

# Type AFC $-55^{\circ}\text{C}$ to $105^{\circ}\text{C}$

## SMT Aluminum Electrolytic Capacitors - Low Impedance, $105^{\circ}\text{C}$

### Low Impedance and Long-Life for Filtering, Bypassing and Power Supply Decoupling



Type AFC Capacitors are the choice for high-frequency filtering. At 100 kHz, most ratings can handle more than twice the ripple current of type AHA. With solid performance at temperatures down to  $-55^{\circ}\text{C}$ , Type AFC has more than 90% capacitance retention at  $-20^{\circ}\text{C}$  and 1 kHz. With low impedance to beyond 100 kHz, it is ideal for higher power DC/DC converters. The vertical cylindrical cases make for easy automatic mounting and reflow soldering, and offer big savings and higher capacitance compared to tantalum capacitors.

#### Highlights

- $+105^{\circ}\text{C}$ , Up to 1000 Hour Load Life
- Capacitance Range:  $1\ \mu\text{F}$  to  $1500\ \mu\text{F}$
- Voltage Range: 6.3 Vdc to 50 Vdc

#### Specifications

**Operating Temperature:**  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$

**Rated Voltage:** 6.3, 10, 16, 25 & 50 Vdc

**Capacitance:**  $1.0\ \mu\text{F}$  to  $1500\ \mu\text{F}$

**Capacitance Tolerance:**  $\pm 20\%$  @ 120 Hz and  $+20^{\circ}\text{C}$

**Leakage Current:** 0.01 CV or  $3\ \mu\text{A}$  @  $+20^{\circ}\text{C}$ , after two minutes (whichever is greater)

**Dissipation Factor:** See ratings table

**Ripple Current Multiplier:** Frequency

50/60 Hz	120 Hz	1 kHz	10 kHz	100 kHz
0.70	.0.75	0.90	0.95	1.00

**Load Life:** 1000 h @  $+105^{\circ}\text{C}$

$\Delta$  Capacitance  $\pm 20\%$

DF:  $\leq 200\%$  of limit

DCL:  $\leq 100\%$  of limit

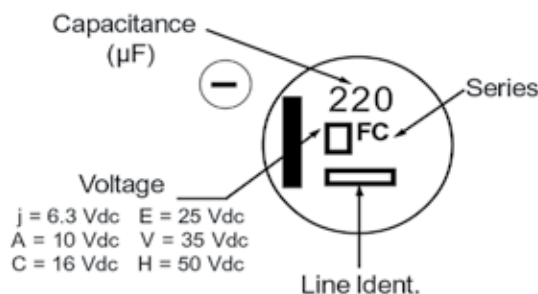
**Shelf Life:** 1000 h @  $+105^{\circ}\text{C}$

$\Delta$  Capacitance  $\pm 20\%$

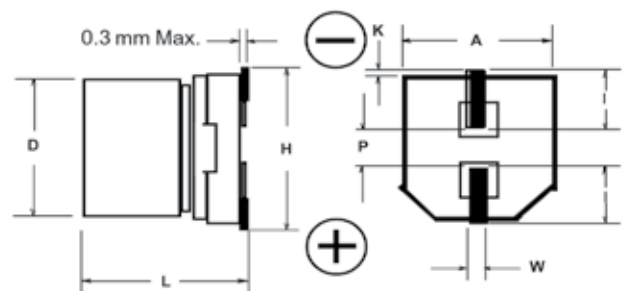
DF:  $\leq 200\%$  of limit

DCL:  $\leq 100\%$  of limit

#### AFC Series Marking



#### Outline Drawing



#### Case Dimensions

Case Code	Dimensions in (mm)							
	D $\pm 0.5$	L	A $\pm 0.2$	H (max)	I (ref)	W	P (ref)	K
B	4.0	5.4 $+1,-2$	4.3	5.5	1.8	0.65 $\pm 0.1$	1.0	0.35 + 0.15/-0.20
C	5.0	5.4 $+1,-2$	5.3	6.5	2.2	0.65 $\pm 0.1$	1.5	0.35 + 0.15/-0.20
D	6.3	5.4 $+1,-2$	6.6	7.8	2.4	0.65 $\pm 0.1$	1.8	0.35 + 0.15/-0.20
E	8.0	6.2 $\pm 3$	8.3	9.5	3.4	0.65 $\pm 0.1$	2.2	0.35 + 0.15/-0.20
F	8.0	10.2 $\pm 3$	8.3	10.0	3.4	0.90 $\pm 0.2$	3.2	0.70 $\pm 0.20$
G	10.0	10.2 $\pm 3$	10.3	12.0	3.5	0.90 $\pm 0.2$	4.6	0.70 $\pm 0.20$

