

FEATURES 特征

- Terminal structure, high mechanical reliability.
端子结构, 高机械可靠性
- Low profile design makes it optimal for surface mounting.
低高度设计, 适合表面贴装
- Excellent impedance characteristics, making it great for suppressing commonmode noise.
优秀的阻抗特性, 适合抑制共模噪声
- Operating Temp: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including self heating)
工作温度范围: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (包括自身温度上升)



APPLICATIONS 用途

- Measures against common mode noise in power lines for various DC powerlines, multimedia devices, and various electronic devices.
针对各种直流电源线、多媒体设备和各种电子, 设备的电源线共模噪声的措施

PART NUMBERING 产品型号

PACM
9070
-
701
-
F
D5

①
②
③
④
⑤

① Series Name	
PACM	Common Mode Choke

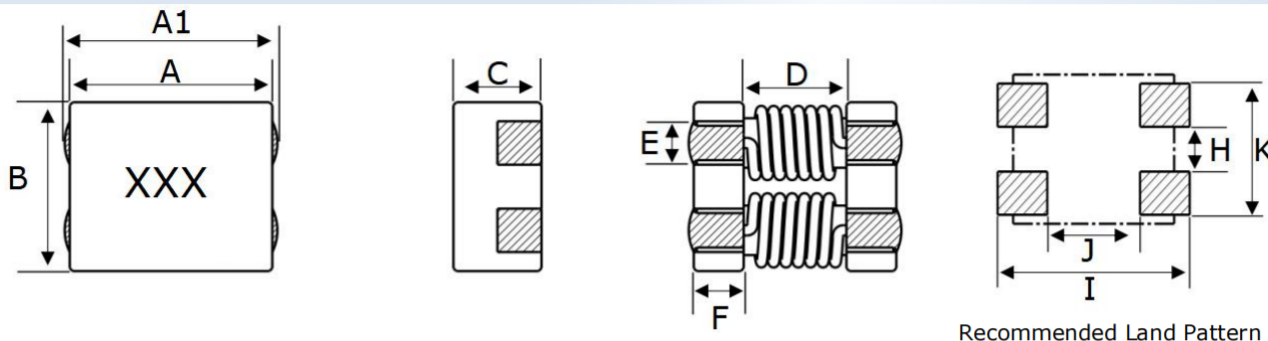
③ Nominal Impedance	
Code (example)	Nominal Impedance [Ω]
900	90
701	700
102	1000

⑤ Internal code	
	D5

② External Dimensions	
4520	4.7x4.5x2.0
7060	7.0x6.0x3.8
8080	8.0x8.0x5.0
9070	9.0x7.0x4.8
1211	12.5x10.8x6.4
1513	15.0x13.0x6.0

④ Material Code	
F	F Type
CL	CL Type
FC	FC Type
M	M Type
AM	AM Type

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘



Recommended Land Pattern

Unit: mm

Series	Dimensions							Recommended Land Pattern			
	A	A1	B	C	D	E	F	K	H	I	J
	±0.5	±0.5	±0.5	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.
PACM4520-F	4.7	-	4.5	2.7	0.8	1.3	1.0	3.0	1.0	6.0	2.0
PACM4520-M	4.7	-	4.5	2.7	0.8	1.3	1.0	3.0	1.0	6.0	2.0
PACM7060-F	7.0	7.5	6.0	3.8	3.5	1.5	1.7	5.0	1.5	8.0	3.0
PACM7060-M	7.0	7.5	6.0	3.8	3.5	1.5	1.7	5.0	1.5	8.0	3.0
PACM7060-FC	7.0	7.5	6.0	4.1	3.5	1.5	1.7	5.0	1.5	8.0	3.0
PACM8080-CL	8.0	8.5	8.0	5.0	5.2	1.5	1.5	7.0	2.5	9.0	4.0
PACM9070-F	9.0	9.5	7.0	4.8	5.6	1.5	1.7	5.5	1.5	10.5	5.0
PACM9070-M	9.0	9.5	7.0	4.8	5.6	1.5	1.7	5.5	1.5	10.5	5.0
PACM9070-AM	9.0	9.5	7.0	6.7	5.7	1.5	2.0	5.5	1.5	10.5	5.0
PACM1211-F	12.0	12.5	10.8	6.4	7.0	2.7	2.5	8.5	2.0	12.5	6.5
PACM1211-M	12.0	12.5	10.8	6.4	7.0	2.7	2.5	8.5	2.0	12.5	6.5
PACM1211-AM	12.0	12.5	10.8	8.5	7.0	2.7	2.5	8.5	2.0	12.5	6.5
PACM1513-F	15.0	15.3	13.0	6.0	9.0	2.7	3.0	9.5	3.3	16.0	8.0

