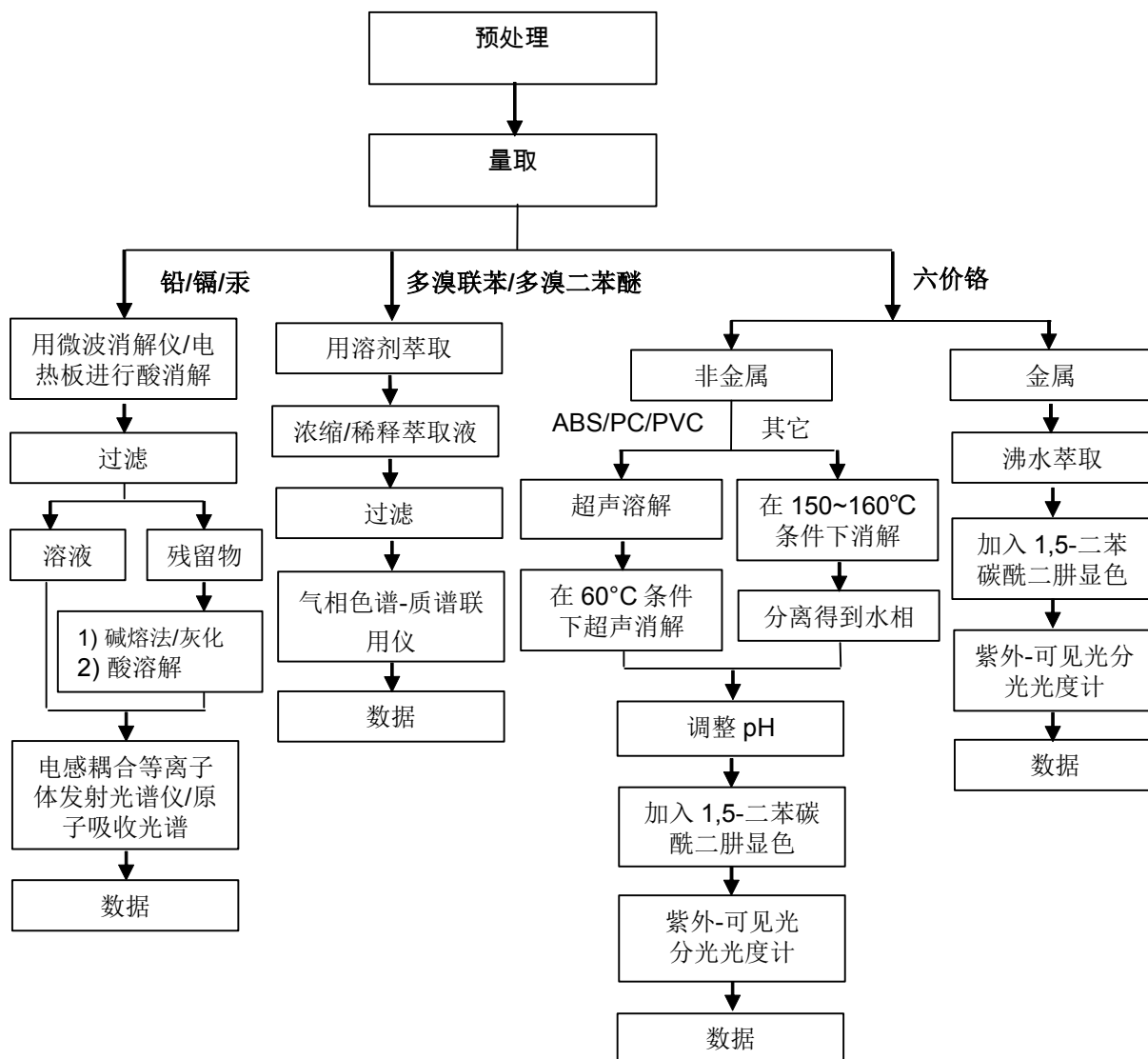
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## 附件

