



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 引用标准 Reference standards

GB10190(IEC384-16)

## 结构 Structure

介质: 聚丙烯膜

电极: 双面金属化聚酯膜

封装: 阻燃环氧树脂, 符合 UL94 V-0

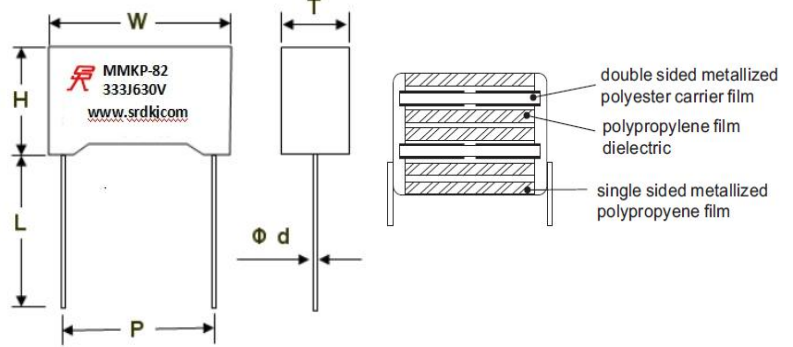
外壳: 阻燃 PBT 塑壳, 符合 UL94 V-0

Dielectric: polypropylene film

Electrode: double side metallized polyester film

Encapsulation: Flame retardant epoxy resin, conforming to UL94 V-0

Box: Flame retardant PBT plastic shell, conforming to UL94 V-0



## 典型应用 Typical Application

广泛应用于高压高频脉冲电路中

适用于变频器的谐振电路中

适用于 LED 驱动和开关电源高效电路

吸收和 SCR 整流电路中

Widely used in high voltage high frequency pulse circuit.

Applicable for resonant circuit of frequency converter.

Suitable for LED driver and switching power supply high efficiency circuit

Snubber circuit and SCR rectifying circuit

## 特点 Features

损耗小, 内部温升小, 小型化的安装尺寸, 优异的阻燃性能 (UL94V-0)

Low loss and low internal temperature rise, small mounting size, Excellent flame resistance property.

## 符合 RoHS 及 REACH 环保标准 Compliance with RoHs & REACH requirements.

## 电性能规范 Performance Specifications

气候类别 Climate category	40/105/56			
额定温度 Rated Temperature	85°C			
工作温度范围 Operating Temperature range	-40°C~+105°C. (+85°C~+105°C): decreasing factor 1.25% per °C for R.V(DC) (+85°C~+105°C): 额定电压降额使用系数 1.25% per °C for R.V(DC)			
额定电压 Rated Voltage	630VDC, 1000VDC, 1600VDC, 2000VDC, 3000VDC			
容量误差 Capacitance Tolerance	J: ±5%			
容量范围 Capacitance Range	0.001μF~1.2μF 测试条件 Test Condition: 20°C, 1KHz, 1Vrms			
耐电压 Withstand Voltage	1.6U <sub>R</sub> , 5S	无击穿或飞弧 No breakdown or electric arcing		
损耗角 Dissipation factor	≤0.001 (1KHz)	测试条件 Test Condition: 20°C 1Vrms		
绝缘电阻或时间常数 Insulation Resistance	CR≤0.33μF IR≥100000MΩ CR>0.33μF IR≥30000S	测试条件 Test Condition: 20°C 100V 1 min		
最大脉冲爬升速率 Max. Pulse Rise Time (dV / dt)	U <sub>R</sub> (V)	P15	P22.5	P27.5
	630V	2500	1600	1000
	1000V	3500	2500	1300
	1600V	6300	3200	2200
	2000V	10000	5000	2500
3000V	10000	8000	---	



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 电性能规范 Performance Specifications

