

LXV Series

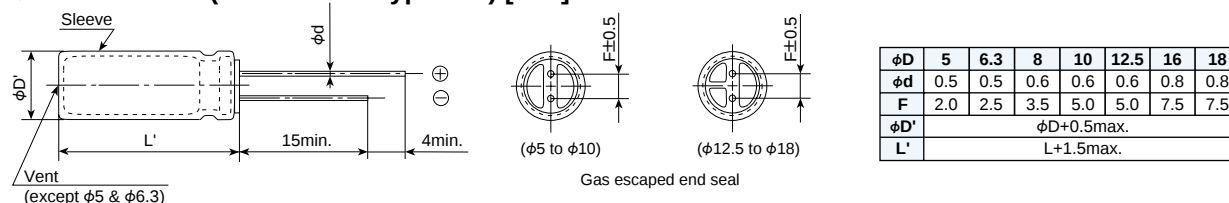
- Low impedance
- Endurance with ripple current: 105°C 2000 to 5000 hours
- Solvent-proof type (see PRECAUTIONS AND GUIDELINES)



SPECIFICATIONS

Items	Characteristics									
Category										
Temperature Range	-55 to +105°C									
Rated Voltage Range	6.3 to 100V _{dc}									
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)									
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)									
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	80V	100V
	tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.10	0.09	0.08
	When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. (at 20°C, 120Hz)									
Low Temperature Characteristics	Capacitance change ΔC (-55°C /+20°C)				0.7min.		(at 120Hz)			
	Max. impedance ratio (-55°C /+20°C)				3max.(6.3V _{dc} : 4max.)					
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for the specified period of time at 105°C.									
	Time	φ5 to 6.3 : 2000hours φ8 & 10 : 3000hours φ12.5 to φ18 : 5000hours								
	Capacitance change	≤±20% of the initial value								
	D.F. (tanδ)	≤200% of the initial specified value								
	Leakage current	≤The initial specified value								
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.									
	Capacitance change	≤±20% of the initial value								
	D.F. (tanδ)	≤200% of the initial specified value								
	Leakage current	≤The initial specified value								

DIMENSIONS (Radial Lead Type=VB) [mm]



PART NUMBERING SYSTEM

LXV	6.3	VB	1200	M	J20	
						Case code
						Cap tolerance (±20%)
						Nominal cap code
						Radial lead type
						Rated voltage in volts
						Series name

Capacitance	Code
4.7µF	4R7
10µF	10
100µF	100
2200µF	2200

◆STANDARD RATINGS

φD×L	Case code	V _{dc}	6.3			10			16					
			Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)
				20°C	−10°C			20°C	−10°C			20°C	−10°C	
5×11.5	E11	120	0.72	1.8	165	82	0.72	1.8	165	56	0.72	1.8	165	
6.3×11.5	F11	220	0.38	0.95	255	180	0.38	0.95	255	120	0.38	0.95	255	
6.3×15	F15	330	0.27	0.68	330	270	0.27	0.68	330	180	0.27	0.68	330	
8×12	H12	390	0.20	0.50	415	330	0.20	0.50	415	270	0.20	0.50	415	
8×15	H15	560	0.16	0.40	495	470	0.16	0.40	495	330	0.16	0.40	495	
8×20	H20	820	0.11	0.28	640	680	0.11	0.28	640	470	0.11	0.28	640	
10×12.5	J12	470	0.12	0.30	635	390	0.12	0.30	635	270	0.12	0.30	635	
10×16	J16	680	0.084	0.21	825	680	0.084	0.21	825	470	0.084	0.21	825	
10×20	J20	1,200	0.062	0.16	1,060	1,000	0.062	0.16	1,060	680	0.062	0.16	1,060	
10×25	J25	1,500	0.052	0.13	1,260	1,200	0.052	0.13	1,260	820	0.052	0.13	1,260	
10×30	J30	2,200	0.044	0.11	1,450	1,500	0.044	0.11	1,450	1,200	0.044	0.11	1,450	
12.5×20	K20	2,200	0.046	0.12	1,360	1,800	0.046	0.12	1,360	1,200	0.046	0.12	1,360	
12.5×25	K25	2,700	0.034	0.085	1,700	2,200	0.034	0.085	1,700	1,500	0.034	0.085	1,700	
12.5×30	K30	3,900	0.030	0.075	1,980	2,700	0.030	0.075	1,980	2,200	0.030	0.075	1,980	
12.5×35	K35	4,700	0.027	0.068	2,230	3,300	0.027	0.068	2,230	2,700	0.027	0.068	2,230	
12.5×40	K40	5,600	0.024	0.060	2,460	3,900	0.024	0.060	2,460	3,300	0.024	0.060	2,460	
16×20	L20	3,900	0.038	0.095	1,770	3,300	0.038	0.095	1,770	2,200	0.038	0.095	1,770	
16×25	L25	5,600	0.028	0.070	2,190	3,900	0.028	0.070	2,190	2,700	0.028	0.070	2,190	
16×30	L30	6,800	0.025	0.063	2,510	5,600	0.025	0.063	2,510	3,900	0.025	0.063	2,510	
16×35	L35	8,200	0.022	0.055	2,770	6,800	0.022	0.055	2,770	4,700	0.022	0.055	2,770	
16×40	L40	10,000	0.018	0.045	3,110	8,200	0.018	0.045	3,110	5,600	0.018	0.045	3,110	
18×20	M20	5,600	0.036	0.090	1,940	3,900	0.036	0.090	1,940	3,300	0.036	0.090	1,940	
18×25	M25	6,800	0.027	0.068	2,350	4,700	0.027	0.068	2,350	3,900	0.027	0.068	2,350	
18×30	M30	10,000	0.024	0.060	2,720	6,800	0.024	0.060	2,720	4,700	0.024	0.060	2,720	
18×35	M35	12,000	0.021	0.053	3,050	8,200	0.021	0.053	3,050	6,800	0.021	0.053	3,050	
18×40	M40	15,000	0.017	0.043	3,300	10,000	0.017	0.043	3,300	8,200	0.017	0.043	3,300	

