

performance CHARACTERISTICS

OPERATING TEMPERATURE RANGE

From -55°C to +105°C.

INSULATION RESISTANCE

When measured at test temperature and rated voltage for a minimum of two (2) minutes, the insulation resistance equals or exceeds the following values:

Temperature	25°C	85°C	+105°C
Megohms x Microfarads	50,000	5,000	150

Insulation resistance in megohms need not exceed: 200,000 20,000 2000

DISSIPATION FACTOR

When measured at the frequency specified for capacitance measurement, the dissipation factor will not exceed 0.1%.

CAPACITANCE CHANGE

Capacitance change versus temperature for these capacitors shall not exceed the following:

Temperature Degrees C.	-55	+25	+105
Percent Change	+2.0	0	-4.0
Typical	+1.6	0	-2.2

DIELECTRIC STRENGTH

Capacitors withstand a DC potential of 1.5 x rated voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a minimum resistance of 100 OHMS per volt.

CAPACITANCE TOLERANCE

Standard tolerance is ±10%. Tolerances of ±5%, ±2% and ±1% are also available.

NOTE: Capacitance is measured at 25°C, and at a frequency of 1KHZ for all values.

electrical data

PART NUMBER	CAP "μF"	VDC	VAC	ESR 100kHz OHMS MAX	MAXIMUM RIPPLE CURRENT IN AMPS				"I" PEAK AMPS	dv/dt v/μs	(TYP) "ESL" nH	(TYP) "f" RES kHz
					20kHz							
					TEMPERATURES							
					25°C	50°C	85°C	105°C				
5MP2_J474K	0.47	400	230	0.016	5.3	4.4	2.7	0.7	79	168	18	1710
5MP2_J684K	0.68	400	230	0.015	6.2	5.2	3.2	0.8	97	143	22	1312
5MP2_J105K	1.0	400	230	0.010	8.1	6.8	4.2	1.0	143	143	22	1082
5MP2_J155K	1.5	400	230	0.007	10.8	8.9	5.5	1.3	214	143	22	884
5MP2_J205K	2.0	400	230	0.006	13.1	10.9	6.7	1.6	285	143	22	765
5MP2_J225K	2.2	400	230	0.006	14	11.6	7.1	1.7	314	143	22	730
5MP2_J335K	3.3	400	230	0.005	16.5	13.7	8.4	2.0	471	143	22	596
5MP2_J475K	4.7	400	230	0.006	17.2	14.3	8.8	2.1	421	89	35	392
5MP2_J685K	6.8	400	230	0.007	18	15	9.2	2.2	443	65	50	274
5MP2_J106K	10.0	400	230	0.005	23.2	19.3	11.9	2.8	652	65	50	226
5MP2_K474K	0.47	600	230	0.011	7.9	6.6	4.1	1.0	118	251	18	1710
5MP2_K684K	0.68	600	230	0.008	10.3	8.6	5.3	1.3	171	251	18	1422
5MP2_K105K	1.0	600	230	0.006	13.5	11.2	6.9	1.6	251	251	18	1173
5MP2_K155K	1.5	600	230	0.005	16	13.3	8.2	1.9	321	214	22	884
5MP2_K205K	2.0	600	230	0.005	17.5	14.6	9	2.1	428	214	22	765
5MP2_K225K	2.2	600	230	0.010	13.5	11.2	6.9	1.6	249	113	42	522
5MP2_K335K	3.3	600	230	0.007	17.9	14.9	9.1	2.2	373	113	42	426
5MP2_K475K	4.7	600	230	0.006	22.7	18.9	11.6	2.8	532	113	42	357
5MP2_N305K	3.0	800	230	0.005	41.9	34.9	21.4	5.1	856	285	22	625
5MP2_N405K	4.0	800	230	0.005	42.6	35.5	21.8	5.2	880	220	28	473
5MP2_N505K	5.0	800	230	0.005	42.7	35.6	21.8	5.2	895	179	35	379
5MP2_N605K	6.0	800	230	0.005	42.7	35.5	21.8	5.2	905	151	42	316
5MP2_N705K	7.0	800	230	0.005	42.5	35.3	21.7	5.2	913	130	50	270
5MP2_N805K	8.0	800	230	0.005	42.3	35.2	21.6	5.1	918	115	57	236
5MP2_BN105K	1.0	1200	460	0.005	37.5	31.2	19.2	4.6	1076	1076	20	1120
5MP2_BN155K	1.5	1200	460	0.005	42.3	35.2	21.6	5.1	1143	762	28	782
5MP2_BN205K	2.0	1200	460	0.005	45.8	38.1	23.4	5.6	1219	610	34	609
5MP2_BN255K	2.5	1200	460	0.005	47.9	39.9	24.5	5.8	1270	508	41	498
5MP2_BN305K	3.0	1200	460	0.005	48.4	40.3	24.7	5.9	1276	425	49	416
5MP2_BN335K	3.3	1200	460	0.005	47.1	39.2	24.1	5.7	1232	373	56	371
5MP2_BT105K	1.0	1600	460	0.005	34.6	28.8	17.7	4.2	813	813	34	862
5MP2_BT135K	1.3	1600	460	0.005	37.8	31.4	19.3	4.6	881	677	41	691
5MP2_BT155K	1.5	1600	460	0.005	37.3	31.0	19.0	4.5	851	567	49	588
5MP2_BT185K	1.8	1600	460	0.005	39.1	32.5	20.0	4.8	896	498	56	502
5MP2_P105K	1.0	2000	460	0.005	33.7	28.0	17.2	4.1	709	709	49	721
5MP2_P125K	1.2	2000	460	0.005	35.5	29.5	18.1	4.3	746	622	56	615

