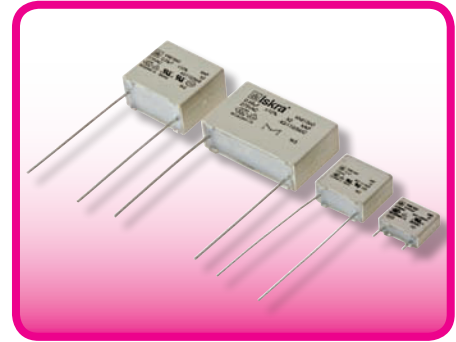


Capacitors

Type KNB1560	275 V AC	class X2
Type KNB1562		
Type KNB1563		



TECHNICAL DATA





Construction:	polypropylene film, metallized
Rated voltage:	275 V A.C.
Capacitance tolerance:	± 20 % for C ≤ 0.1 μF, ± 10 % for C > 0.1 μF
Climatic category:	40/110/56 according to IEC 60068-1
Passive flammability:	according to IEC 60384-14
Temperature range:	- 40 °C to + 110 °C
Test voltage:	2200 V D.C., 1 s for C ≤ 1 μF 1900 V D.C., 1 s for C > 1 μF
Max. pulse rise time du/dt, at 390 V D.C. according to IEC 60384-14:	500 V/μs for PCM C > 1 μF 400 V/μs for PCM = 15 mm C ≤ 0,022 μF 250 V/μs for PCM = 15 mm C > 0,022 μF 150 V/μs for PCM = 22.5 mm 100 V/μs for PCM = 27.5 mm 550 V/μs for PCM = 7.5 mm miniature version 350 V/μs for PCM = 10 mm miniature version
Insulation resistance at 20 °C, U _m = 100 V D.C., t = 1 min:	R _i ≥ 15000 MΩ for C ≤ 0.33 μF R _i × C _n ≥ 5000 s for C > 0.33 μF
Dielectric loss tanδ at f = 1 kHz and 20 °C:	≤ 1 × 10 ⁻³
Soldering:	IEC publ, 60068-2-20, max. 2 s
Soldering time on printed circuit:	max. 5 s at 270 °C
Self inductance:	approx. 10 nH/cm of capacitor length and terminals
Complies to:	IEC 60384-14, EN 60384-14 UL 1283, UL 1414, CSA C22.2 No.1, GB/T14472-1998

KNB1560	KNB1562, KNB1563	Electrical connection
		<p>Electrical connection</p>

Available in custom design version. Recommended for serial connection.





Casing: thermoplastic, (PP or on request PBT HF) sealed with synthetic resin	Thermoplastic material and synthetic resin are self-extinguishing according to UL 94, class V-0.	
Terminals		
Type	Terminal length	Type of terminals
KNB1560	3 ^{+0.5} , 4 ^{+0.5} , 6 ⁻¹ , 9 ⁺¹ , 15 ⁺² , 20 ⁺² , 25 ⁺⁵ , 30 ⁺⁵ , 50 ⁺⁵ mm, other on request	Tinned copper wire
KNB1562	20 to 200 mm	Insulated stranded wire 0,5 mm ²
KNB1563	20 to 200 mm	Insulated solid wire ϕ 0,8 mm