稳态湿热 Steady-state Damp-heat Test	温度 Temp.: 40±2℃ 相对湿度 Humidity: 93%RH 持续时间 Duration Time: 56 Days	无可见损伤, 标志清晰 no visible damage, clear mark 绝缘电阻 IR: ≥ 额定值的 50% IR: ≥ 50% of Rated value 容量变化 (相对初始值): Capacitance change (relative to the initial value): $\Delta C/C \leq \pm 5\%$ 损耗角增加 Dissipation factor: Rise $\leq 0.0020$ (1KHz), $C_R > 1\mu F$
耐久性试验 Endurance Test	温度 Temp.: +85℃, 电压 Voltage: 1.25 Times Rated Voltage 持续时间 Duration Time: 1000H	绝缘电阻 Insulation Resistance IR: ≥ 额定值的 50% IR: ≥ 50% of rated value 损耗角增加: $\leq 0.0015$ (10KHz) dissipation factor rise: $\leq 0.0015$ (10KHz) 容量变化 (相对初始值): $\Delta C/C \leq \pm 10\%$ Capacitance change (relative to the initial value): $\Delta C/C \leq \pm 10\%$

## 产品编码说明 Part No. Description:

15 位产品编码如下:

The Part No. is total 15 digits, details as follow:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	8	2	1	0	4	J	2	J	E	4	R	8	*	*

Digit 1-3	型号代码 Product Name Code	C82= MMKP82 series
Digit 4-6	标称容量 Rated Capacitance Value	For example : 104 = $10 \times 10^4 \mu F = 0.1 \mu F$
Digit 7	容量偏差 Capacitance Tolerance	J=±5%
Digit 8-9	额定电压 Rated Voltage Code	2J=630V 3A=1000V 3C=1600V 3D=2000V 3E=3000V
Digit 10-11	壳号 Plastic shell code	
Digit 12	塑壳颜色 Plastic Shell Color	R = Grey Color with LOGO on the shell top
Digit 13	线径代码 Line diameter code	6=0.6 8=0.8
Digit 14-15	成型或内部识别码 Forming Type or Internal Use	



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> :630Vdc(400Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance ( $\mu$ F)	尺寸 Dimension (mm)				
			W $\pm$ 0.5	T $\pm$ 0.5	H $\pm$ 0.5	P $\pm$ 0.5	$\Phi$ d $\pm$ 0.05
C82183J2JD2R8**	MMKP82	0.018	18	6	12	15	0.8
C82223J2JD2R8**	MMKP82	0.022	18	6	12	15	0.8
C82273J2JD2R8**	MMKP82	0.027	18	6	12	15	0.8
C82333J2JD2R8**	MMKP82	0.033	18	6	12	15	0.8
C82393J2JD2R8**	MMKP82	0.039	18	6	12	15	0.8
C82473J2JD2R8**	MMKP82	0.047	18	6	12	15	0.8
C82563J2JD3R8**	MMKP82	0.056	18	7.5	13.5	15	0.8
C82683J2JD4R8**	MMKP82	0.068	18	8.4	14.5	15	0.8
C82823J2JD4R8**	MMKP82	0.082	18	8.4	14.5	15	0.8
C82104J2JD6R8**	MMKP82	0.1	18	10	15.8	15	0.8
C82124J2JD8R8**	MMKP82	0.12	18	11.2	19.2	15	0.8
C82473J2JE1R8**	MMKP82	0.047	26.5	6	15	22.5	0.8
C82563J2JE1R8**	MMKP82	0.056	26.5	6	15	22.5	0.8
C82683J2JE1R8**	MMKP82	0.068	26.5	6	15	22.5	0.8
C82823J2JE1R8**	MMKP82	0.082	26.5	6	15	22.5	0.8
C82104J2JE1R8**	MMKP82	0.1	26.5	6	15	22.5	0.8
C82124J2JE2R8**	MMKP82	0.12	26.5	7	16.5	22.5	0.8
C82154J2JE3R8**	MMKP82	0.15	26.5	8.5	17	22.5	0.8
C82184J2JE3R8**	MMKP82	0.18	26.5	8.5	17	22.5	0.8
C82224J2JE4R8**	MMKP82	0.22	26.5	10	19	22.5	0.8
C82274J2JE5R8**	MMKP82	0.27	26.5	11	20	22.5	0.8
C82334J2JE6R8**	MMKP82	0.33	26.5	12	21.5	22.5	0.8
C82394J2JE6R8**	MMKP82	0.39	26.5	12	21.5	22.5	0.8
C82334J2JF1R8**	MMKP82	0.33	31.5	10.8	19.5	27.5	0.8
C82394J2JF1R8**	MMKP82	0.39	31.5	10.8	19.5	27.5	0.8
C82474J2JF2R8**	MMKP82	0.47	31.5	13	21.6	27.5	0.8
C82564J2JF2R8**	MMKP82	0.56	31.5	13	21.6	27.5	0.8
C82684J2JF3R8**	MMKP82	0.68	31	14	25	27.5	0.8
C82824J2JF4R8**	MMKP82	0.82	31.5	16	25.5	27.5	0.8
C82105J2JF5R8**	MMKP82	1	31.5	16	30	27.5	0.8
C82125J2JF5R8**	MMKP82	1.2	31.5	16	30	27.5	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*\*”=Internal use.