# Type AFC -55 °C to 105 °C

## SMT Aluminum Electrolytic Capacitors - Low Impedance, 105 °C

### Ratings Table

Cap (µF)	Catalog Part Number	Max. DCL 2 min (mA)	Max. Dissipation Factor @ 120 Hz 20 °C	Max. ESR @ 120 Hz 20 °C (Ω)	Impedance @ 100 kHz 20 °C (Ω)	Max. Ripple Current @ 105 °C 100 kHz (mA)	Case Code	Size (mm) D x L	Quantity per Reel
<b>6.3 Vdc (8 Vdc Surge)</b>									
22.0	AFC226M06B12T	3.0	0.26	19.60	3.00	60	B	4 x 5.4	2000
47.0	AFC476M06C12T	3.0	0.26	9.20	1.80	95	C	5 x 5.4	1000
100.0	AFC107M06D16T	6.3	0.26	4.30	1.00	140	D	6.3 x 5.4	1000
220.0	AFC227M06E16T	13.9	0.26	2.00	0.40	230	E	8 x 6.2	1000
330.0	AFC337M06F24T	20.8	0.26	1.30	0.30	450	F	8 x 10.2	500
1000.0	AFC108M06G24T	63.0	0.26	0.43	0.15	670	G	10 x 10.2	500
1500.0	AFC158M06G24T	94.5	0.26	0.29	0.15	670	G	10 x 10.2	500
<b>10 Vdc (13 Vdc Surge)</b>									
33.0	AFC336M10C12T	3.3	0.19	9.60	1.80	95	C	5 x 5.4	1000
100.0	AFC107M10E16T	10.0	0.19	3.20	0.40	230	E	8 x 6.2	1000
150.0	AFC157M10E16T	15.0	0.19	2.10	0.40	230	E	8 x 6.2	1000
220.0	AFC227M10F24T	22.0	0.19	1.40	0.30	450	F	8 x 10.2	500
470.0	AFC477M10G24T	47.0	0.19	0.67	0.15	670	G	10 x 10.2	500
1000.0	AFC108M10G24T	100.0	0.22	0.36	0.15	670	G	10 x 10.2	500
<b>16 Vdc (20 Vdc Surge)</b>									
10.0	AFC106M16B12T	3.0	0.16	26.50	3.00	60	B	4 x 5.4	2000
22.0	AFC226M16C12T	3.5	0.16	12.10	1.80	95	C	5 x 5.4	1000
47.0	AFC476M16D16T	7.5	0.16	5.70	1.00	140	D	6.3 x 5.4	1000
68.0	AFC686M16E16T	10.9	0.16	3.90	0.40	230	E	8 x 6.2	1000
100.0	AFC107M16E16T	16.0	0.16	2.70	0.40	230	E	8 x 6.2	1000
220.0	AFC227M16G24T	35.2	0.16	1.20	0.15	670	G	10 x 10.2	500
330.0	AFC337M16G24T	52.8	0.16	0.80	0.15	670	G	10 x 10.2	500
470.0	AFC477M16G24T	75.2	0.16	0.60	0.15	670	G	10 x 10.2	500
680.0	AFC687M16G24T	108.8	0.16	0.40	0.15	670	G	10 x 10.2	500
<b>25 Vdc (31 Vdc Surge)</b>									
6.8	AFC685M25B12T	3.0	0.14	34.10	3.00	60	B	4 x 5.4	2000