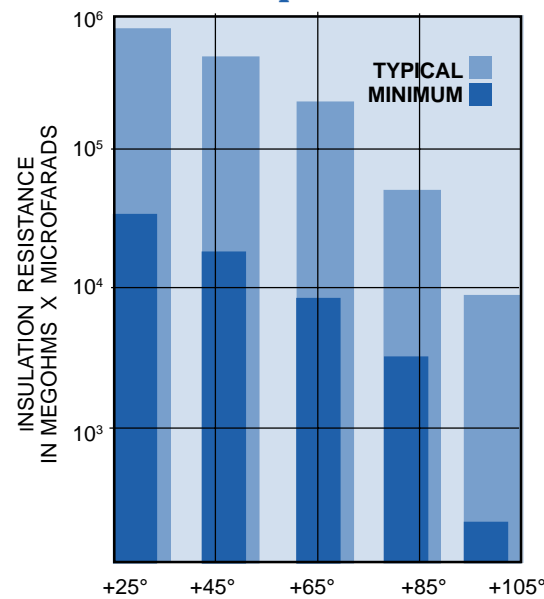
NOTE: RMS current ratings are based on maximum capability of the capacitor element.
For capacitor styles with leads, the RMS current rating is limited by the lead wire as follows: #16: 19 amps; #18: 16 amps; #20: 12 amps.