Standard values KNB1560, KNB1562, KNB1563, 275 V AC, class X2

Capacitance C (μ F)	Dimensions					 IEC 60384-14 275 V AC	For capacitors with insulated leads on request		
	L _{max} (mm)	H _{max} (mm)	W _{max} (mm)	PCM (mm)	ϕ (mm)		 UL 1283 275 V AC	 UL 1414 250 V AC	 GB/T14472 275 V AC
0.01	13	9	4	10	0.6	■	■	■	■
0.015	13	9	4	10	0.6	■	■	■	■
0.022	13	9	4	10	0.6	■	■	■	■
0.033	13	9	4	10	0.6	■	■	■	■
0.033	13	10.5	5	10	0.6	■	■	■	■
0.047	13	10.5	5	10	0.6	■	■	■	■
0.047	13	11.5	6	10	0.6	■	■	■	■
0.068	13	11	5.5	10	0.6	■	■	■	■
0.1	13	12	6	10	0.6	■	■	■	■
0.01	18	11	5	15	0.8	■	■	■	■
0.015	18	11	5	15	0.8	■	■	■	■
0.022	18	11	5	15	0.8	■	■	■	■
0.033	18	11	5	15	0.8	■	■	■	■
0.047	18	11	5	15	0.8	■	■	■	■
0.068	18	11	5	15	0.8	■	■	■	■
0.1	18	11	5.5	15	0.8	■	■	■	■
0.12	18	12	6	15	0.8	■	■	■	■
0.15	18	13	7	15	0.8	■	■	■	■
0.22	18	14.5	8.2	15	0.8	■	■	■	■
0.27	18	14.5	9	15	0.8	■	■	■	■
0.33	18	16	9.5	15	0.8	■	■	■	■
0.33	18	19.5	7.5	15	0.8	■	■	■	■
0.47	18	18.5	11	15	0.8	■	■	■	■
0.56	18	20	12.5	15	0.8	■	■	■	■
0.15	26.5	14	6	22.5	0.8	■	■	■	■
0.22	26.5	14	6	22.5	0.8	■	■	■	■
0.27	26.5	15	6	22.5	0.8	■	■	■	■
0.33	26.5	16	7	22.5	0.8	■	■	■	■
0.47	26.5	17	8.5	22.5	0.8	■	■	■	■
0.56	26.5	18.5	9	22.5	0.8	■	■	■	■
0.68	26.5	18.5	10	22.5	0.8	■	■	■	■
1	26.5	21.5	12.5	22.5	0.8	■	■	■	■
0.47	31.5	16	7.5	27.5	0.8	■	■	■	■
0.56	32	17	9	27.5	0.8	■	■	■	■
0.68	32	17	9	27.5	0.8	■	■	■	■
1	32	20	11	27.5	0.8	■	■	■	■
1.5	31.5	23.5	14	27.5	0.8	■	■	■	■
2.2	31.5	26.5	17	27.5	0.8	■	■	■	■