22.0	AFC226M25D16T	5.5	0.14	10.60	1.00	140	D	6.3 x 5.4	1000
33.0	AFC336M25D16T	8.3	0.14	7.00	1.00	140	D	6.3 x 5.4	1000
47.0	AFC476M25E16T	11.8	0.14	4.90	0.40	230	E	8 x 6.2	1000
68.0	AFC686M25F24T	17.0	0.14	3.40	0.30	450	F	8 x 10.2	500
100.0	AFC107M25F24T	25.0	0.14	2.30	0.30	450	F	8 x 10.2	500
220.0	AFC227M25G24T	55.0	0.14	1.10	0.15	670	G	10 x 10.2	500
330.0	AFC337M25G24T	82.5	0.14	0.70	0.15	670	G	10 x 10.2	500
470.0	AFC477M25G24T	117.5	0.14	0.50	0.15	670	G	10 x 10.2	500
<b>35 Vdc (44 Vdc Surge)</b>									
1.0	AFC105M35B12T	3.0	0.12	199.00	3.00	60	B	4 x 5.4	2000
2.2	AFC225M35B12T	3.0	0.12	90.40	3.00	60	B	4 x 5.4	2000
3.3	AFC335M35B12T	3.0	0.12	60.30	3.00	60	B	4 x 5.4	2000
4.7	AFC475M35B12T	3.0	0.12	42.40	3.00	60	B	4 x 5.4	2000
6.8	AFC685M35C12T	3.0	0.12	29.30	1.80	95	C	5 x 5.4	1000
10.0	AFC106M35C12T	3.5	0.12	19.90	1.80	95	C	5 x 5.4	1000
22.0	AFC226M35D16T	7.7	0.12	9.10	1.00	140	D	6.3 x 5.4	1000
33.0	AFC336M35E16T	11.6	0.12	6.00	0.40	230	E	8 x 6.2	1000
47.0	AFC476M35E16T	16.5	0.12	4.20	0.40	230	E	8 x 6.2	1000
100.0	AFC107M35G24T	35.0	0.12	2.00	0.20	670	G	10 x 10.2	500
220.0	AFC227M35G24T	77.0	0.12	0.90	0.15	670	G	10 x 10.2	500
330.0	AFC337M35G24T	115.5	0.12	0.60	0.15	670	G	10 x 10.2	500
<b>50 Vdc (63 Vdc Surge)</b>									
1.0	AFC105M50B12T	3.0	0.12	199.00	5.00	30	B	4 x 5.4	2000
2.2	AFC225M50B12T	3.0	0.12	90.50	5.00	30	B	4 x 5.4	2000
3.3	AFC335M50B12T	3.0	0.12	60.30	5.00	30	B	4 x 5.4	2000
4.7	AFC475M50C12T	3.0	0.12	42.40	3.00	50	C	5 x 5.4	1000
10.0	AFC106M50D16T	5.0	0.12	19.90	2.00	70	D	6.3 x 5.4	1000
22.0	AFC226M50E16T	11.0	0.12	9.10	0.70	120	E	8 x 6.2	1000
33.0	AFC336M50F24T	16.5	0.12	6.00	0.60	300	F	8 x 10.2	500
47.0	AFC476M50G24T	23.5	0.12	4.20	0.30	500	G	10 x 10.2	500
100.0	AFC107M50G24T	50.0	0.12	2.00	0.30	500	G	10 x 10.2	500
220.0	AFC227M50G24T	110.0	0.12	0.90	0.30	500	G	10 x 10.2	500

