



EMI Suppression Capacitors (MKP)

B3202* Series

Series/Type: B32021, B32022, B32023, B32024, B32026

Date: March 2007

Version: 4

Typical applications

Y2 class for interference suppression
"Line to ground" applications.

Climatic

Maximum operating temperature of 110°C
Climatic category (IEC 60068-1): 40/110/56

Construction

Dielectric: Polypropylene (MKP)
Plastic case (UL 94 V-0)
Epoxy resin sealing (UL 94 V-0)

Features

Very small dimensions
Good self-healing properties
High voltage capability

Terminals

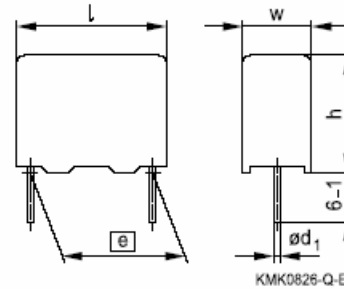
Parallel wire leads, lead-free tinned.
Standard lead lengths: 6-1mm.
Special lead lengths are available on request.

Marking

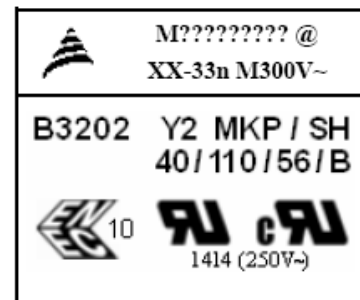
Manufacturer's logo and lot number,
date code, rated capacitance (coded),
capacitance tolerance (code letter) and
rated ac voltage (IEC)
Series number, sub-class (Y2),
dielectric code (MKP), climatic category,
passive flammability category, approvals.

Delivery mode

Bulk (untaped)
Taped (Ammo pack or Reel)

Dimensional drawing


Lead spacing e ± 0.4 (mm)	Lead diameter d_1 (mm)	Type
10	0.6	B32021
15 ... 27.5	0.8	B32022 ... 24
37.5	1.0	B32026

Marking example:

Technical data

Rated AC voltage (IEC 60384-14)	300 V (50/60 Hz)		
Maximum continuous DC voltage (V DC)	1500 V		
Maximum continuous AC voltage (V AC)	480 V (50/60 Hz)		
Maximum operating temperature $T_{Op,max}$	+110 °C		
DC test voltage	4000 V ($C \leq 0.33 \mu F$), 3700 V ($C > 0.33 \mu F$), 2 s		
Dissipation factor $\tan \delta$ (in 10^{-3}) at 20 °C, (upper limit values)		$C \leq 0.33 \mu F$	$C > 0.33 \mu F$
	At 1 kHz	1	1
Insulation resistance R_{ins} or time constant $\tau = C_R \cdot R_{ins}$ at 100 V DC, 20 °C, rel. humidity $\leq 65\%$ and for 60 s (minimum "as delivered" values)	$C_R \leq 0.33 \mu F$	$C_R > 0.33 \mu F$	
	100 000 M Ω	30 000 s	
Passive flammability category In accordance with IEC 40 (CO) 752	B		
Capacitance Tolerances (measured at 1 kHz)	$\pm 10\%$ (K), $\pm 20\%$ (M)		



EMI suppression capacitors (MKP)