Approvals in use = ■
 Approvals in pending = ○

Standard values KNB1560, KNB1562, KNB1563, 275 V AC, class X2, miniature version

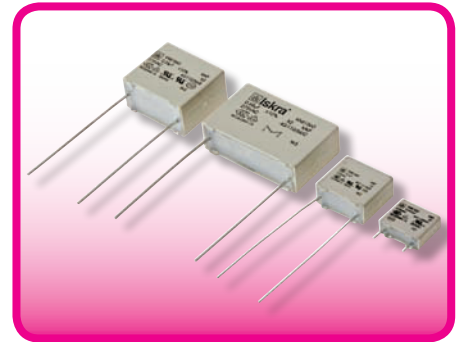
Capacitance		Dimensions					 IEC 60384-14 275 V AC	For capacitors with insulated leads on request		
C (µF)	Tolerance ± (%)	L _{max} (mm)	H _{max} (mm)	W _{max} (mm)	PCM (mm)	∅ (mm)		 UL 1283 275 V AC	 UL 1414 250 V AC	 GB/T14472 275 V AC
0.01	20	10.5	9	4	7.5	0.6	▪	▪	▪	▪
0.015	20	10.5	9	4	7.5	0.6	▪	▪	▪	▪
0.022	20	10.5	9	4	7.5	0.6	▪	▪	▪	▪
0.033	20	10.5	10	5	7.5	0.6	▪	▪	▪	▪
0.047	20	10.5	11	5.5	7.5	0.6	▪	▪	▪	▪
0.068	10,20	13	11	5.5	10	0.6	▪	▪	▪	▪
0.1	20	13	11	5	10	0.6	▪	0	0	0
0.1	10,20	13	11	5.5	10	0.6	▪	0	0	0
0.1	10,20	18	11	5	15	0.8	▪	▪	▪	▪
0.12	20	18	11	5	15	0.8	▪	▪	▪	▪
0.12	10,20	18	11	5.5	15	0.8	▪	▪	▪	▪
0.15	20	18	11	5.5	15	0.8	▪	▪	▪	▪
0.15	10,20	18	12	6	15	0.8	▪	▪	▪	▪
0.18	10,20	18	12	6	15	0.8	▪	▪	▪	▪
0.22	20	18	12.5	6.5	15	0.8	▪	▪	▪	▪
0.22	10,20	18	13	7	15	0.8	▪	▪	▪	▪
0.27	20	18	13	7	15	0.8	▪	▪	▪	▪
0.27	10,20	18	13.5	7.5	15	0.8	▪	▪	▪	▪
0.33	10,20	18	16	7.5	15	0.8	▪	▪	▪	▪
0.33	10,20	18	14.5	8.2	15	0.8	▪	▪	▪	▪
0.39	20	18	19.5	7.5	15	0.8	▪	▪	▪	▪
0.39	10,20	18	16.5	8.5	15	0.8	▪	▪	▪	▪
0.47	20	18	16	9.5	15	0.8	▪	▪	▪	▪
0.47	10,20	18	18.5	9	15	0.8	▪	▪	▪	▪
0.56	20	18	18.5	9	15	0.8	▪	▪	▪	▪
0.56	10,20	18	19	10	15	0.8	▪	▪	▪	▪
0.56	10,20	18	18.5	11	15	0.8	▪	▪	▪	▪
0.68	20	18	18.5	11	15	0.8	▪	▪	▪	▪
0.68	10,20	18	22	10	15	0.8	▪	▪	▪	▪
0.68	10,20	18	20	11	15	0.8	▪	▪	▪	▪
0.68	10,20	18	20	12.5	15	0.8	▪	▪	▪	▪
0.82	10,20	18	20	12.5	15	0.8	▪	0	0	0
1	10,20	18	25	12.5	15	0.8	▪	0	0	0
1	10,20	18	17	19.5	15	0.8	▪	0	0	0
0.47	10,20	26.5	16	7	22.5	0.8	▪	0	0	0
0.56	10,20	26.5	16.5	7.5	22.5	0.8	▪	0	0	0
0.68	10,20	26.5	17	8.5	22.5	0.8	▪	0	0	0
0.82	10,20	26.5	18.5	9	22.5	0.8	▪	0	0	0
1	10,20	26.5	19.5	10	22.5	0.8	▪	0	0	0
1	10,20	27	20	10.5	22.5	0.8	▪	0	0	0
1.2	10,20	26.5	20.5	11	22.5	0.8	▪	0	0	0
1.5	10,20	26.5	21.5	12.5	22.5	0.8	▪	0	0	0
1.8	10,20	27	23	14	22.5	0.8	▪	0	0	0
2.2	10,20	26.5	26.5	14.5	22.5	0.8	▪	0	0	0
2.2	10,20	27	25	16	22.5	0.8	▪	0	0	0
1	10,20	31.5	19	10	27.5	0.8	▪	0	0	0
1.5	10,20	31.5	21	12	27.5	0.8	▪	0	0	0
2.2	10,20	31.5	23.5	14	27.5	0.8	▪	0	0	0
2.7	10,20	32	28.5	15	27.5	0.8	▪	0	0	0
3.3	10,20	31.5	26.5	17	27.5	0.8	▪	0	0	0
3.9	10,20	31.5	32	18	27.5	0.8	▪	0	0	0
4.7	10,20	31.5	33	20	27.5	0.8	▪	0	0	0
5.6	10,20	31.5	35.5	24	27.5	0.8	▪	0	0	0
6.8	10,20	32	39	24	27.5	0.8	▪	0	0	0

marking with  except PCM 7.5 mm
 Note: Bold-face printed alternative body dimensions upon request.

