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Classification:  New  Change  Renewal

**DIGI-KEY**

# 納入仕様書

## PRODUCT SPECIFICATION FOR INFORMATION

製品名称 : Line Filter  
Product Description

製品品番 : ELF18D2□□□  
Product Part Number

松下品番 : ELF18D2□□□  
Matsushita Part Number

適用(使用機種等) :  
Applications

上記以外の適用に際しては、事前に弊社担当者までご連絡ください。  
For other applications, contact our person signed below.

製造部署 : JAPAN / CHINA / SINGAPORE / INDONESIA  
Manufactured by

本仕様書の有効期間 : 発行日から 2007年4月23日 まで有効とします。  
Term of Validity : April 23, 2007 from the date of issue

### お客様ご使用欄 CUSTOMER USE ONLY

この書類を確かに受領しました。  
This was certainly received by us.

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コイルストラテジックビジネスユニット  
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責任者 Approved	検印 Checked	担当者 Designed
<i>S. Morimoto</i>	<i>T. Oda</i>	<i>T. Morii</i>

1. この製品の使用材料は、「化学物質の審査及び製造等の規制に関する法律」に基づき、すべて既存化学物質として記載されている材料です。

All the materials used in this product are registered material under the Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances.

2. 本製品は、モントリオール議定書で規制されているオゾン層破壊物質(ODC)を製造工程及び購入部品・材料で一切使用していません。

This product has not been manufactured with any ozone depleting chemical controlled under the Montreal Protocol.

3. この製品に使用している全ての材料には、臭素系特定難燃物質「PBBOs、PBBs」を含有しておりません。

All the materials used in this product contain no brominated materials of PBBOs or PBBs as the flame-retardant.

4. 納入仕様書の「有効期間」について  
有効期間は、特に、申し出のない限り(お客様の要望を含み)自動更新とします。  
その際、連絡書・仕様書は、発行致しません。

"The Term of Validity" of Product Specifications for Information  
Unless otherwise requested ( including from customer), the term of validity shall be renewed automatically.

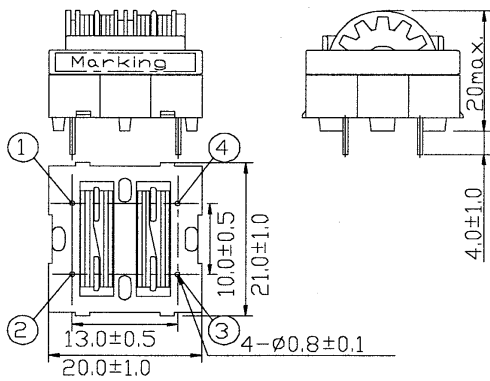
Then , informations and specifications shall be not issued.

# SPECIFICATIONS

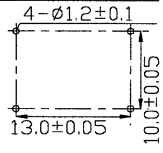
( R 0 )

Name	<b>LINE FILTER</b>	151-ELF18D210
Customer's No	Matsushita Code	
ELF18D2□□□	ELF18D2□□□	1 - 2

**APPEARANCE & DIMENSIONS ( Unit : mm )**



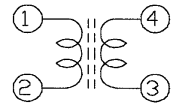
**MOUNTING DETAILS**



**APPLICABLE SAFTY STANDERD (Reference )**

- E.A.M.S Law of Japan (DENKI YOHIN)
- UL 1270, 1409, 1410, 1492, 1950, 6500
- IEC 60065, 60950
- CSA C22.2 Na1, Na950

**CONNECTIONS**



**INSULATION DISTANCE**

- Bobbin Thickness 0.8mm min.
- Base Thickness 0.7mm min.
- Space & Creepage Distance
  - Between Coil & Coil 3.2mm min.
  - Between Coil & Core 2.0mm min.