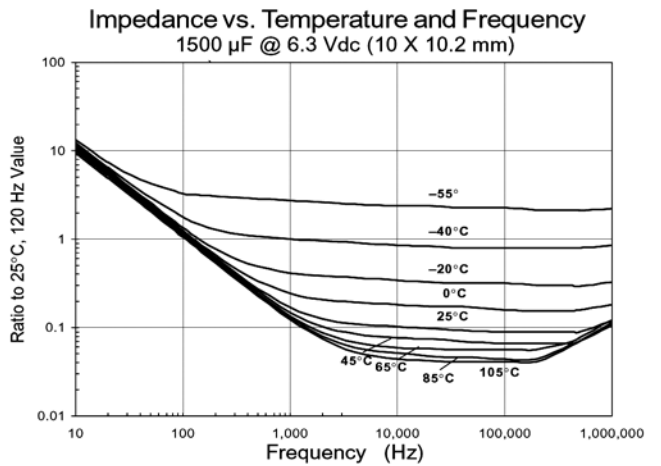
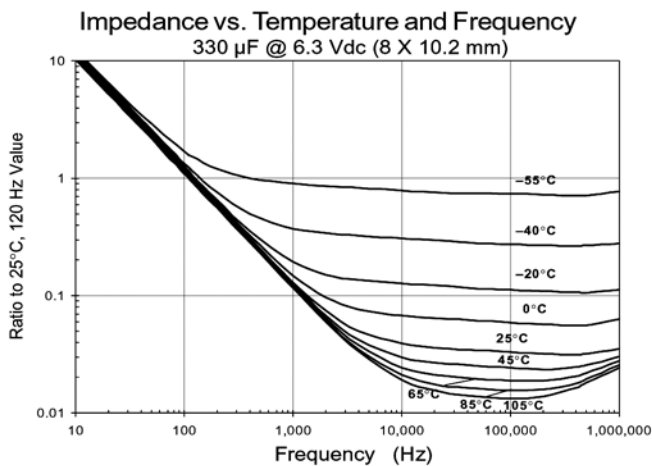
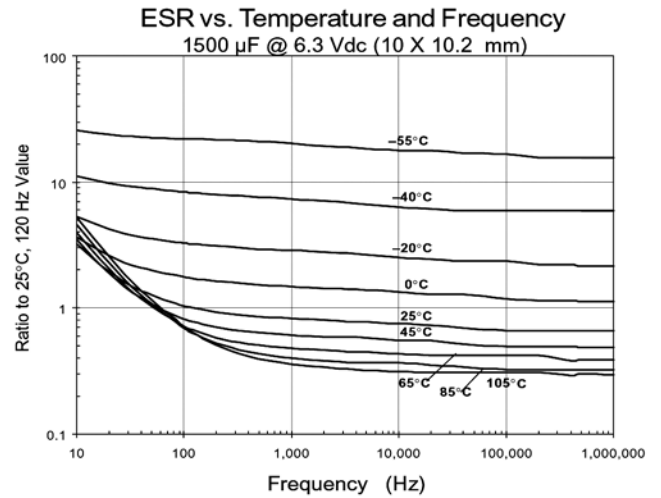
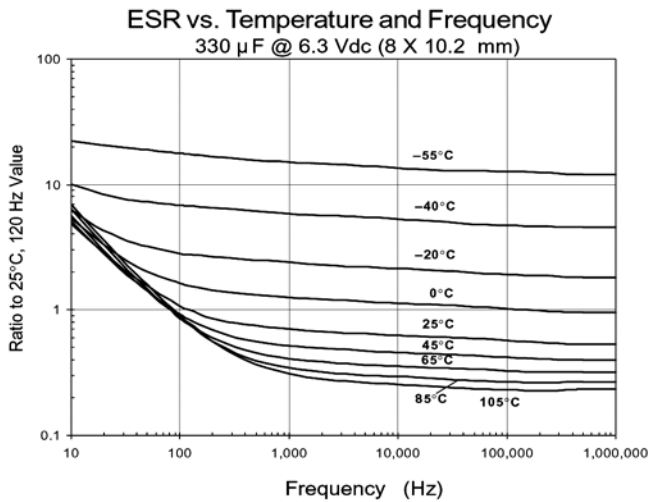
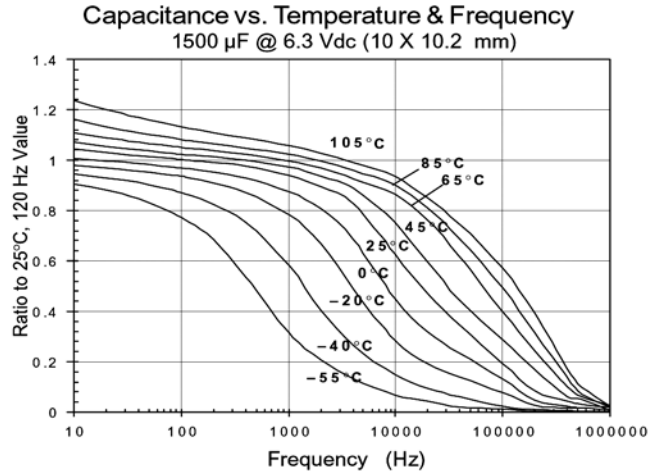
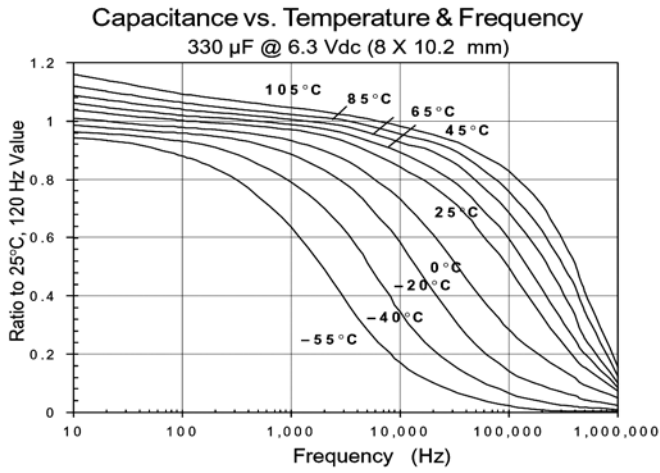
### Part Numbering System