Approvals in use = ▪
 Approvals in pending = 0

Capacitors

Type KNB1560	275 V AC + 125 °C	class X2
Type KNB1562		
Type KNB1563		



TECHNICAL DATA





Construction:	polypropylene film, metallized
Rated voltage:	275 V A.C.
Capacitance tolerance:	± 20 %, ± 10 %
Climatic category:	40/125/56 according to IEC publ. 60068-1
Passive flammability:	according to IEC 60384-14
Temperature range:	- 40 °C to + 125 °C
Test voltage:	2200 V D.C. for 1s
Max. pulse rise time du/dt, at 390 V D.C.:	550 V/ms for PCM = 7.5mm 350 V/ms for PCM = 10mm 200 V/ms for PCM = 15mm pulse test conditions according to IEC 60384-14
Insulation resistance at 20 °C, U _m = 100 V D.C., t = 1 min:	R _i ≥ 15000 MΩ for C _x ≤ 0.33 μF R _i × C _x ≥ 5000 s for C _x > 0.33 μF
Dielectric loss tanδ at f = 1 kHz and 20 °C:	≤ 1 × 10 ⁻³
Soldering:	IEC publ. 60068-2-20, max. 2 s
Soldering time on printed circuit:	max. 5 s at 270 °C
Self inductance:	approx. 10 nH/cm of capacitor length and terminals
Complies to:	IEC publ. 60384-14, EN 132 400, UL 1283, UL 1414, CSA C22.2 No.1, GB/T 14472-1998


KNB1560	KNB1562, KNB1563	Electrical connection
		<p>Electrical connection</p>

Available in custom design version. Recommended for serial connection.

Casing: thermoplastic. (PP or on request PBT HF) sealed with synthetical resin	Thermoplastic material and synthetical resin are self-extinguishing according to UL 94. class V-0.	
Terminals		
Type	Terminal length	Type of terminals
KNB1560	4 ^{+0.5} , 6 ⁻¹ , 25 ⁺⁵ mm. other on request	Tinned copper wire
KNB1562	20 to 200 mm	Insulated stranded wire 0.5 mm ²
KNB1563	20 to 200 mm	Insulated solid wire 0.8 mm End terminals on request

Standard values KNB1560, KNB1562, KNB1563, 275 V AC, class X2, + 125 °C, miniature version