Wire type · Wire size: Refer to each SPEC  
( 151-ELF18D210 ( 2-2 ) )

**ELECTRICAL CHARACTERISTICS**

- Operating Temperature Range : - 20 to 105 °C ( Including Self-Temperature-Rise )
- Inductance ( L1 & L2 ) : Refer to each Specifications ( 151-ELF18D210 ( 2-2 ) )
- L1 & L2 Difference ( |L1-L2| ) : Refer to each Specifications ( 151-ELF18D210 ( 2-2 ) )
- DC Resistance ( RDC ) : Refer to each Specifications ( 151-ELF18D210 ( 2-2 ) )
- Rated Current ( Ir ) : Refer to each Specifications ( 151-ELF18D210 ( 2-2 ) )
- Rated Voltage : 250 V [ rms ] max. ( 50Hz, 60Hz )
- Temperature-Rise : 45 K max. ( Passing Ir for 3±1h )
- Insulation Resistance ( IR ) : 100MΩ min. ( at DC500V between Coil & Coil and Coil & Core. )
- Withstanding Voltage : Shall withstand AC2000V for 1 minute applied between Coil & Coil and Coil & Core.  
(For manufacture line , apply 120% of specified Voltage for 2 seconds instead of above conditions)
- Moisture Life : Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after stored for 500±6 hours of exposure to 90 to 95% RH at 60±2°C with AC250V loaded between Coil and Coil and left for 1 hour in room conditions.
- Heat Life : Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after stored for 500±6 hours at 85±2°C with AC250V loaded between Coil and Coil and left for 1 hour in room conditions.
- Thermal Shock : Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after 5 cycles of storage at -25±3°C for 30 minutes and 85±2°C for 30 minutes left for 1 hour in room conditions.
- Cold Resistances : Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after stored for 96±4 hours at -25±3°C and left for 1 hour in room conditions.
- Heat Resistance : Change of inductance shall be within ±15% and Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after stored for 96±4 hours at 85±2°C and left for 1 hour in room conditions.
- Moisture Resistance : Change of inductance shall be within ±15% and Appearance, Structure and Withstanding Voltage shall not be remarkably damaged after stored for 96±4 hours exposure to 90 to 95% RH at 60±2°C and left for 1 hour in room conditions.

**MECHANICAL CHARACTERISTICS**

- Vibration Resistance : Appearance and Structure shall have no abnormality after vibration at the frequency varying uniformly between the approximate limits of 10 and 55 Hz and the amplitude of 1.5 mm for 2 hours in each of 3 mutually perpendicular directions.
- Terminal Strength : The terminal shall not be remarkably damaged by pulling and pushing of 10N {about 1.02kgf} for 30±5 seconds in the axis directions.
- Solderability : Solder shall be attached uniformly around the dipped portion after dipping into solder at 230±5°C for 2±0.5 seconds.
- Solder Heat Resistance: The electrical and mechanical characteristics shall not be deteriorated after dipping into solder at 270±5°C for 5±0.5 seconds up to 1.0 to 1.5 mm from attachment surface.

**MARKING**

- Product : Customer's Code ( Refer to each SPEC ) , Date Code of manufacture and Trade Mark ( ⊕ Mark ) shall be indicated.
- Packing : Part Name , Product Code , Quantity and Specified Item shall be indicated.

**CAUTION**

The dropped product shall not be used. Do not input DC-bias to the product.  
There is a risk of safety trouble due to a smoking or deformation if this product is used under the abnormal condition :  
at 2 times of rated current in 2 minutes.

Apr.24.2002

No.	Date	Revisions	Checked	Designed	Approved	Checked	Designed
					<i>G. Yamamoto</i>	<i>T. Oda</i>	<i>T. Iwari</i>

MATSUSHITA ELECTRONIC COMPONENTS CO., LTD.