V _{dc}		25				35				50			
φD×L	Case code	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)
			20°C	-10°C			20°C	-10°C			20°C	-10°C	
5X11.5	E11	39	0.72	1.8	165	27	0.72	1.8	165	18	1.1	3.3	165
6.3X11.5	F11	82	0.38	0.95	255	56	0.38	0.95	255	39	0.56	1.6	255
6.3X15	F15	120	0.27	0.68	330	82	0.27	0.68	330	56	0.41	1.2	310
8X12	H12	150	0.20	0.50	415	120	0.20	0.50	415	68	0.29	0.84	415
8X15	H15	220	0.16	0.40	495	180	0.16	0.40	495	82	0.24	0.72	505
8X20	H20	330	0.11	0.28	640	220	0.11	0.28	640	120	0.18	0.52	610
10X12.5	J12	180	0.12	0.30	635	120	0.12	0.30	635	82	0.16	0.40	530
10X16	J16	330	0.084	0.21	825	220	0.084	0.21	825	120	0.12	0.30	755
10X20	J20	470	0.062	0.16	1,060	330	0.062	0.16	1,060	180	0.088	0.22	945
10X25	J25	560	0.052	0.13	1,260	390	0.052	0.13	1,260	220	0.068	0.17	1,150
10X30	J30	820	0.044	0.11	1,450	560	0.044	0.11	1,450	330	0.059	0.15	1,260
12.5X20	K20	820	0.046	0.12	1,360	560	0.046	0.12	1,360	330	0.059	0.15	1,190
12.5X25	K25	1,000	0.034	0.085	1,700	680	0.034	0.085	1,700	470	0.045	0.11	1,500
12.5X30	K30	1,500	0.030	0.075	1,980	1,000	0.030	0.075	1,980	560	0.039	0.098	1,720
12.5X35	K35	1,800	0.027	0.068	2,230	1,200	0.027	0.068	2,230	680	0.033	0.083	1,900
12.5X40	K40	2,200	0.024	0.060	2,460	1,500	0.024	0.060	2,460	820	0.029	0.073	2,120
16X20	L20	1,500	0.038	0.095	1,770	1,000	0.038	0.095	1,770	680	0.043	0.11	1,500
16X25	L25	1,800	0.028	0.070	2,190	1,200	0.028	0.070	2,190	820	0.033	0.083	1,880
16X30	L30	2,700	0.025	0.063	2,510	1,800	0.025	0.063	2,510	1,000	0.029	0.073	2,150
16X35	L35	3,300	0.022	0.055	2,770	2,200	0.022	0.055	2,770	1,200	0.025	0.063	2,320
16X40	L40	3,900	0.018	0.045	3,110	2,700	0.018	0.045	3,110	1,500	0.021	0.053	2,650
18X20	M20	2,200	0.036	0.090	1,940	1,500	0.036	0.090	1,940	820	0.039	0.098	1,660
18X25	M25	2,700	0.027	0.068	2,350	1,800	0.027	0.068	2,350	1,000	0.030	0.075	2,020
18X30	M30	3,300	0.024	0.060	2,720	2,200	0.024	0.060	2,720	1,500	0.026	0.065	2,340
18X35	M35	3,900	0.021	0.053	3,050	2,700	0.021	0.053	3,050	1,800	0.023	0.058	2,620
18X40	M40	4,700	0.017	0.043	3,300	3,300	0.017	0.043	3,300	2,200	0.020	0.050	2,790