dimensional data

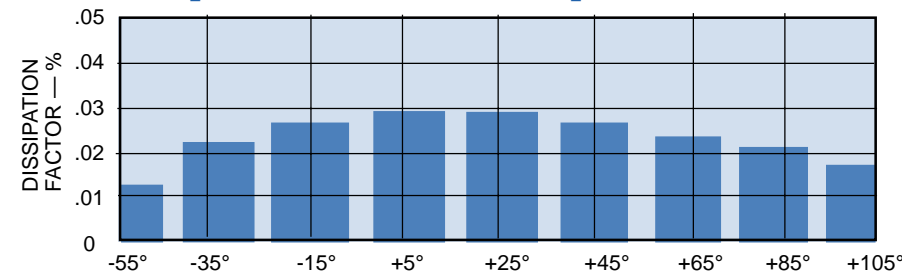
PART NUMBER	CAP (uF)	AXIAL LEADS 5MP22				LOW PROFILE 5MP26				HIGH PROFILE 5MP27			
		"T" (MAX)	"H" (MAX)	"L" (+/-0.062)	AWG	"T" (MAX)	"H" (MAX)	"L" (+/-0.062)	"S" (+0.093, -0.062)	"T" (MAX)	"H" (MAX)	"L" (+/-0.062)	"S" (+0.093, -0.062)
5MP2_J474K	0.47	0.260	0.453	1.125	20								
5MP2_J684K	0.68	0.294	0.486	1.250	20								
5MP2_J105K	1.0	0.366	0.559	1.250	20								
5MP2_J155K	1.5	0.461	0.653	1.250	20								
5MP2_J205K	2.0	0.541	0.734	1.250	20								
5MP2_J225K	2.2	0.539	0.794	1.250	20								
5MP2_J335K	3.3	0.681	0.953	1.250	20	0.953	0.681	1.250	1.690	0.681	0.953	1.250	1.690
5MP2_J475K	4.7	0.638	0.893	1.750	18	0.893	0.638	1.750	2.190	0.638	0.893	1.750	2.190
5MP2_J685K	6.8	0.658	0.912	2.250	18	0.912	0.658	2.250	2.690	0.658	0.912	2.250	2.690
5MP2_J106K	10.0	0.817	1.072	2.250	18	1.072	0.817	2.250	2.690	0.817	1.072	2.250	2.690
5MP2_K474K	0.47	0.418	0.611	1.125	20								
5MP2_K684K	0.68	0.514	0.707	1.125	20								
5MP2_K105K	1.0	0.635	0.828	1.125	20	0.828	0.635	1.125	1.565	0.635	0.828	1.125	1.565
5MP2_K155K	1.5	0.726	0.919	1.250	20	0.919	0.726	1.250	1.690	0.726	0.919	1.250	1.690
5MP2_K205K	2.0	0.848	1.041	1.250	20	1.041	0.848	1.250	1.690	0.848	1.041	1.250	1.690
5MP2_K225K	2.2	0.632	0.825	2.000	18	0.825	0.632	2.000	2.440	0.632	0.825	2.000	2.440
5MP2_K335K	3.3	0.788	0.980	2.000	18	0.980	0.788	2.000	2.440	0.788	0.980	2.000	2.440
5MP2_K475K	4.7	0.953	1.145	2.000	18	1.145	0.953	2.000	2.440	0.953	1.145	2.000	2.440
5MP2_N305K	3.0	1.455	1.815	1.250	16	1.815	1.455	1.250	2.065	1.455	1.815	1.250	2.065
5MP2_N405K	4.0	1.455	1.815	1.500	16	1.815	1.455	1.500	2.315	1.455	1.815	1.500	2.315
5MP2_N505K	5.0	1.455	1.815	1.750	16	1.815	1.455	1.750	2.565	1.455	1.815	1.750	2.565
5MP2_N605K	6.0	1.455	1.815	2.000	16	1.815	1.455	2.000	2.815	1.455	1.815	2.000	2.815
5MP2_N705K	7.0	1.455	1.815	2.250	16	1.815	1.455	2.250	3.065	1.455	1.815	2.250	3.065
5MP2_N805K	8.0	1.455	1.815	2.500	16	1.815	1.455	2.500	3.315	1.455	1.815	2.500	3.315
5MP2_BN105K	1.0	1.455	1.815	1.250	16	1.815	1.455	1.250	2.035	1.455	1.815	1.250	2.035
5MP2_BN155K	1.5	1.455	1.815	1.500	16	1.815	1.455	1.500	2.285	1.455	1.815	1.500	2.285
5MP2_BN205K	2.0	1.455	1.815	1.750	16	1.815	1.455	1.750	2.535	1.455	1.815	1.750	2.535
5MP2_BN255K	2.5	1.455	1.815	2.000	16	1.815	1.455	2.000	2.785	1.455	1.815	2.000	2.785
5MP2_BN305K	3.0	1.455	1.815	2.250	16	1.815	1.455	2.250	3.035	1.455	1.815	2.250	3.035
5MP2_BN335K	3.3	1.455	1.815	2.500	16	1.815	1.455	2.500	3.285	1.455	1.815	2.500	3.285
5MP2_BT105K	1.0	1.455	1.815	1.750	16	1.815	1.455	1.750	2.535	1.455	1.815	1.750	2.535
5MP2_BT135K	1.3	1.455	1.815	2.000	16	1.815	1.455	2.000	2.785	1.455	1.815	2.000	2.785
5MP2_BT155K	1.5	1.455	1.815	2.250	16	1.815	1.455	2.250	3.035	1.455	1.815	2.250	3.035
5MP2_BT185K	1.8	1.455	1.815	2.500	16	1.815	1.455	2.500	3.285	1.455	1.815	2.500	3.285
5MP2_P105K	1.0	1.455	1.815	2.250	16	1.815	1.455	2.250	3.035	1.455	1.815	2.250	3.035
5MP2_P125K	1.2	1.455	1.815	2.500	16	1.815	1.455	2.500	3.285	1.455	1.815	2.500	3.285