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> :1000Vdc (600Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance ( $\mu$ F)	尺寸 Dimension (mm)				
			W $\pm$ 0.5	T $\pm$ 0.5	H $\pm$ 0.5	P $\pm$ 0.5	d $\pm$ 0.05
C82102J3AC2R6**	MMKP82	0.001	13	5	11	10	0.6
C82122J3AC2R6**	MMKP82	0.0012	13	5	11	10	0.6
C82152J3AC2R6**	MMKP82	0.0015	13	5	11	10	0.6
C82182J3AC2R6**	MMKP82	0.0018	13	5	11	10	0.6
C82222J3AC2R6**	MMKP82	0.0022	13	5	11	10	0.6
C82272J3AC2R6**	MMKP82	0.0027	13	5	11	10	0.6
C82332J3AC2R6**	MMKP82	0.0033	13	5	11	10	0.6
C82392J3AC2R6**	MMKP82	0.0039	13	5	11	10	0.6
C82472J3AC2R6**	MMKP82	0.0047	13	5	11	10	0.6
C82562J3AC2R6**	MMKP82	0.0056	13	5	11	10	0.6
C82682J3AC2R6**	MMKP82	0.0068	13	5	11	10	0.6
C82822J3AC2R6**	MMKP82	0.0082	13	5	11	10	0.6
C82103J3AC2R6**	MMKP82	0.01	13	5	11	10	0.6
C82822J3AD2R8**	MMKP82	0.0082	18	6	12	15	0.8
C82103J3AD2R8**	MMKP82	0.01	18	6	12	15	0.8
C82123J3AD2R8**	MMKP82	0.012	18	6	12	15	0.8
C82153J3AD2R8**	MMKP82	0.015	18	6	12	15	0.8
C82183J3AD3R8**	MMKP82	0.018	18	7.5	13.5	15	0.8
C82223J3AD3R8**	MMKP82	0.022	18	7.5	13.5	15	0.8
C82273J3AD4R8**	MMKP82	0.027	18	8.4	14.5	15	0.8
C82333J3AD4R8**	MMKP82	0.033	18	8.4	14.5	15	0.8
C82393J3AD6R8**	MMKP82	0.039	18	10	15.8	15	0.8
C82473J3AD8R8**	MMKP82	0.047	18	11.2	19.2	15	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*\*”=Internal use.



