SILVERED MICA CAPACITOR

Mica capacitors are considered to be among the closest to an ideal capacitor available commercially. Typically, a mica capacitor consists of a flat mica dielectric with extended metal foil on each surface, creating an electrically superior component. It has been suggested that if all other types of capacitors were to suddenly disappear, mica capacitors could still handle any electrical demands. While this scenario is impractical due to economic constraints, mica capacitors, which are the second oldest type of capacitor (just a year younger than the Leyden jar), continue to perform their intended functions reliably.

This catalogue provides a comprehensive overview of the electrical and mechanical characteristics of CMR fixed terminal molded silvered mica capacitors. These capacitors are securely held in place by a molded case, which contributes to their rigidity and durability. The term "fixed terminals" refers to the stable and robust nature of these terminals, which are integral to the capacitor's design.
The catalogue includes both commercial and military-style capacitors, with listings organized for ease of cross-referencing. All CMR fixed terminal molded silvered mica capacitors comply with or surpass the requirements of Mil-C-5 and the relevant EIA specifications.
For any capacitor needs not covered in this catalogue, please consult CMR with detailed electrical and mechanical specifications to ensure you receive a product tailored to your specific requirements.

Why is the mica capacitor so good?
One needs to look no further than the basic dielectric. Mica is a inert inorganic material, formed million of years ago by the awesome pressure of the earth's creation. Mica is a exceptional stable material and this stability which makes mica so desirable in capacitors.

Stability is what makes the mica so widely used in RF circuitry. Once selected and installed, mica stays there doing its job. This is also one of the reasons micas are widely specified in precision instruments and provides rock solid stability and there is another point, accuracy. Capacitance tolerance to ± 0.5 % are available at a very little extra expense (above 100 pF, of course) .

AT & AK mica capacitor is made of a series of thin mica sheets with pure silver deposited on each side in precise pattern and location. The sheets are then stacked with conductive foil between each sheet. The extension of foil is folded towards one end the entire stack clamped under pressure. The terminals take off in direction from the stack to form a 'radial' configuration. The stack is soldered to yield improved performance at the higher frequencies. The soldered units are vacuum impregnated with a specially selected low-loss epoxy resin.

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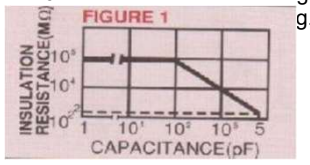
CMR exercise close control on the quality of mica from the stage of extraction from the mines, thus ensuring the use of only the finest quality of mica for the capacitors.
Careful desgin and the latest manufacturing techniques make possible the high reliability characteristics, required in the most critical applications

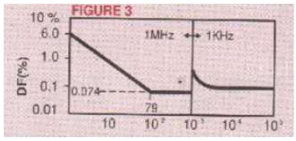
Lead Wire Material:
Tin-plated electric annealed copper wire.
Solder Ability
When immersed in molten solder for 2 ± 0.5 seconds at 230 ± 5º C, at least 75 percent of the led wire shall be covered with a new smooth solder coating.

Operating Temperature Range
-55º C to + 125º C

Withstanding Voltage
200 % of the rated voltage shall be applied for 1 to 5 seconds. The limiting value of surge current should not be exceeding 50 mA.

Insulation Resistance
When measured at 50±5V for capacitors rated at 50 V or at 100 ± 10 V for those of other ratings, the insulation resistance shall g.





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Capacitance

When measured at1 MHz (for C<1,000 pF) or 1 KHz (for C >1,000 pF) and 1 - 5 Vrms, the capacitance shall be within the specified tolerance.

Dissipation factor

D factor shall not exceed the values shown in Fig. 3.

Vibration Grade

The capacitance shall be subjected to a harmonic motion having an amplitude of 1.5 mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz. The entire frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute and the motion shall be applied for the period of 1 hour in each. 3 mutually perpendicular directions. After testing, electrical measurement shall be performed.

Insulation Resistance: Shall exceed the value shown in Fig. 2.
D Factor: Shall satisfy the value in Fig. 3.
Capacitance Change: shall not exceed ± 1% or 1 pF, whichever is greater.

Soldering Heat Resistance

Immerging both leads within 2 - 2.5 mm of the capacitor in the molten solder for 3 ± 0.5 seconds at at 270 ± 5° C
Withstanding Voltage: Capacitors shall withstand twice the rated voltage for 1 to 5 seconds without damage arcing or break down.
Capacitance Change: shall not exceed ± 1% or 1 pF, whichever is greater.