electrical characteristics vs. temperature (centigrade)

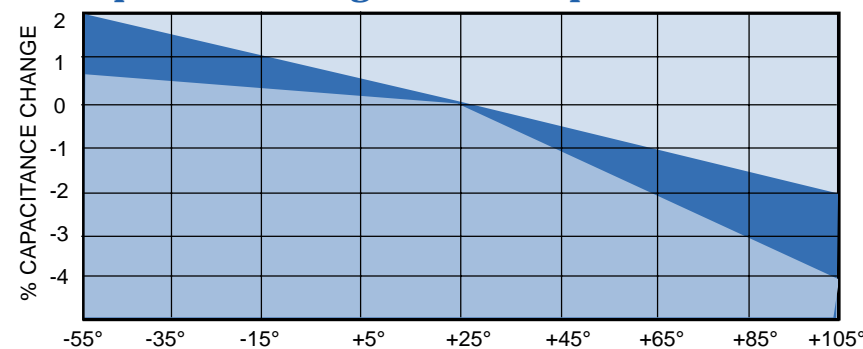
insulation resistance versus temperature



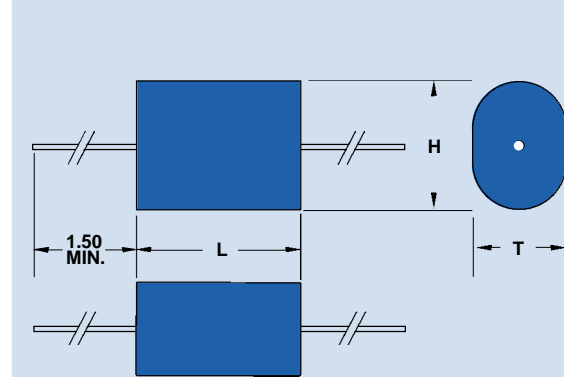
dissipation factor versus temperature



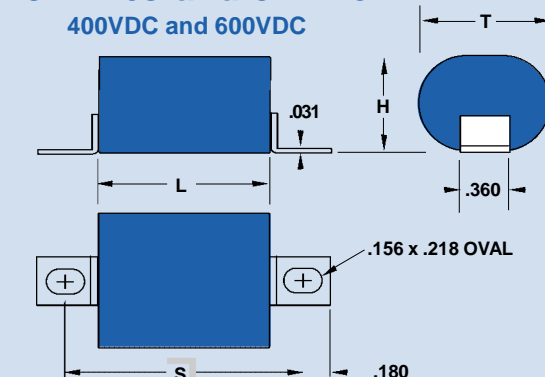
capacitance change versus temperature



5MP22



5MP26J and 5MP26K



specifications

CONSTRUCTION

Extended foil.

SERVICE LIFE

Designed to meet the requirements of MIL-STD-202, Method 108, condition F.

HUMIDITY RESISTANCE

Exceeds requirements of MIL-STD-202, Method 103.

HIGH FREQUENCY VIBRATION

Capacitors meet the 2000 cycle vibration test in accordance with Method 204 of MIL-STD 202A, condition B. Vibration is continuous for a four hour period in each of two directions, parallel and perpendicular to the major axis.

Test results showed no mechanical damage, and no evidence of intermittent contacts or open or short circuiting.

QUALITY CONTROL

Capacitors are tested 100% for:

- CAPACITANCE TOLERANCE
- DISSIPATION FACTOR
- DIELECTRIC WITHSTANDING VOLTAGE
- INSULATION RESISTANCE

Complete process and inspection data is maintained on file and is available on special request.