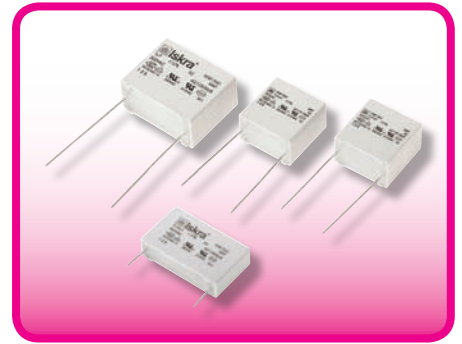
C (µF)	Tolerance ± (%)	Dimensions					For capacitors with insulated leads on request,			
		L _{max} (mm)	H _{max} (mm)	W _{max} (mm)	PCM (mm)	ø (mm)	 IEC 60384-14 275VAC	 UL1283 275VAC	 UL1414 250 V AC	 GB/T14472 275VAC
0,01	20	10.5	9.0	4.0	7.5	0.6	▪	▪	▪	▪
0.015	20	10.5	9.0	4.0	7.5	0.6	▪	▪	▪	▪
0.022	20	10.5	9.0	4.0	7.5	0.6	▪	▪	▪	▪
0.033	20	10.5	10.0	5.0	7.5	0.6	▪	▪	▪	▪
0.047	20	10.5	11.0	5.5	7.5	0.6	▪	▪	▪	▪
0.068	20	13	11.0	5.5	10	0.6	▪	▪	▪	▪
0.1	20	13	12.0	6.0	10	0.6	▪	▪	▪	▪
0.1	10, 20	18	11.0	5.0	15	0.8	▪	▪	▪	▪
0.12	20	18	11.0	5.0	15	0.8	▪	▪	▪	▪
0.12	10, 20	18	11.0	5.5	15	0.8	▪	▪	▪	▪
0.15	20	18	11.0	5.5	15	0.8	▪	▪	▪	▪
0.15	10, 20	18	12.0	6.0	15	0.8	▪	▪	▪	▪
0.18	10, 20	18	12.0	6.0	15	0.8	▪	▪	▪	▪
0.22	20	18	12.5	6.5	15	0.8	▪	▪	▪	▪
0.22	10, 20	18	13.0	7.0	15	0.8	▪	▪	▪	▪
0.27	20	18	13.0	7.0	15	0.8	▪	▪	▪	▪
0.27	10, 20	18	13.5	7.5	15	0.8	▪	▪	▪	▪
0.33	10, 20	18	16.0	7.5	15	0.8	▪	▪	▪	▪
0.33	10, 20	18	14.5	8.2	15	0.8	▪	▪	▪	▪
0.39	20	18	19.5	7.5	15	0.8	▪	▪	▪	▪
0.39	10, 20	18	16.5	8.5	15	0.8	▪	▪	▪	▪
0.47	20	18	16.0	9.5	15	0.8	▪	▪	▪	▪
0.47	10, 20	18	18.5	9.0	15	0.8	▪	▪	▪	▪
0.56	20	18	18.5	9.0	15	0.8	▪	▪	▪	▪
0.56	10, 20	18	19.0	10.0	15	0.8	▪	▪	▪	▪
0.56	10, 20	18	18.5	11.0	15	0.8	▪	▪	▪	▪
0.68	20	18	18.5	11.0	15	0.8	▪	▪	▪	▪
0.68	10, 20	18	22.0	10.0	15	0.8	▪	▪	▪	▪
0.68	10, 20	18	20.0	11.0	15	0.8	▪	▪	▪	▪
0.68	10, 20	18	20,0	12,5	15	0,8	▪	▪	▪	▪

marking with  except PCM 7.5 mm
Note: Bold-face printed alternative body dimensions upon request.

Approvals in use = ▪
Approvals in pending = o

Capacitors

Type KNB1560	300 V AC + 125 °C	class X2
Type KNB1562		
Type KNB1563		



TECHNICAL DATA

Construction:	polypropylene film, metallized
Rated voltage:	300 V A.C.
Capacitance tolerance:	± 20 % for C ≤ 0.1 μF and ± 10 % for C > 0.1 μF
Climatic category:	40/125/56 according to IEC 60068-1
Passive flammability:	according to IEC 60384-14
Temperature range:	- 40 °C to + 125 °C
Test voltage:	2200 V D.C., 1 s for C ≤ 1μF 1900 V D.C., 1 s for C > 1μF
Max. pulse rise time du/dt, at 425 V D.C.:	500 V/μs for PCM C > 1μF 400 V/μs for PCM = 15 mm C ≤ 0,022 μF 250 V/μs for PCM = 15 mm C ≤ 0,022 μF 150 V/μs for PCM = 22.5 mm 100 V/μs for PCM = 27.5 mm pulse test according to IEC 60384-14
Insulation resistance at 20 °C, U _m = 100 V D.C., t = 1 min:	R _i ≥ 15000 MΩ for C ≤ 0.33 μF R _i × C _n ≥ 5000 s for C > 0.33 μF
Dielectric loss tanδ at f = 1 kHz and 20 °C:	≤ 1 × 10 ⁻³
Soldering:	IEC 60068-2-20, max. 2 s
Soldering time on printed circuit:	max. 5 s at 270 °C
Self inductance:	approx. 10 nH/cm of capacitor length and terminals
Complies to:	IEC 60384-14, EN 60384-14, UL 1283, UL 1414, CSA C22.2 No.1, GB/T 14472-1998





KNB1560	KNB1562, KNB1563	Electrical connection
		<p>Electrical connection:</p>

Available in custom design version. Recommended for serial connection.