Moisture Resistance

Capacitors shall be subjected to a temperature of 40 ± 2° C at 90 - 95 % relative humidity for 240 ± 8 hours.
Withstanding Voltage: Capacitors shall withstand twice the rated voltage for 1 to 5 seconds without damage arcing or break down.
Insulation Resistance: Shall not be less than the value shown in Fig. 2.
Dissipation Factor: Shall not exceed 150 % of the value in Fig. 3
Capacitance Drift: shall not exceed ± 1% or 1 pF, whichever is greater.

Thermal Shock and Immersion Cycling

After 5 cycles of temperature sequence: - 55 +0/-3 °C (30 min) - room temperature (3 minutes max.) + 125+3/-0 °C (30 min) - room temperature (3 min. max.) Capacitor shall be subjected to 2 cycles of immersion sequence:
65 +5/-0 °C for 15 minutes and 0 ± 3 °C saturated salt solution for 15 minutes. Afterward, capacitors shall be washed in running water, wiped off and kept it normal temperature prior to measurement.
Visual Examination: There shall be no crack & other damage.
Withstanding Voltage: Capacitors shall withstand twise the rated voltage for 1 to 5 seconds without damage, arcing or break down.
Insulation Resistance: Shall not be less than the value shown in Fig. 2.
Dissipation Factor: Shall not exceed 150 % of the value in Fig. 3
Capacitance Drift: shall not exceed ± 1% or 1 pF, whichever is greater.

Life

Capacitors shall be subjected to a temperature of 125 °C with 150 % of rated voltage for 200 +48/-0 hours.after testing the following requirement should be satisfied.
Visual Examination: There shall be no crack or other mechanical damage.
Withstanding Voltage: Capacitors shall withstand twice the rated voltage for 1 to 5 seconds without damage arcing or break down.
Insulation Resistance: Shall not be less than the value shown in Fig. 1.
Dissipation Factor: Shall not exceed 150 % of the value in Fig. 3
Capacitance Drift: shall not exceed ±3% for characteristic C & ±2% for characteristic D,E,F or 1 pF, whichever is greater.

Moisture Resistance

Capacitors shall be subjected to a temperature of 40 ± 2° C at 90 - 95 % relative humidity with rated votage applied for 500 +48/-0 hours. After being maintained at normal tempereture & humidity for a period of 4 to 24 hours, the following requirements shall be satisfied.
Visual Examination: There shall be no crack and other mechanical damage.
Withstanding Voltage: Capacitors shall withstand twice the rated voltage for 1 to 5 seconds without damage, arcing or break down.
Insulation Resistance: Shall not be less than the value shown in Fig. 2.
Dissipation Factor: Shall not exceed twice the value in Fig. 3
Capacitance Drift: shall not exceed ± 1% or 1 pF, whichever is greater.

SILVERED MICA CAPACITOR

HT - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp
			± 1%	± 5%	
2,500 volts Peak Working Voltage					
HT252B470JT0	CM45B470-3	47	G	J	T
HT252B500JT0		50	G	J	T
HT252B510JT0	CM45B510-3	51	G	J	T
HT252B550JT0	CM45B550-3	55	G	J	T
HT252B620JT0	CM45B620-3	62	G	J	T
HT252B680JT0	CM45B680-3	68	G	J	T
HT252B750JT0	CM45B750-3	75	G	J	T
HT252B820JT0	CM45B820-3	82	G	J	T
HT252B910JT0	CM45B910-3	91	G	J	T
HT252B101JT0	CM45B101-3	100	G	J	T
HT252B111JT0	CM45B111-3	110	G	J	T
HT252B121JT0	CM45B121-3	120	G	J	T
HT252B131JT0	CM45B131-3	130	G	J	T
HT252B151JT0	CM45B151-3	150	G	J	T
HT252B161JT0	CM45B161-3	160	G	J	T
HT252B181JT0	CM45B181-3	180	G	J	T
HT252B201JT0	CM45B201-3	200	G	J	T
HT252B221JT0	CM45B221-3	220	G	J	T
HT252B241JT0	CM45B241-3	240	G	J	T
HT252B251JT0		250	G	J	T
HT252B271JT0	CM45B271-3	270	G	J	T
HT252B301JT0	CM45B301-3	300	G	J	T
HT252B331JT0	CM45B331-3	330	G	J	T
HT252B361JT0	CM45B361-3	360	G	J	T
HT252B391JT0	CM45B391-3	390	G	J	T
HT252B401JT0		400	G	J	T
HT252B431JT0	CM45B431-3	430	G	J	T
HT252B471JT0	CM45B471-3	470	G	J	T
HT252B501JT0		500	G	J	T
HT252B511JT0	CM45B511-3	510	G	J	T
HT252B561JT0	CM45B561-3	560	G	J	T
HT252B621JT0	CM45B621-3	620	G	J	T
HT252B681JT0	CM45B681-3	680	G	J	T
HT252B751JT0	CM45B751-3	750	G	J	T
HT252B821JT0	CM45B821-3	820	G	J	T
HT252B911JT0	CM45B911-3	910	G	J	T
HT252B102JT0	CM45B102-3	1,000	G	J	T
HT252B112JT0	CM45B112-3	1,100	G	J	T
HT252B122JT0	CM45B122-3	1,200	G	J	T
HT252B132JT0	CM45B132-3	1,300	G	J	T
HT252B152JT0	CM45B152-3	1,500	G	J	T
HT252B162JT0	CM45B162-3	1,600	G	J	T
HT252B182JT0	CM45B182-3	1,800	G	J	T
HT252B202JT0		2,000	G	J	T
HT252B302JT0		3,000	G	J	T
1,200 volts Peak Working Voltage					
HT122B402JT0		4,000	G	J	T
HT122B502JT0		5,000	G	J	T
HT122B602JT0		6,000	G	J	T
HT122B802JT0		8,000	G	J	T
600 volts Peak Working Voltage					
HT601B103JT0		10,000	G	J	T
HT601B163JT0		16,000	G	J	T