MARKING

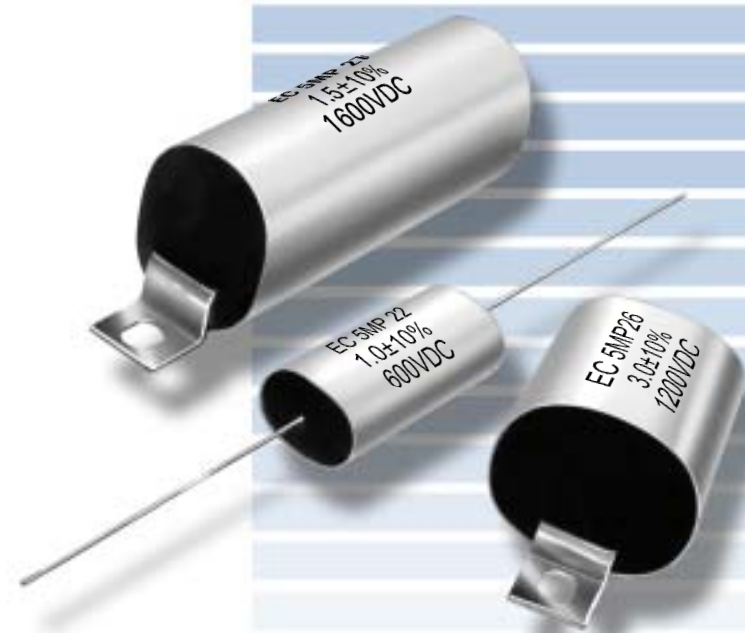
All capacitors are marked with one or more of the following: company initials "EC", corporate logo or EC trademark — in addition to style, capacitance, tolerance, rated DC working voltage and date code.

DATE CODE

The first two digits of the date code represent the year, the second two digits the week.

QUALITY ASSURANCE

Emphasis is placed on quality assurance. Raw material inspection and the use of SPC monitored manufacturing procedures assure highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-



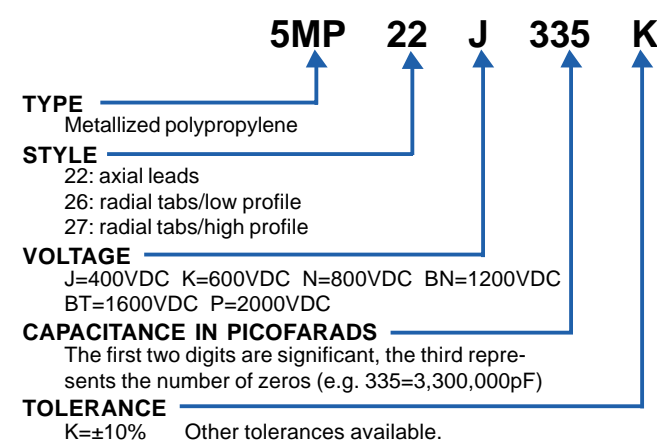
the-art by utilizing leading edge technology, ultra-miniature capacitor designs and established reliability procedures.

In constructing the components described, the full intent of the specification will be met. Electronic Concepts does, however, reserves the right to depart from the detail specifications in order to improve the design of its products.