<b>AFC</b>	<b>106</b>	<b>M</b>	<b>16</b>	<b>B</b>	<b>12T</b>	<b>-F</b>
<b>Type</b>	<b>Capacitance</b>	<b>Capacitance Tolerance</b>	<b>Voltage</b>	<b>Case Code</b>	<b>Packaging Information</b>	<b>RoHS Compliant</b>
	105 = 1.0 µF		06 = 6.3 Vdc			
	106 = 10.0 µF	M = ±20%	10 = 10 Vdc		12 = Carrier tape	
	107 = 100.0 µF		16 = 16 Vdc		Width (mm)	
	108 = 1000 µF		50 = 50 Vdc		T = Tape & Reel	
					B = bulk	

# Type AFC $-55^{\circ}\text{C}$ to $105^{\circ}\text{C}$

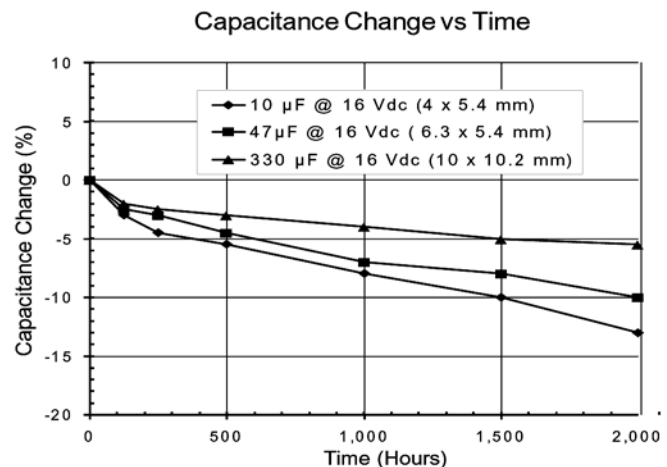
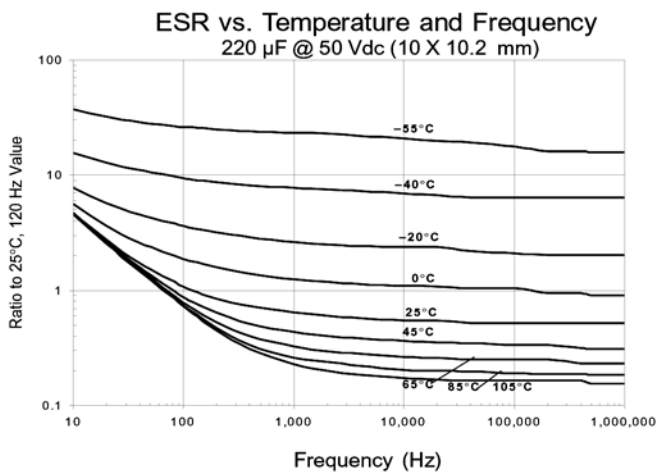
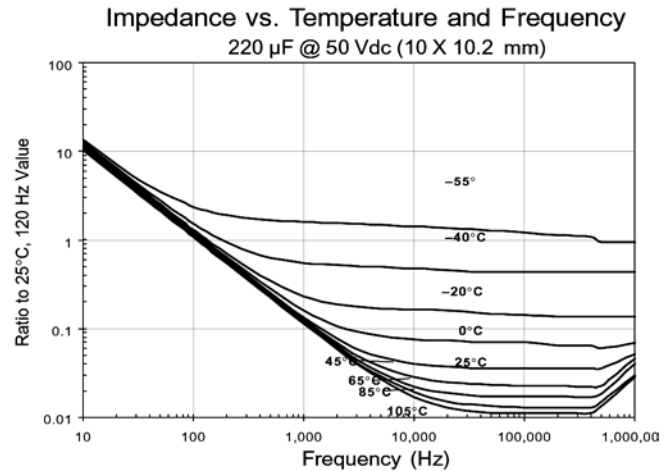
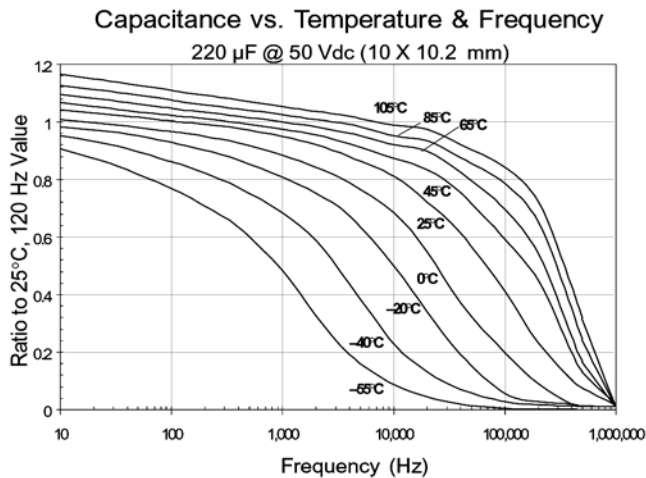
## SMT Aluminum Electrolytic Capacitors - Low Impedance, $105^{\circ}\text{C}$