HK - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp.
			± 1%	± 5%	
2,500 volts Peak Working Voltage					
HK252B202JT0	CM50B202-3	2,000	G	J	T
HK252B222JT0	CM50B222-3	2,200	G	J	T
HK252B242JT0	CM50B242-3	2,400	G	J	T
HK252B272JT0	CM50B272-3	2,700	G	J	T
HK252B302JT0	CM50B302-3	3,000	G	J	T
HK252B332JT0	CM50B332-3	3,300	G	J	T
HK252B362JT0	CM50B362-3	3,600	G	J	T
HK252B392JT0	CM50B392-3	3,900	G	J	T
HK252B402JT0		4,000	G	J	T
HK252B432JT0	CM50B432-3	4,300	G	J	T
HK252B472JT0	CM50B472-3	4,700	G	J	T
HK252B502JT0		5,000	G	J	T
HK252B512JT0	CM50B512-3	5,100	G	J	T
HK252B552JT0		5,500	G	J	T
1,200 volts Peak Working Voltage					
HK122B562JT0	CM50B562-3	5,600	G	J	T
HK122B622JT0	CM50B622-3	6,200	G	J	T
HK122B682JT0	CM50B682-3	6,800	G	J	T
HK122B752JT0	CM50B752-3	7,500	G	J	T
HK122B802JT0	CM50B802-3	8,000	G	J	T
HK122B912JT0	CM50B912-3	9,100	G	J	T
HK122B103JT0	CM50B103-3	10,000	G	J	T
HK122B103JT0	CM50B113-3	11,000	G	J	T
600 volts Peak Working Voltage					
HK062B123JT0	CM50B123-3	12,000	G	J	T
HK062B133JT0	CM50B133-3	13,000	G	J	T
HK062B153JT0	CM50B153-3	15,000	G	J	T
HK062B163JT0	CM50B163-3	16,000	G	J	T
HK062B183JT0	CM50B183-3	18,000	G	J	T
HK062B203JT0	CM50B203-3	20,000	G	J	T
HK062B223JT0	CM50B223-3	22,000	G	J	T
HK062B243JT0	CM50B243-3	24,000	G	J	T
HK062B253JT0		25,000	G	J	T
HK062B273JT0	CM50B273-3	27,000	G	J	T
HK062B303JT0		30,000	G	J	T