<b>SPECIFICATIONS</b>		( R 0 ) 151-ELF18D210
Name <b>LINE FILTER</b>		
Customer's No. ELF18D2□□□	Matsushita Code ELF18D2□□□	2 - 2

※ H Series #200 Type

Customer's No.	Matsushita Code	Marking	L1&L2	L1&L2	DCR Resistance Ω (Tolerance±20%) ( at 20°C )	Rated Current A[rms] ( 50Hz ) ( 60Hz )	Reference		Remarks
			mH min.	Difference μH max.			Wire size φ mm	Turns	
			f=1kHz Vosc(rms)=0.1V				2UEW		
ELF18D218	ELF18D218	ELF218	22.0	600	1.564	0.40	0.23	116	
ELF18D210	ELF18D210	ELF210	18.0	550	1.217	0.50	0.25	102	
ELF18D215	ELF18D215	ELF215	15.0	550	1.091	0.50	0.25	96	
ELF18D214	ELF18D214	ELF214	8.2	500	0.574	0.70	0.30	72	
ELF18D225	ELF18D225	ELF225	6.8	300	0.519	0.80	0.30	66	
ELF18D216	ELF18D216	ELF216	3.9	200	0.294	1.00	0.35	50	
ELF18D213	ELF18D213	ELF213	3.3	200	0.266	1.00	0.35	46	
ELF18D219	ELF18D219	ELF219	2.7	150	0.197	1.30	0.40	42	
ELF18D217	ELF18D217	ELF217	1.5	100	0.119	1.60	0.45	32	
ELF18D222F	ELF18D222F	ELF222F	68.0	700	4.024	0.25	0.18	186	
ELF18D235F	ELF18D235F	ELF235F	47.0	600	2.768	0.30	0.20	154	
ELF18D221F	ELF18D221F	ELF221F	33.0	500	1.790	0.40	0.23	128	
ELF18D227F	ELF18D227F	ELF227F	4.7	200	0.294	1.00	0.35	50	
ELF18D228F	ELF18D228F	ELF228F	2.2	100	0.153	1.50	0.40	34	
ELF18D230F	ELF18D230F	ELF230F	1.2	100	0.082	2.00	0.50	26	
ELF18D212F	ELF18D212F	ELF212F	1.0	100	0.067	2.10	0.50	22	

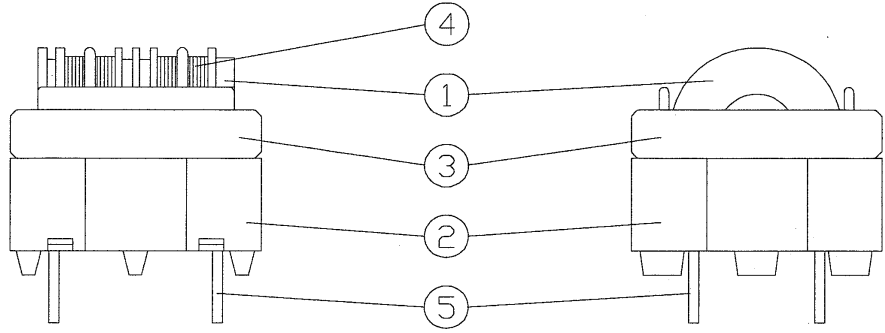
Apr.24.2002

No.	Date	Revisions	Checked	Designed	Approved	Checked	Designed
					<i>S. Minami</i>	<i>T. Oda</i>	<i>T. Minami</i>

MATSUSHITA ELECTRONIC COMPONENTS CO.,LTD.

Classification	<b>SPECIFICATION (MATERIAL)</b>	No.	151-ELF18D20M
Subject	<b>LINE FILTER</b>	Page	1 of 1
		Date	Jul.27.2001

**STRUCTURE**



**MATERIAL LIST**

ITEM	PART NAME	MATERIALS	MANUFACTURE
1	Bobbin	Polypropylene Resin ( 2527 V-0 E50955 )	CHISSO CORP.
2	Base	Phenolic Resin ( PM-8315 V-0 E41429 ) ( PM-9820 V-0 E41429 ) ( CY-9610 V-0 E41404 ) ( F5800F V-0 E46770 )	SUMITOMO BAKELITE CO.,LTD. SUMITOMO BAKELITE CO.,LTD. MATSUSHITA ELECTRIC WORKS LTD. FUDOW CO.,LTD.
3	Core	Ferrite	OPTIONAL
4	Wire	Polyurethane Enameled Copper Wire	DAIICHI DENKO CO.,LTD. RIKEN ELECTRIC WIRE CO.,LTD. TOTOKU ELECTRIC CO.,LTD.. JUNGSHING WIRE CO.,LTD. SUMITOMO ELECTRIC INDUSTRIES LTD. CHANGZHOU ZHONGSHAN WIRE&CABLE CO.,LTD. HITACHI CABLE LTD. etc.
5	Terminal	NLT Plating Copper-Ply-Wire	KYOWA ELECTRIC WIRE CO.,LTD.