### Typical Performance Curves



# Type AFC $-55^{\circ}\text{C}$ to $105^{\circ}\text{C}$

## SMT Aluminum Electrolytic Capacitors - Low Impedance, $105^{\circ}\text{C}$



**Notice and Disclaimer:** All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Aluminium Electrolytic Capacitors - SMD category](#):*

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

Other Similar products are found below :

[EEV-FK1E332W](#) [22927](#) [MAL214099813E3](#) [HUB1800-S](#) [34610](#) [RYK-50V101MG5TT-FL](#) [107AXZ016MQ5](#) [EMF1EM101E83D00R](#)  
[EMK1AM221E83D00R](#) [EMK1EM471GB0D00R](#) [EMK1VM101E83D00R](#) [EMVY350ARA221MHA0G](#) [UV2G3R3M0810VG](#)  
[RVT2A4R7M0605](#) [MAL214097402E3](#) [MAL215375471E3](#) [MAL224699909E3](#) [MAL224699813E3](#) [MAL215099017E3](#) [MAL215099117E3](#)  
[MAL215099818E3](#) [AEH1010471M010R](#) [AEA0810101M035R](#) [AEA1010681M016R](#) [AEA1010471M025R](#) [AEA0810331M010R](#)  
[AEA1616102M050R](#) [AEH1010101M050R](#) [AEA1010102M010R](#) [AEA1010102M016R](#) [AEA0810220M100R](#) [AEA0810151M035R](#)  
[AEA0810331M016R](#) [AEA0810331M025R](#) [AEA0810470M063R](#) [AEA1213221M063R](#) [AEA1213471M035R](#) [AEH0608101M016R](#)  
[AEH0608220M050R](#) [AEH0608330M050R](#) [AEH0608470M025R](#) [AEH0608470M035R](#) [AEH0810101M025R](#) [AEH1012101M063R](#)  
[HV100M100E077ETR](#) [RC0J226M04005VR](#) [RC0J476M05005VR](#) [RC1A227M08010VR](#) [RC1C476M6L005VR](#) [MAL214099111E3](#)