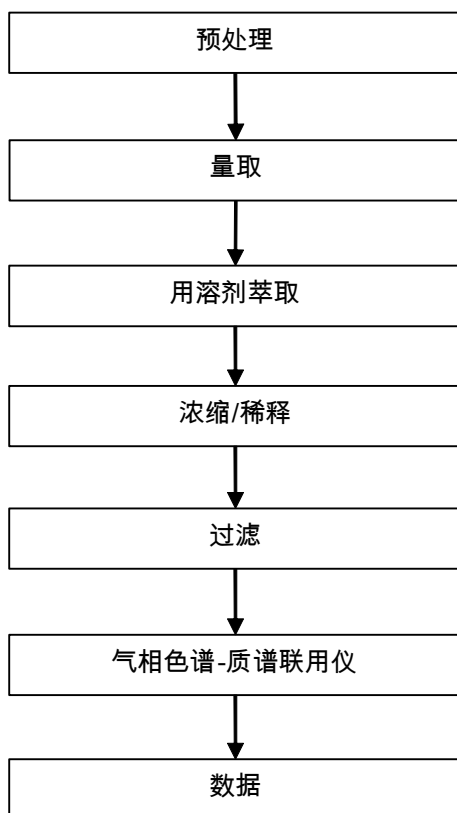
Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs 测试流程图

1) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚测试除外)。



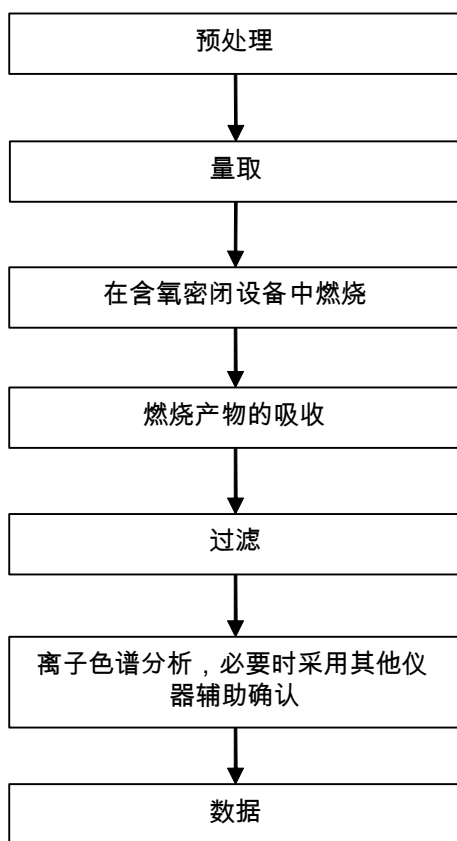
附件

Phthalates 测试流程图



附件

## Halogen 测试流程图

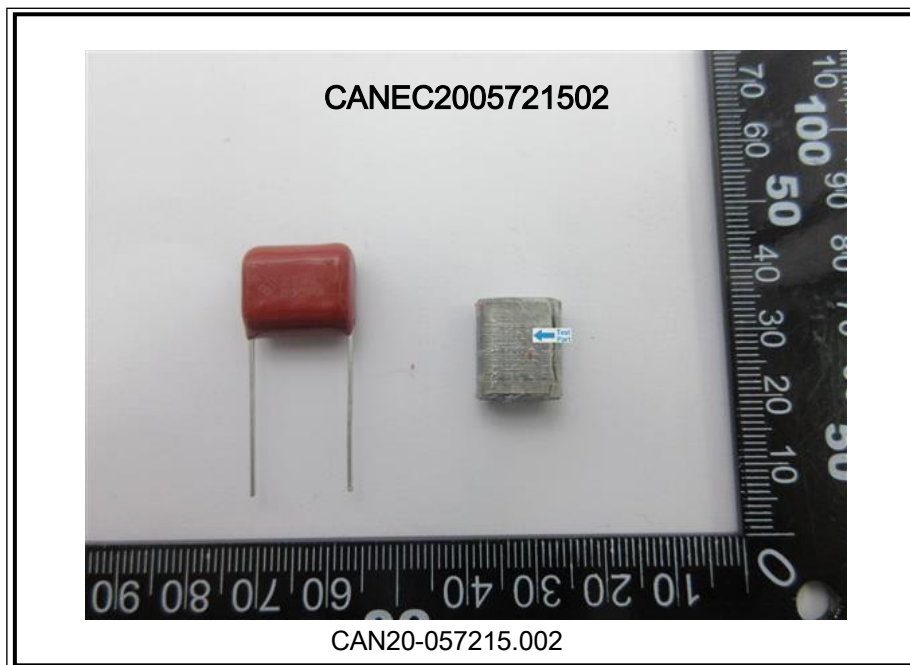
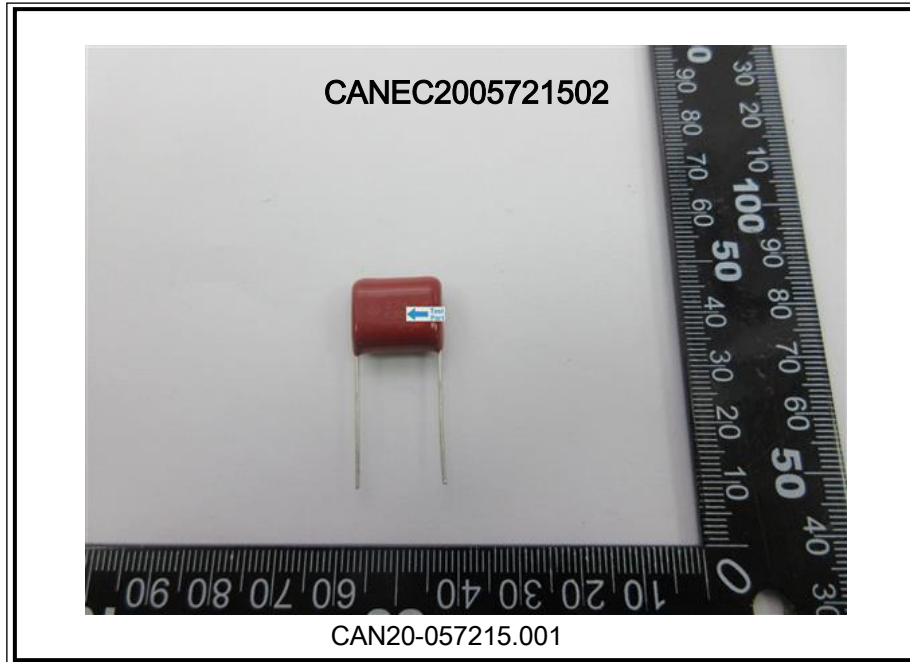


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样品照片:



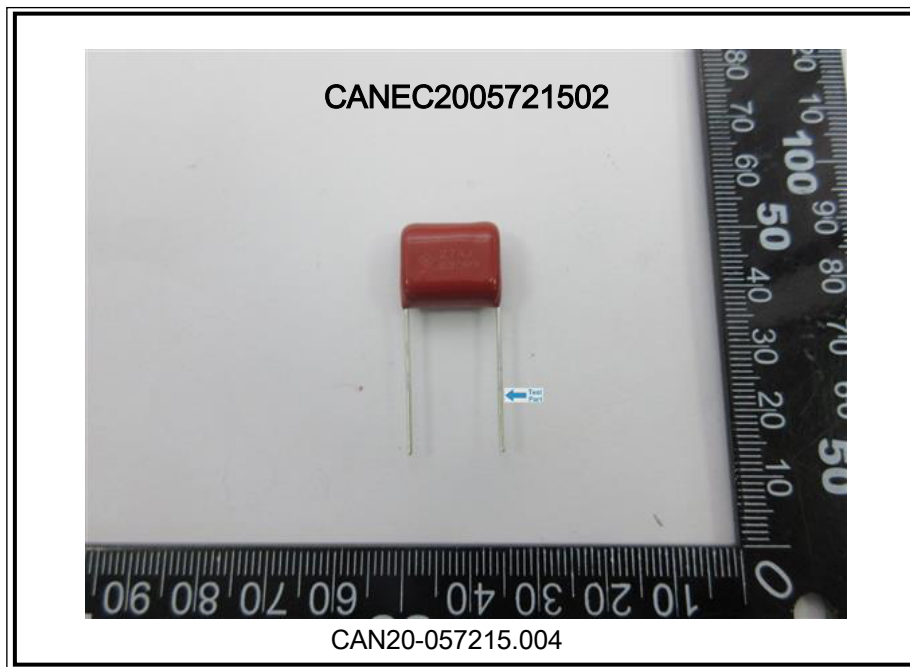
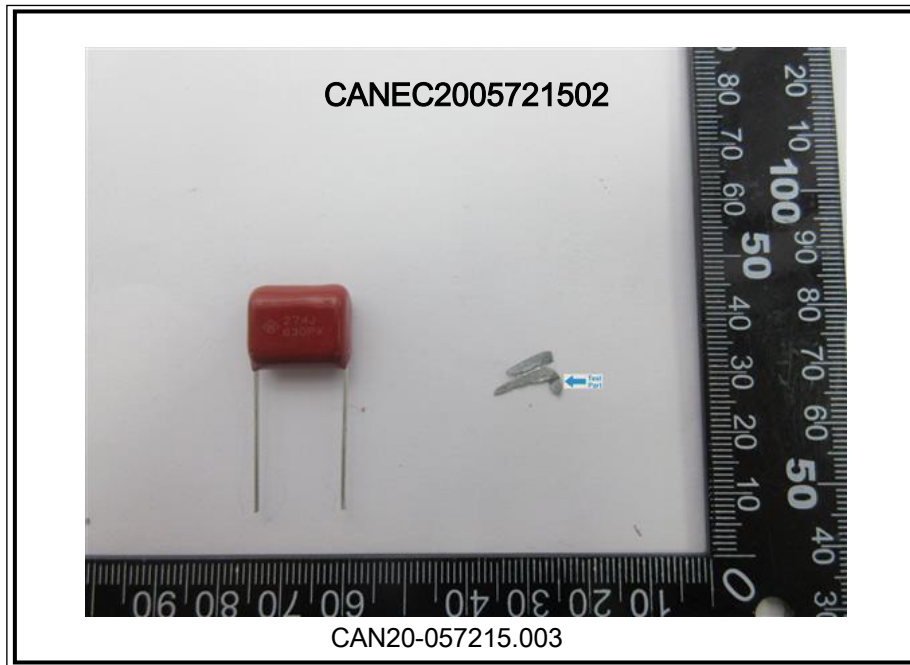
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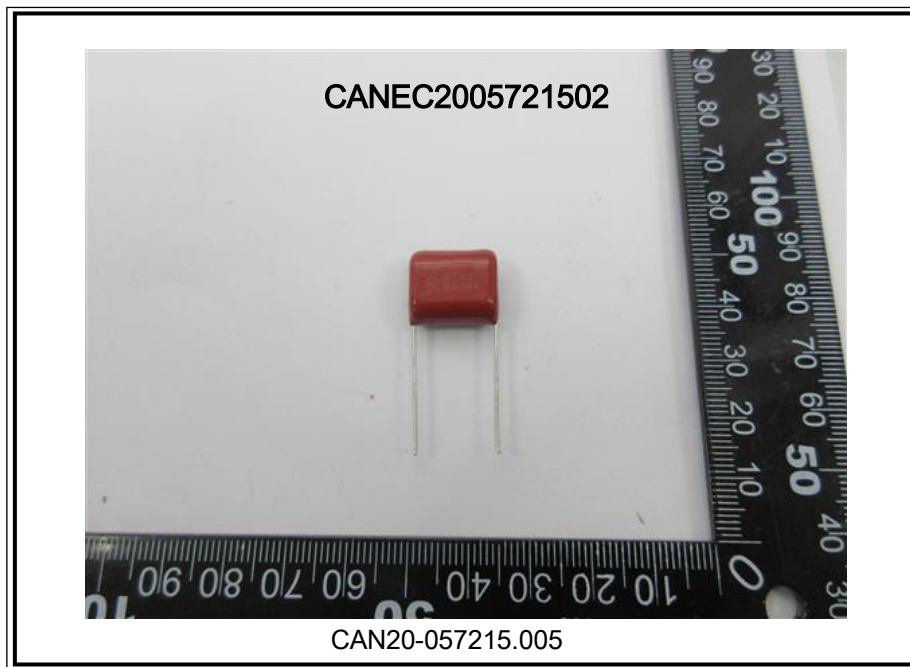
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