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AT - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp
			± 1%	± 5%	
2,500 volts Peak Working Voltage					
AT252B220JT0	CM55B220-3	22	G	J	T
AT252B240JT0	CM55B240-3	24	G	J	T
AT252B270JT0	CM55B270-3	27	G	J	T
AT252B300JT0	CM55B300-3	30	G	J	T
AT252B330JT0	CM55B330-3	33	G	J	T
AT252B360JT0	CM55B360-3	36	G	J	T
AT252B390JT0	CM55B390-3	39	G	J	T
AT252B430JT0	CM55B430-3	43	G	J	T
AT252B470JT0	CM55B470-3	47	G	J	T
AT252B500JT0		50	G	J	T
AT252B510JT0	CM55B510-3	51	G	J	T
AT252B560JT0	CM55B560-3	56	G	J	T
AT252B620JT0	CM55B620-3	62	G	J	T
AT252B680JT0	CM55B680-3	68	G	J	T
AT252B750JT0	CM55B75-3	75	G	J	T
AT252B820JT0	CM55B820-3	82	G	J	T
AT252B910JT0	CM55B910-3	91	G	J	T
AT252B101JT0	CM55B101-3	100	G	J	T
AT252B111JT0	CM55B111-3	110	G	J	T
AT252B121JT0	CM55B121-3	120	G	J	T
AT252B131JT0	CM55B131-3	130	G	J	T
AT252B151JT0	CM55B151-3	150	G	J	T
AT252B161JT0	CM55B161-3	160	G	J	T
AT252B181JT0	CM55B181-3	180	G	J	T
AT252B201JT0	CM55B201-3	200	G	J	T
AT252B221JT0	CM55B221-3	220	G	J	T
AT252B241JT0	CM55B241-3	240	G	J	T
AT252B251JT0		250	G	J	T
AT252B271JT0	CM55B271-3	270	G	J	T
AT252B301JT0	CM55B301-3	300	G	J	T
AT252B331JT0	CM55B331-3	330	G	J	T
AT252B361JT0	CM55B361-3	360	G	J	T
AT252B391JT0	CM55B391-3	390	G	J	T
AT252B431JT0	CM55B431-3	430	G	J	T
AT252B471JT0	CM55B471-3	470	G	J	T
AT252B501JT0		500	G	J	T
AT252B511JT0	CM55B511-3	510	G	J	T
AT252B561JT0	CM55B561-3	560	G	J	T
AT252B621JT0	CM55B621-3	620	G	J	T
AT252B681JT0	CM55B681-3	680	G	J	T
AT252B751JT0	CM55B3975	750	G	J	T
AT252B821JT0	CM55B821-3	820	G	J	T
AT252B911JT0	CM55B911-3	910	G	J	T
AT252B102JT0	CM55B102-3	1,000	G	J	T
AT252B112JT0	CM55B112-3	1,100	G	J	T
AT252B132JT0	CM55B132-3	1,300	G	J	T
AT252B152JT0	CM55B152-3	1,500	G	J	T
AT252B162JT0	CM55B162-3	1,600	G	J	T
AT252B182JT0	CM55B182-3	1,800	G	J	T
AT252B202JT0	CM55B202-3	2,000	G	J	T
AT252B222JT0	CM55B222-3	2,200	G	J	T
AT252B242JT0	CM55B242-3	2,400	G	J	T
AT252B252JT0	CM55B252-3	2,500	G	J	T

AT - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp.
			± 1%	± 5%	
2,500 volts Peak Working Voltage					
AT252B272JT0	CM55B272-3	2,700	G	J	T
AT252B302JT0	CM55B302-3	3,000	G	J	T
AT252B332JT0	CM55B332-3	3,300	G	J	T
AT252B362JT0	CM55B362-3	3,600	G	J	T
AT252B392JT0	CM55B392-3	3,900	G	J	T
AT252B402JT0	CM55B402-3	4,000	G	J	T
AT252B432JT0	CM55B432-3	4,300	G	J	T
AT252B472JT0	CM55B472-3	4,700	G	J	T
1,200 volts Peak Working Voltage					
AT122B512JT0	CM55B512-3	5,100	G	J	T
AT122B562JT0	CM55B562-3	5,600	G	J	T
AT122B622JT0	CM55B622-3	6,200	G	J	T
AT122B682JT0	CM55B682-3	6,800	G	J	T
AT122B752JT0	CM55B752-3	7,500	G	J	T
AT122B822JT0	CM55B822-3	8,200	G	J	T
AT122B912JT0	CM55B912-3	9,100	G	J	T
AT122B103JT0	CM55B103-3	10,000	G	J	T
AT122B113JT0	CM55B113-3	11,000	G	J	T
AT122B123JT0	CM55B123-3	12,000	G	J	T
AT122B133JT0	CM55B133-3	13,000	G	J	T
600 volts Peak Working Voltage					
AT062B153JT0	CM55B153-3	15,000	G	J	T
AT062B163JT0	CM55B163-3	16,000	G	J	T
AT062B183JT0	CM55B183-3	18,000	G	J	T
AT062B203JT0	CM55B203-3	20,000	G	J	T
AT062B223JT0	CM55B223-3	22,000	G	J	T
AT062B243JT0	CM55B243-3	24,000	G	J	T
AT062B273JT0	CM55B273-3	27,000	G	J	T
AT062B303JT0	CM55B303-3	30,000	G	J	T
AT062B333JT0	CM55B333-3	33,000	G	J	T