Casing: thermoplastic. (PP or on request PBT HF) sealed with synthetical resin	Thermoplastic material and synthetical resin are self-extinguishing according to UL 94. class V-0.
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Terminals		
Type	Terminal length	Type of terminals
KNB1560	3 ^{+0.5} , 4 ^{+0.5} , 6 ⁻¹ , 9 ⁺¹ , 15 ⁺² , 20 ⁺² , 25 ⁺⁵ , 30 ⁺⁵ , 50 ⁺⁵ mm, other on request	Tinned copper wire
KNB1562	20 to 200 mm	Insulated stranded wire 0.5 mm ²
KNB1563	20 to 200 mm	Insulated solid wire \varnothing 0.8 mm End terminals on request

Standard values KNB1560, KNB1562, KNB1563, 300 V AC, class X2, + 125 °C

Capacitance C (μ F)	Dimensions					 IEC 60384-14 300 V AC	For capacitors with insulated leads on request		
	L _{max} (mm)	H _{max} (mm)	W _{max} (mm)	PCM (mm)	\varnothing (mm)		 UL 1283 310 V AC	 UL 1414 250 V AC	 GB/T14472 300 V AC
0.01	13	9	4	10	0.6	▪	▪	▪	▪
0.015	13	9	4	10	0.6	▪	▪	▪	▪
0.022	13	9	4	10	0.6	▪	▪	▪	▪
0.033	13	9	4	10	0.6	▪	▪	▪	▪
0.033	13	10.5	5	10	0.6	▪	▪	▪	▪
0.047	13	10.5	5	10	0.6	▪	▪	▪	▪
0.047	13	11.5	6	10	0.6	▪	▪	▪	▪
0.068	13	11	5.5	10	0.6	▪	▪	▪	▪
0.1	13	12	6	10	0.6	▪	▪	▪	▪
0.01	18	11	5	15	0.8	▪	▪	▪	▪
0.015	18	11	5	15	0.8	▪	▪	▪	▪
0.022	18	11	5	15	0.8	▪	▪	▪	▪
0.033	18	11	5	15	0.8	▪	▪	▪	▪
0.047	18	11	5	15	0.8	▪	▪	▪	▪
0.068	18	11	5	15	0.8	▪	▪	▪	▪
0.1	18	11	5.5	15	0.8	▪	▪	▪	▪
0.12	18	12	6	15	0.8	▪	▪	▪	▪
0.15	18	13	7	15	0.8	▪	▪	▪	▪
0.22	18	14.5	8.2	15	0.8	▪	▪	▪	▪
0.27	18	14.5	9	15	0.8	▪	▪	▪	▪
0.33	18	16	9.5	15	0.8	▪	▪	▪	▪
0.33	18	19.5	7.5	15	0.8	▪	▪	▪	▪
0.47	18	18.5	11	15	0.8	▪	▪	▪	▪
0.56	18	20	12.5	15	0.8	▪	▪	▪	▪
0.15	26.5	14	6	22.5	0.8	▪	▪	▪	▪
0.22	26.5	14	6	22.5	0.8	▪	▪	▪	▪
0.27	26.5	15	6	22.5	0.8	▪	▪	▪	▪
0.33	26.5	16	7	22.5	0.8	▪	▪	▪	▪
0.47	26.5	17	8.5	22.5	0.8	▪	▪	▪	▪
0.56	26.5	18.5	9	22.5	0.8	▪	▪	▪	▪
0.68	26.5	18.5	10	22.5	0.8	▪	▪	▪	▪
1	26.5	21.5	12.5	22.5	0.8	▪	▪	▪	▪
0.47	31.5	16	7.5	27.5	0.8	▪	▪	▪	▪
0.56	32	17	9	27.5	0.8	▪	▪	▪	▪
0.68	32	17	9	27.5	0.8	▪	▪	▪	▪
1	32	20	11	27.5	0.8	▪	▪	▪	▪
1.5	31.5	23.5	14	27.5	0.8	▪	▪	▪	▪
2.2	31.5	26.5	17	27.5	0.8	▪	▪	▪	▪

Approvals in use = ▪
Approvals in pending = o