**INSULATION DISTANCE**

ITEM		DIMENSIONS
Bobbin Thickness		0.8 mm min.
Base Barrier Thickness		0.7 mm min.
Space or Creepage Distance	Between Coil and Core	2.0 mm min.
	Between Coil and Coil	3.2 mm min.

**WITHSTANDING VOLTAGE**

ITEM	WITHSTAND VOLTAGE
Between Coil and Core	AC 2kV min. for 1 minute.
Between Coil and Coil	

MATSUSHITA ELECTRONIC COMPONENTS CO.,LTD.	Approved <i>S. Morino-020</i>	Checked <i>T. Oda</i>	Design <i>K. Fujikawa</i>
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標準書名 ( Spec. )	納入仕様書 ( 添付資料 ) SPECIFICATION ( Attached )	記号番号 ( No. ) 151-LF-108
品名 ( Name )	ラインフィルタ密番表示方法 LINE FILTER INDICATION METHOD OF DATE CODE	

**1. 完成品 ( Products )**

・製造部署 ( Manufacture )

日本国内 ( 共栄会社 : 橋本電機 ) ..... H  
Domestic ( HASHIMOTO ELECTRIC ) ..... H

海外 ( Overseas )

シンガポール ( Singapore ) / SINCOM ..... G  
インドネシア ( Indonesia ) / SINCOM-BT ..... Q  
中国 ( China ) / WWS ..... W

例 : ( Ex. )

1	1	H	G or Q or W	1	1
↑	↑	↑	↑	↑	↑
'01	1月	製造部署	海外事業所	'01	1月
('01)	(January)	(Manufacture)	(overseas division)	('01)	(January)

・年月表示 ( Date Marking )

月(month)	1	2	3	4	5	6	7	8	9	10	11	12
年(year)												
'00	01	02	03	04	05	06	07	08	09	00	0N	0D
'01	11	12	13	14	15	16	17	18	19	10	1N	1D

**2. 包装箱 ( Packing Case )**

日本国内 ( 共栄会社 : 橋本電機 ) ..... H  
Domestic ( HASHIMOTO ELECTRIC ) ..... H

海外 ( Overseas )

シンガポール ( Singapore ) / SINCOM ..... G  
インドネシア ( Indonesia ) / SINCOM-BT ..... Q  
中国 ( China ) / WWS ..... W

□	□	□	□
年	月	旬	部署
(Year)	(Month)	(Period)	(Manufacture)

□	□	□	□
部署	年	月	旬
(Manufacture)	(Year)	(Month)	(Period)

例 : ( Ex. )

1	1	1	H	G or Q or W	1	1	1
↑	↑	↑	↑	↑	↑	↑	↑
'01	1月	上旬	生産部署	生産部署	'01	1月	上旬
('01)	(January)	(Period)	(Manufacture)	(Manufacture)	('01)	(January)	(Period)

1 : 上旬 ( 1 ~ 10 )	2 : 中旬 ( 11 ~ 20 )	3 : 下旬 ( 21 ~ 末日 )
1 : ( 1 ~ 10 )	2 : ( 11 ~ 20 )	3 : ( 21 ~ END )

備考・改訂 ( Remarks · Revision )

制定 '01年 5月 11日	松下電子部品株式会社 ( Matsushita Electronic Components Co., Ltd. )	責任者 ( Approve )	検印 ( Checked )	担当者 ( Design )
実施 '01年 5月 11日				