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AK - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp
			± 1%	± 5%	
2,500 volts Peak Working Voltage					
AK252B101JT0	CM60B101-3	100	G	J	T
AK252B201JT0	CM60B201-3	200	G	J	T
AK252B221JT0	CM60B221-3	220	G	J	T
AK252B241JT0	CM60B241-3	240	G	J	T
AK252B271JT0	CM60B271-3	270	G	J	T
AK252B301JT0	CM60B301-3	300	G	J	T
AK252B331JT0	CM60B331-3	330	G	J	T
AK252B361JT0	CM60B361-3	360	G	J	T
AK252B391JT0	CM60B391-3	390	G	J	T
AK252B431JT0	CM60B431-3	430	G	J	T
AK252B471JT0	CM60B471-3	470	G	J	T
AK252B511JT0	CM60B511-3	510	G	J	T
AK252B561JT0	CM60B561-3	560	G	J	T
AK252B621JT0	CM60B621-3	620	G	J	T
AK252B681JT0	CM60B681-3	680	G	J	T
AK252B751JT0	CM60B751-3	750	G	J	T
AK252B821JT0	CM60B821-3	820	G	J	T
AK252B911JT0	CM60B911-3	910	G	J	T
AK252B102JT0	CM60B102-3	1,000	G	J	T
AK252B112JT0	CM60B112-3	1,100	G	J	T
AK252B122JT0	CM60B122-3	1,200	G	J	T
AK252B132JT0	CM60B132-3	1,300	G	J	T
AK252B152JT0	CM60B152-3	1,500	G	J	T
AK252B162JT0	CM60B162-3	1,600	G	J	T
AK252B182JT0	CM60B182-3	1,800	G	J	T
AK252B202JT0	CM60B202-3	2,000	G	J	T
AK252B222JT0	CM60B222-3	2,200	G	J	T
AK252B242JT0	CM60B242-3	2,400	G	J	T
AK252B272JT0	CM60B272-3	2,700	G	J	T
AK252B302JT0	CM60B302-3	3,000	G	J	T
AK252B332JT0	CM60B332-3	3,300	G	J	T
AK252B362JT0	CM60B362-3	3,600	G	J	T
AK252B392JT0	CM60B392-3	3,900	G	J	T
AK252B402JT0	CM60B402-3	4,000	G	J	T
AK252B432JT0	CM60B432-3	4,300	G	J	T
AK252B472JT0	CM60B472-3	4,700	G	J	T
AK252B502JT0	CM60B502-3	5,000	G	J	T
AK252B512JT0	CM60B512-3	5,100	G	J	T
AK252B562JT0	CM60B562-3	5,600	G	J	T
AK252B622JT0	CM60B622-3	6,200	G	J	T
AK252B682JT0	CM60B682-3	6,800	G	J	T
AK252B752JT0	CM60B752-3	7,500	G	J	T
AK252B802JT0	CM60B802-3	8,000	G	J	T
AK252B822JT0	CM60B822-3	8,200	G	J	T
AK252B912JT0	CM60B912-3	9,100	G	J	T
AK252B103JT0	CM60B103-3	10,000	G	J	T
AK252B113JT0	CM60B113-3	11,000	G	J	T
AK252B123JT0	CM60B123-3	12,000	G	J	T
AK252B133JT0	CM60B133-3	13,000	G	J	T
AK252B143JT0	CM60B143-3	14,000	G	J	T
AK252B153JT0	CM60B153-3	15,000	G	J	T
AK252B163JT0	CM60B163-3	16,000	G	J	T

AK - Series

Part Number	Millitary Equivalent	Cap. (pF)	Tolerance		Opt. Temp.
			± 1%	± 5%	
1,200 volts Peak Working Voltage					
AK122B183JT0	CM60B183-3	18,000	G	J	T
AK122B203JT0	CM60B203-3	20,000	G	J	T
AK122B223JT0	CM60B223-3	22,000	G	J	T
AK122B243JT0	CM60B243-3	24,000	G	J	T
AK122B253JT0	CM60B253-3	25,000	G	J	T
AK122B273JT0	CM60B273-3	27,000	G	J	T
AK122B303JT0	CM60B303-3	30,000	G	J	T
AK122B333JT0	CM60B333-3	33,000	G	J	T
600 volts Peak Working Voltage					
AK062B363JT0	CM60B363-3	36,000	G	J	T
AK062B393JT0	CM60B393-3	39,000	G	J	T
AK062B403JT0	CM60B403-3	40,000	G	J	T
AK062B433JT0	CM60B433-3	43,000	G	J	T
AK062B473JT0	CM60B473-3	47,000	G	J	T
AK062B503JT0	CM60B503-3	50,000	G	J	T
AK062B603JT0	CM60B603-3	60,000	G	J	T
AK062B703JT0	CM60B703-3	70,000	G	J	T