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## ■ 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> :1000Vdc (600Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance (μF)	尺寸 Dimension (mm)				
			W±0.5	T±0.5	H±0.5	P±0.5	d±0.05
C82273J3AE1R8**	MMKP82	0.027	26.5	6	15	22.5	0.8
C82333J3AE1R8**	MMKP82	0.033	26.5	6	15	22.5	0.8
C82393J3AE1R8**	MMKP82	0.039	26.5	6	15	22.5	0.8
C82473J3AE2R8**	MMKP82	0.047	26.5	7	16.5	22.5	0.8
C82563J3AE2R8**	MMKP82	0.056	26.5	7	16.5	22.5	0.8
C82683J3AE3R8**	MMKP82	0.068	26.5	8.5	17	22.5	0.8
C82823J3AE4R8**	MMKP82	0.082	26.5	10	19	22.5	0.8
C82104J3AE4R8**	MMKP82	0.1	26.5	10	19	22.5	0.8
C82124J3AE5R8**	MMKP82	0.12	26.5	11	20	22.5	0.8
C82154J3AE6R8**	MMKP82	0.15	26.5	12	21.5	22.5	0.8
C82104J3AF1R8**	MMKP82	0.1	31.5	10.8	19.5	27.5	0.8
C82124J3AF1R8**	MMKP82	0.12	31.5	10.8	19.5	27.5	0.8
C82154J3AF1R8**	MMKP82	0.15	31.5	10.8	19.5	27.5	0.8
C82184J3AF2R8**	MMKP82	0.18	31.5	13	21.6	27.5	0.8
C82224J3AF2R8**	MMKP82	0.22	31.5	13	21.6	27.5	0.8
C82274J3AF3R8**	MMKP82	0.27	31	14	25	27.5	0.8
C82334J3AF4R8**	MMKP82	0.33	31.5	16	25.5	27.5	0.8
C82394J3AF5R8**	MMKP82	0.39	31.5	16	30	27.5	0.8
C82474J3AF9R8**	MMKP82	0.47	31.5	18	28	27.5	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*”=Internal use.



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> :1600Vdc (650Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance ( $\mu$ F)	尺寸 Dimension (mm)				
			W $\pm$ 0.5	T $\pm$ 0.5	H $\pm$ 0.5	P $\pm$ 0.5	d $\pm$ 0.05
C82332J3CD2R8**	MMKP82	0.0033	18	6	12	15	0.8
C82472J3CD2R8**	MMKP82	0.0047	18	6	12	15	0.8
C82562J3CD2R8**	MMKP82	0.0056	18	6	12	15	0.8
C82682J3CD2R8**	MMKP82	0.0068	18	6	12	15	0.8
C82822J3CD2R8**	MMKP82	0.0082	18	6	12	15	0.8
C82103J3CD2R8**	MMKP82	0.01	18	6	12	15	0.8
C82123J3CD3R8**	MMKP82	0.012	18	7.5	13.5	15	0.8
C82153J3CD3R8**	MMKP82	0.015	18	7.5	13.5	15	0.8
C82183J3CD4R8**	MMKP82	0.018	18	8.4	14.5	15	0.8
C82223J3CD4R8**	MMKP82	0.022	18	8.4	14.5	15	0.8
C82273J3CD6R8**	MMKP82	0.027	18	10	15.8	15	0.8
C82333J3CD8R8**	MMKP82	0.033	18	11.2	19.2	15	0.8
C82153J3CE1R8**	MMKP82	0.015	26.5	6	15	22.5	0.8
C82183J3CE1R8**	MMKP82	0.018	26.5	6	15	22.5	0.8
C82223J3CE1R8**	MMKP82	0.022	26.5	6	15	22.5	0.8
C82273J3CE2R8**	MMKP82	0.027	26.5	7	16.5	22.5	0.8
C82333J3CE2R8**	MMKP82	0.033	26.5	7	16.5	22.5	0.8
C82393J3CE3R8**	MMKP82	0.039	26.5	8.5	17	22.5	0.8
C82473J3CE4R8**	MMKP82	0.047	26.5	10	19	22.5	0.8
C82563J3CE4R8**	MMKP82	0.056	26.5	10	19	22.5	0.8
C82683J3CE5R8**	MMKP82	0.068	26.5	11	20	22.5	0.8
C82823J3CE6R8**	MMKP82	0.082	26.5	12	21.5	22.5	0.8
C82823J3CF1R8**	MMKP82	0.082	31.5	10.8	19.5	27.5	0.8
C82104J3CF1R8**	MMKP82	0.1	31.5	10.8	19.5	27.5	0.8
C82124J3CF2R8**	MMKP82	0.12	31.5	13	21.6	27.5	0.8
C82154J3CF3R8**	MMKP82	0.15	31	14	25	27.5	0.8
C82184J3CF3R8**	MMKP82	0.18	31	14	25	27.5	0.8
C82224J3CF5R8**	MMKP82	0.22	31.5	16	30	27.5	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*”=Internal use.