ELECTRICAL CHARACTERISTICS 特性规格表

PACM4520-FD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	
Units	Ω	Ω	mΩ	A	Volts	MΩ	-
Symbol	Z	Z	DCR	I _{rms}	V _{DC}	IR	
PACM4520-900-FD5	60	90	35	3.3	50	10	900
PACM4520-151-FD5	90	150	40	3.2	50	10	151
PACM4520-231-FD5	180	230	45	3.1	50	10	231
PACM4520-301-FD5	200	300	45	3.1	50	10	301
PACM4520-421-FD5	300	420	50	2.6	50	10	421
PACM4520-701-FD5	500	700	59	2.3	50	10	701
PACM4520-901-FD5	650	900	68	2.2	50	10	901
PACM4520-102-FD5	800	1000	68	2.2	50	10	102
PACM4520-122-FD5	1000	1200	74	2.1	50	10	122
PACM4520-142-FD5	1200	1400	81	2.0	50	10	142

ELECTRICAL CHARACTERISTICS 特性规格表

● PACM4520-MD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM4520-900-MD5	60	90	35	3.3	50	10	900
PACM4520-151-MD5	90	150	40	3.2	50	10	151
PACM4520-231-MD5	180	230	45	3.1	50	10	231
PACM4520-301-MD5	200	300	45	3.1	50	10	301
PACM4520-421-MD5	300	420	50	2.6	50	10	421
PACM4520-701-MD5	500	700	59	2.3	50	10	701
PACM4520-901-MD5	650	900	68	2.2	50	10	901
PACM4520-102-MD5	800	1000	68	2.2	50	10	102
PACM4520-122-MD5	1000	1200	74	2.1	50	10	122
PACM4520-142-MD5	1200	1400	81	2.0	50	10	142

● PACM7060-FD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM7060-400-FD5	40	70	5	15.3	125	10	400
PACM7060-101-FD5	100	140	10	9.3	125	10	101
PACM7060-301-FD5	225	300	10	5.2	125	10	301
PACM7060-501-FD5	275	450	10	5.2	125	10	501
PACM7060-601-FD5	500	700	15	4.2	125	10	601
PACM7060-701-FD5	500	700	15	4.2	125	10	701
PACM7060-102-FD5	800	1020	17	3.1	125	10	102
PACM7060-132-FD5	910	1300	21	2.6	125	10	132
PACM7060-272-FD5	2000	2700	63	1.1	125	10	272
PACM7060-302-FD5	2500	3000	75	1.0	125	10	302

● PACM7060-FCD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM7060-701-FCD5	500	700	15	4.2	50	10	701
PACM7060-102-FCD5	800	1500	17	3.1	50	10	102

ELECTRICAL CHARACTERISTICS 特性规格表

● PACM7060-MD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	
Units	Ω	Ω	m Ω	A	Volts	M Ω	-
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM7060-400-MD5	40	70	5	15.3	125	10	400
PACM7060-101-MD5	100	140	10	9.3	125	10	101
PACM7060-301-MD5	225	300	10	5.2	125	10	301
PACM7060-501-MD5	275	450	10	5.2	125	10	501
PACM7060-601-MD5	500	700	15	4.2	125	10	601
PACM7060-701-MD5	500	700	15	4.2	125	10	701
PACM7060-102-MD5	800	1020	17	3.1	125	10	102
PACM7060-132-MD5	910	1300	21	2.6	125	10	132
PACM7060-272-MD5	2000	2700	63	1.1	125	10	272
PACM7060-302-MD5	2500	3000	75	1.0	125	10	302

● PACM8080-CLD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	
Units	Ω	Ω	m Ω	A	Volts	M Ω	-
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM8080-301-CLD5	200	300	6	7.2	80	10	301
PACM8080-501-CLD5	400	600	8	6.2	80	10	501
PACM8080-701-CLD5	500	700	10	5.7	80	10	701
PACM8080-102-CLD5	750	1000	15	4.7	80	10	102
PACM8080-152-CLD5	1200	1500	20	3.6	80	10	152
PACM8080-222-CLD5	1700	2200	40	3.3	80	10	222
PACM8080-272-CLD5	2000	2700	60	2.6	80	10	272
PACM8080-302-CLD5	2500	3000	80	2.3	80	10	302

● PACM9070-FD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	
Units	Ω	Ω	m Ω	A	Volts	M Ω	-
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM9070-301-FD5	225	300	6	6.2	80	10	301
PACM9070-501-FD5	450	600	8	5.7	80	10	501
PACM9070-701-FD5	500	700	10	5.2	80	10	701
PACM9070-102-FD5	750	1000	13	4.2	80	10	102
PACM9070-222-FD5	1700	2200	50	3.1	80	10	222
PACM9070-272-FD5	2000	2700	80	2.1	80	10	272
PACM9070-302-FD5	2500	3000	80	2.1	80	10	302

ELECTRICAL CHARACTERISTICS 特性规格表

● PACM9070-MD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM9070-301-MD5	225	300	6	6.2	80	10	301
PACM9070-501-MD5	450	600	8	5.7	80	10	501
PACM9070-701-MD5	500	700	10	5.2	80	10	701
PACM9070-102-MD5	750	1000	13	4.2	80	10	102
PACM9070-222-MD5	1700	2200	50	3.1	80	10	222
PACM9070-272-MD5	2000	2700	80	2.1	80	10	272
PACM9070-302-MD5	2500	3000	80	2.1	80	10	302