B3202* Series
Y2 / 300 V AC

Ordering codes and packing units

ϵ ±0.4 (mm)	C _R	Max. dimensions w × h × l mm	Ordering code	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
10	1.0 nF	4.0 × 9.0 × 13.0	B32021A3102+***	1000	1700	1000
	1.5 nF	4.0 × 9.0 × 13.0	B32021A3152+***	1000	1700	1000
	2.2 nF	4.0 × 9.0 × 13.0	B32021A3222+***	1000	1700	1000
	3.3 nF	4.0 × 9.0 × 13.0	B32021A3332+***	1000	1700	1000
	4.7 nF	5.0 × 11.0 × 13.0	B32021A3472+***	830	1300	1000
	5.6 nF	5.0 × 11.0 × 13.0	B32021A3562+***	830	1300	1000
	6.8 nF	5.0 × 11.0 × 13.0	B32021A3682+***	830	1300	1000
	8.2 nF	6.0 × 12.0 × 13.0	B32021A3822+***	680	1100	1000
15	10 nF	5.0 × 10.5 × 18.0	B32022A3103+***	1170	1300	1000
	15 nF	6.0 × 11.0 × 18.0	B32022A3153+***	960	1100	1000
	22 nF	6.0 × 12.0 × 18.0	B32022A3223M***	960	1100	1000
	22 nF	7.0 × 12.5 × 18.0	B32022B3223+***	830	900	1000
	33 nF	8.0 × 14.0 × 18.0	B32022A3333+***	730	750	500
	47 nF	8.5 × 14.5 × 18.0	B32022A3473M***	680	700	500
	47 nF	13.0 × 14.0 × 18.0	B32022T3473+***	-	500	300
	47 nF	9.0 × 17.5 × 18.0	B32022B3473+***	640	700	500
	56 nF	9.0 × 17.5 × 18.0	B32022A3563+***	640	700	500
	68 nF	9.0 × 17.5 × 18.0	B32022A3683M***	640	700	500
22.5	0.047 μF	6.0 × 15.0 × 26.5	B32023A3473+***	680	700	720
	0.056 μF	6.0 × 15.0 × 26.5	B32023A3563M***	680	700	720
	0.068 μF	7.0 × 16.0 × 26.5	B32023A3683+***	580	600	630
	0.068 μF	7.5 × 14.5 × 26.5	B32023B3683M***	550	500	570
	0.082 μF	8.5 × 16.5 × 26.5	B32023A3823+***	480	500	510
	0.1 μF	8.5 × 16.5 × 26.5	B32023A3104M***	480	500	510
	0.1 μF	10.5 × 16.5 × 26.5	B32023B3104+***	390	400	540
	0.15 μF	10.5 × 18.5 × 26.5	B32023A3154M***	390	400	540
	0.15 μF	10.5 × 20.5 × 26.5	B32023B3154+***	-	-	540
	0.22 μF	12.0 × 22.0 × 26.5	B32023A3224M***	-	-	450
	0.22 μF	14.5 × 29.5 × 26.5	B32023B3224+***	-	-	540
	0.33 μF	14.5 × 29.5 × 26.5	B32023A3334+***	-	-	540
27.5	0.39 μF	14.5 × 29.5 × 26.5	B32023A3394M***	-	-	540
	0.15 μF	11.0 × 19.0 × 31.5	B32024A3154+***	-	350	320
	0.22 μF	11.0 × 19.0 × 31.5	B32024A3224M***	-	350	320
	0.22 μF	11.0 × 21.0 × 31.5	B32024B3224+***	-	350	320
	0.33 μF	13.5 × 23.0 × 31.5	B32024A3334M***	-	250	260
	0.33 μF	14.0 × 24.5 × 31.5	B32024B3334+***	-	-	260
	0.47 μF	15.0 × 24.5 × 31.5	B32024A3474M***	-	-	240
	0.47 μF	18.0 × 27.5 × 31.5	B32024B3474+***	-	-	200
	0.47 μF	16.0 × 32.0 × 31.5	B32024C3474+***	-	-	220
	0.56 μF	16.0 × 32.0 × 31.5	B32024A3564+***	-	-	220
	0.68 μF	19.0 × 30.0 × 31.5	B32024A3684M***	-	-	180
	0.68 μF	18.0 × 33.0 × 31.5	B32024B3684+***	-	-	200
	0.68 μF	21.0 × 31.0 × 31.5	B32024C3684+***	-	-	180
	0.82 μF	22.0 × 36.5 × 31.5	B32024A3824+***	-	-	160
	1.0 μF	22.0 × 36.5 × 31.5	B32024A3105M***	-	-	160

Further E series and intermediate capacitance values are available on request.

Composition of ordering code

+ = Capacitance tolerance code
M = ±20%
K = ±10%

*** = Packing code

289 = Ammo pack

189 = Reel pack

000 = Untaped (lead length 6-1mm)

Ordering codes and packing units

\bar{e} ±0.4 (mm)	C _R	Max. dimensions w × h × l mm	Ordering code	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
37.5	0.33 μF	12.0 × 22.0 × 41.5	B32026A3334+***	-	-	135
	0.47 μF	14.0 × 25.0 × 41.5	B32026A3474+***	-	-	115
	0.56 μF	14.0 × 25.0 × 41.5	B32026A3564M***	-	-	115
	0.56 μF	16.0 × 28.5 × 41.5	B32026B3564+***	-	-	100
	0.68 μF	16.0 × 28.5 × 41.5	B32026A3684+***	-	-	100
	0.82 μF	16.0 × 28.5 × 41.5	B32026A3824M***	-	-	100
	0.82 μF	18.0 × 32.5 × 41.5	B32026B3824+***	-	-	90
	1.0 μF	18.0 × 32.5 × 41.5	B32026A3105M***	-	-	90
	1.0 μF	20.0 × 39.5 × 41.5	B32026B3105+***	-	-	75




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Composition of ordering code

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K = ±10%

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289 = Ammo pack
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Approvals

Standards	Certificate	Marks of Conformity
EN 132400 / IEC 60384-14 (300 V AC)	40018909	
UL1414 (250 V AC) UL1283 (400 V AC)	E97863 E301966	
CSA C22.2 No.1 (250 V AC) CSA C22.2 No.8 (400 V AC)	E97863 E301966	

(1) approved by UL

dV/dt and K₀ values

\bar{e} ±0.4 (mm)	10	15	22.5	27.5	37.5
dV/dt (V/μs)	800	600	500	400	300
K ₀ (V ² /μs)	677000	508000	423000	338000	254000

Note: The maximum values of dV/dt and K₀ must not be exceeded in order to avoid overheating of the capacitor.

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