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> :2000Vdc (700Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance ( $\mu$ F)	尺寸 Dimension (mm)				
			W $\pm$ 0.5	T $\pm$ 0.5	H $\pm$ 0.5	P $\pm$ 0.5	d $\pm$ 0.05
C82102J3DD2R8**	MMKP82	0.001	18	6	12	15	0.8
C82122J3DD2R8**	MMKP82	0.0012	18	6	12	15	0.8
C82152J3DD2R8**	MMKP82	0.0015	18	6	12	15	0.8
C82182J3DD2R8**	MMKP82	0.0018	18	6	12	15	0.8
C82222J3DD2R8**	MMKP82	0.0022	18	6	12	15	0.8
C82272J3DD2R8**	MMKP82	0.0027	18	6	12	15	0.8
C82332J3DD2R8**	MMKP82	0.0033	18	6	12	15	0.8
C82392J3DD2R8**	MMKP82	0.0039	18	6	12	15	0.8
C82472J3DD2R8**	MMKP82	0.0047	18	6	12	15	0.8
C82562J3DD3R8**	MMKP82	0.0056	18	7.5	13.5	15	0.8
C82682J3DD3R8**	MMKP82	0.0068	18	7.5	13.5	15	0.8
C82822J3DD4R8**	MMKP82	0.0082	18	8.4	14.5	15	0.8
C82103J3DD6R8**	MMKP82	0.01	18	10	15.8	15	0.8
C82123J3DD6J8**	MMKP82	0.012	18	10	15.8	15	0.8
C82153J3DD8R8**	MMKP82	0.015	18	11.2	19.2	15	0.8
C82103J3DE1R8**	MMKP82	0.01	26.5	6	15	22.5	0.8
C82123J3DE1R8**	MMKP82	0.012	26.5	6	15	22.5	0.8
C82153J3DE2R8**	MMKP82	0.015	26.5	7	16.5	22.5	0.8
C82183J3DE2R8**	MMKP82	0.018	26.5	7	16.5	22.5	0.8
C82223J3DE3R8**	MMKP82	0.022	26.5	8.5	17	22.5	0.8
C82273J3DE4R8**	MMKP82	0.027	26.5	10	19	22.5	0.8
C82333J3DE4R8**	MMKP82	0.033	26.5	10	19	22.5	0.8
C82393J3DE5R8**	MMKP82	0.039	26.5	11	20	22.5	0.8
C82473J3DE6R8**	MMKP82	0.047	26.5	12	21.5	22.5	0.8
C82393J3DF1R8**	MMKP82	0.039	31.5	10.8	19.5	27.5	0.8
C82473J3DF1R8**	MMKP82	0.047	31.5	10.8	19.5	27.5	0.8
C82563J3DF2R8**	MMKP82	0.056	31.5	13	21.6	27.5	0.8
C82683J3DF2R8**	MMKP82	0.068	31.5	13	21.6	27.5	0.8
C82823J3DF3R8**	MMKP82	0.082	31	14	25	27.5	0.8
C82104J3DF4R8**	MMKP82	0.1	31.5	16	25.5	27.5	0.8
C82124J3DF4R8**	MMKP82	0.12	31.5	16	25.5	27.5	0.8
C82154J3DF5R8**	MMKP82	0.15	31.5	16	30	27.5	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*”=Internal use.