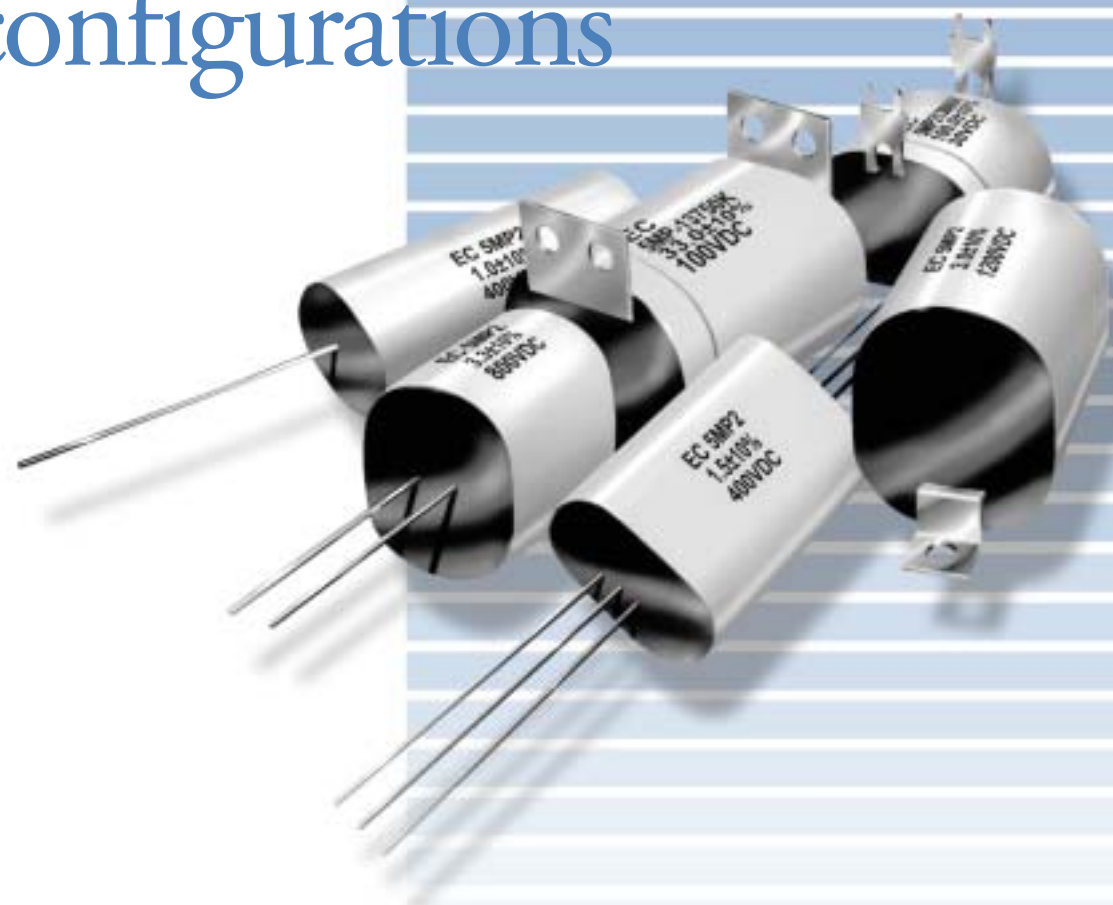
This information is believed to be accurate and reliable. However, Electronic Concepts assumes no responsibility for its use; nor for any infringement of patents or other rights of third parties which may result.

See page three for electrical characteristics

how to order



optional configurations



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capacitors



5MP2 SERIES METALLIZED POLYPROPYLENE SWITCHING POWER SUPPLY CAPACITORS

specifically designed for snubber & high current applications

- HIGH CURRENT CARRYING CAPABILITY
- THREE STANDARD CONFIGURATIONS
- THREE MOUNTING METHODS
- LOW ESR AND ESL
- COMPACT DESIGN

The 5MP2 SERIES is unique because of the combination of physical and electrical capabilities it offers. Encompassing voltage to 2000VDC and capacitance as high as 10.0mfd to meet peak system power requirements. Plus there are three configurations and three mounting methods to fit virtually any pcb density and spacing layout. Now the "maximum circuit design potential" can be realized. The capacitor no longer dictates system performance parameters.



Electronic Concepts is the *only* manufacturer to offer radial tab terminations (low and high profile) on a snubber type capacitor. Tab terminations are mechanically stable and can accommodate high current

with minimal inductance. They also dissipate heat efficiently and withstand hostile environments associated with the electronic industry, e.g. shock, vibration and heat. Plus they are surface mountable.

Additional characteristics include a low loss polypropylene dielectric, high RMS current carrying capability — and they are UL 94-VO flame retardant. Each unit is also tested for peak current.

The 5MP2 SERIES, which is manufactured in the U.S.A., offers a new level of flexibility that ensures greater reliability, design simplification and system miniaturization. With the added potential for significant overall system cost savings.

Offers unmatched design flexibility to optimize system performance!

electronic concepts