● PACM9070-AMD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM9070-152-AMD5	600	1500	50	3.1	50	10	152
PACM9070-322-AMD5	2200	3200	125	2.1	50	10	322

● PACM1211-FD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM1211-800-FD5	80	230	2	10.3	125	10	800
PACM1211-301-FD5	200	300	4	9.3	125	10	301
PACM1211-501-FD5	300	500	6	8.3	125	10	501
PACM1211-701-FD5	500	700	6	8.3	125	10	701
PACM1211-801-FD5	600	800	8	8.3	125	10	801
PACM1211-102-FD5	750	1000	14	6.2	125	10	102
PACM1211-222-FD5	2200	2500	35	1.9	125	10	222
PACM1211-272-FD5	2300	2700	50	1.6	125	10	272

ELECTRICAL CHARACTERISTICS 特性规格表

● PACM1211-MD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM1211-800-MD5	80	230	2	10.3	125	10	800
PACM1211-301-MD5	200	300	4	9.3	125	10	301
PACM1211-501-MD5	300	500	6	8.3	125	10	501
PACM1211-701-MD5	500	700	6	8.3	125	10	701
PACM1211-801-MD5	600	800	8	8.3	125	10	801
PACM1211-102-MD5	750	1000	14	6.2	125	10	102
PACM1211-222-MD5	2200	2500	35	1.9	125	10	222
PACM1211-272-MD5	2300	2700	50	1.6	125	10	272

● PACM1211-AMD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM1211-172-AMD5	1100	1700	26	5.7	125	10	172
PACM1211-202-AMD5	1300	2000	33	4.7	125	10	202
PACM1211-222-AMD5	1400	2200	43	4.2	125	10	222
PACM1211-532-AMD5	3700	5300	109	2.6	125	10	532
PACM1211-782-AMD5	5400	7800	182	2.1	125	10	782

● PACM1513-FD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM1513-301-FD5	250	300	5	13.3	80	10	301
PACM1513-551-FD5	450	550	6	10.3	80	10	551
PACM1513-601-FD5	500	600	7	10.3	80	10	601
PACM1513-701-FD5	500	700	7	10.3	80	10	701
PACM1513-102-FD5	800	1000	12	10.3	80	10	102

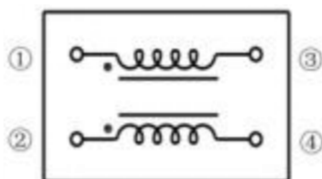
ELECTRICAL CHARACTERISTICS 特性规格表

● PACM1513-MD Series

Part Number	Impedance @100MHz		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	Min.	Typ.	Max.	Max.	Max.	Min.	-
Units	Ω	Ω	m Ω	A	Volts	M Ω	
Symbol	Z	Z	DCR	Irms	VDC	IR	
PACM1513-301-MD5	250	300	5	13.3	80	10	301
PACM1513-551-MD5	450	550	6	10.3	80	10	551
PACM1513-601-MD5	500	600	7	10.3	80	10	601
PACM1513-701-MD5	500	700	7	10.3	80	10	701
PACM1513-102-MD5	800	1000	12	10.3	80	10	102

- Rated current the value of DC current when the temperature rise is $\Delta T40$ ($T_a=25$).

EQUIVALENT CIRCUIT 等效电路



Recommended Soldering Technologies 回流焊建议

Reflowing Profile ◆ Preheat condition: 150~200℃/60~120sec. ◆ Allowed time above 217℃: 60~90sec. ◆ Max temp: 260℃ ◆ Max time at max temp: 10sec. ◆ Solder paste: Sn/3.0Ag/0.5Cu ◆ Allowed Reflow time: 2x max Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.	
Iron Soldering Profile ◆ Iron soldering power: Max.30W ◆ Pre-heating: 150 °C / 60sec. ◆ Soldering Tip temperature: 350℃Max. ◆ Soldering time: 3sec Max. ◆ Solder paste: Sn/3.0Ag/0.5Cu ◆ Max.1 times for iron soldering Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.	

■ Safety Reminders 注意事项

SAFETY REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 15 to 35°C, humidity: 75% RH or less). If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- This product is not designed for production processes involving ultrasonic welding, as high-frequency vibration may cause application issues such as product detachment and breakage.
- Carefully layout the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment, under a normal operation and use condition.

The Company shall not guarantee the suitability, performance, or quality for the following applications that require a high level of safety and reliability, or where equipment failure, malfunction, or abnormal operation may cause damage to human life, physical well-being, or property, and may have significant social impacts (hereinafter referred to as "specific applications"). If you intend to use this product in the application scenarios listed below, or if you have special requirements exceeding the scope or conditions specified in each product catalog, please contact us.

- (1) Aerospace/aviation equipment
- (2) Transportation equipment (cars, electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment
- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.