# 盒装型双面金属化聚丙烯膜电容器---MMKP82(C82)系列

Double sided metallized polypropylene film capacitor(Box )---MMKP82(C82)series

## 料号明细及尺寸 Part No. List and Dimensions

U <sub>R</sub> 3000Vdc (750Vac)							
成品编码 Part No.	系列 Series	容量 Capacitance ( $\mu$ F)	尺寸 Dimension (mm)				
			W $\pm$ 0.5	T $\pm$ 0.5	H $\pm$ 0.5	P $\pm$ 0.5	d $\pm$ 0.05
C82102J3ED2R8**	MMKP82	0.001	18.0	6.0	12.0	15.0	0.8
C82122J3ED2R8**	MMKP82	0.0012	18.0	6.0	12.0	15.0	0.8
C82152J3ED2R8**	MMKP82	0.0015	18.0	6.0	12.0	15.0	0.8
C82182J3ED2R8**	MMKP82	0.0018	18.0	6.0	12.0	15.0	0.8
C82222J3ED2R8**	MMKP82	0.0022	18.0	6.0	12.0	15.0	0.8
C82272J3ED2R8**	MMKP82	0.0027	18.0	6.0	12.0	15.0	0.8
C82332J3ED3R8**	MMKP82	0.0033	18.0	7.5	13.5	15.0	0.8
C82392J3ED3R8**	MMKP82	0.0039	18.0	7.5	13.5	15.0	0.8
C82472J3ED4R8**	MMKP82	0.0047	18.0	8.4	14.5	15.0	0.8
C82562J3ED5R8**	MMKP82	0.0056	18.0	9.5	15.5	15.0	0.8
C82682J3ED6R8**	MMKP82	0.0068	18.0	9.5	15.5	15.0	0.8
C82822J3ED8R8**	MMKP82	0.0082	18.0	11.2	19.2	15.0	0.8
C82442J3EE2R8**	MMKP82	0.0044	26.5	7.0	16.5	22.5	0.8
C82472J3EE2R8**	MMKP82	0.0047	26.5	7.0	16.5	22.5	0.8
C82562J3EE2R8**	MMKP82	0.0056	26.5	7.0	16.5	22.5	0.8
C82682J3EE2R8**	MMKP82	0.0068	26.5	7.0	16.5	22.5	0.8
C82822J3EE3R8**	MMKP82	0.0082	26.5	8.5	17.0	22.5	0.8
C82103J3EE3R8**	MMKP82	0.01	26.5	8.5	17.0	22.5	0.8
C82123J3EE4R8**	MMKP82	0.012	26.5	10.0	19.0	22.5	0.8
C82153J3EE5R8**	MMKP82	0.015	26.5	11.0	20.0	22.5	0.8
C82183J3EE6R8**	MMKP82	0.018	26.5	12.0	21.5	22.5	0.8
C82223J3EE7R8**	MMKP82	0.022	26.5	13.0	23.0	22.5	0.8

说明 Note: “\*\*”表示内部特征码

“\*\*”=Internal use.

Note: We can customize the capacitors according to customers special requirements.



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Film Capacitors](#) category:*

*Click to view products by [Sincerity](#) manufacturer:*

Other Similar products are found below :

[703-6G](#) [82DC4100CK60J](#) [82EC1100DQ50K](#) [MMWAF150KME](#) [PCY2130F30153](#) [QXJ2E474KTPT](#) [QXL2B333KTPT](#) [QXM2G104K](#)  
[DPM16S56K-1F](#) [EEC2G505HQA406](#) [B32234-.033@250V-K](#) [B81133-C1104-M3](#) [MTC355L1](#) [217-0716-001](#) [PA225L30](#) [CB182K0184J--](#)  
[KP1830-247/061-G](#) [274ACF4400WA0J](#) [SCD105K122A3-22](#) [SCD205K122A3-24](#) [A521HP102M400C](#) [F601BL225K063CL60A](#)  
[PCX2339F65224](#) [PCX2339F65334](#) [2222 368 55105](#) [2222 370 21683](#) [QXL2E473KTPT](#) [445450-1](#) [B32524Q6155J](#) [46KI3100JBM1K](#) [MKP](#)  
[1839-215-633](#) [MKP 1840-447-165](#) [MKP383510063JKP2T0](#) [WMC08P22](#) [46KN410000N1K](#) [46KR368050M1M](#) [ECQ-W4223KZ](#)  
[EEC2G805HQA415](#) [PA103L30](#) [82DC3100DQ50J](#) [82DC4100AA60K](#) [82EC2150DQ50K](#) [WMF1D68](#) [PHE841ED6150MR17T0](#) [VEA105K50](#)  
[82EC2220DQ50J](#) [F850AG102M300C](#) [MTC55L4](#) [MTC56L4](#) [730P205X9400](#)