◆STANDARD RATINGS

φD×L	Case code	V _{dc}				63				80				100			
		Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)	Capacitance (μF)	Impedance (Ω _{max} /100kHz)		Rated ripple current (mA _{rms} / 105°C 100kHz)
			20°C	-10°C			20°C	-10°C			20°C	-10°C			20°C	-10°C	
5×11.5	E11	12	1.9	4.8	100	8.2	1.9	5.1	100	5.6	1.9	5.1	100	5.6	1.9	5.1	100
6.3×11.5	F11	27	1.1	2.8	160	18	1.1	3.0	150	12	1.1	3.0	150	12	1.1	3.0	150
6.3×15	F15	39	0.62	1.6	230	27	0.62	1.7	220	18	0.62	1.7	220	18	0.62	1.7	220
8×12	H12	47	0.49	1.3	275	33	0.53	1.5	275	22	0.53	1.5	275	22	0.53	1.5	275
8×15	H15	68	0.34	0.85	360	47	0.35	0.97	360	33	0.35	0.97	360	33	0.35	0.97	360
8×20	H20	82	0.21	0.53	500	56	0.27	0.74	490	39	0.27	0.74	490	39	0.27	0.74	490
10×12.5	J12	56	0.27	0.68	420	39	0.47	1.3	380	27	0.47	1.3	380	27	0.47	1.3	380
10×16	J16	68	0.21	0.53	523	56	0.33	0.90	500	33	0.33	0.90	500	33	0.33	0.90	500
10×20	J20	120	0.16	0.40	650	82	0.26	0.70	620	56	0.26	0.70	620	56	0.26	0.70	620
10×25	J25	150	0.13	0.33	780	100	0.19	0.52	795	68	0.19	0.52	795	68	0.19	0.52	795
10×30	J30	180	0.10	0.25	960	150	0.15	0.41	955	100	0.15	0.41	955	100	0.15	0.41	955
12.5×20	K20	220	0.11	0.28	870	150	0.15	0.41	890	100	0.15	0.41	890	100	0.15	0.41	890
12.5×25	K25	270	0.074	0.19	1,150	180	0.11	0.30	1,040	120	0.11	0.30	1,040	120	0.11	0.30	1,040
12.5×30	K30	390	0.068	0.17	1,280	270	0.094	0.26	1,270	180	0.094	0.26	1,270	180	0.094	0.26	1,270
12.5×35	K35	470	0.063	0.16	1,390	330	0.087	0.24	1,450	220	0.087	0.24	1,450	220	0.087	0.24	1,450
12.5×40	K40	560	0.051	0.13	1,530	390	0.060	0.17	1,610	270	0.060	0.17	1,610	270	0.060	0.17	1,610
16×20	L20	390	0.085	0.22	1,100	270	0.11	0.30	1,240	180	0.11	0.30	1,240	180	0.11	0.30	1,240
16×25	L25	470	0.055	0.14	1,480	330	0.081	0.22	1,440	220	0.081	0.22	1,440	220	0.081	0.22	1,440
16×30	L30	680	0.046	0.12	1,720	470	0.058	0.16	1,790	330	0.058	0.16	1,790	330	0.058	0.16	1,790
16×35	L35	820	0.040	0.10	1,910	560	0.052	0.14	2,000	390	0.052	0.14	2,000	390	0.052	0.14	2,000
16×40	L40	1,000	0.036	0.090	2,070	680	0.041	0.11	2,200	470	0.041	0.11	2,200	470	0.041	0.11	2,200
18×20	M20	560	0.085	0.22	1,170	390	0.085	0.23	1,450	270	0.085	0.23	1,450	270	0.085	0.23	1,450
18×25	M25	680	0.055	0.14	1,520	470	0.070	0.19	1,650	330	0.070	0.19	1,650	330	0.070	0.19	1,650
18×30	M30	820	0.046	0.12	1,770	680	0.058	0.16	1,850	390	0.058	0.16	1,850	390	0.058	0.16	1,850
18×35	M35	1,000	0.040	0.10	1,970	820	0.052	0.14	1,990	560	0.052	0.14	1,990	560	0.052	0.14	1,990
18×40	M40	1,200	0.036	0.090	2,130	1,000	0.041	0.11	2,370	680	0.041	0.11	2,370	680	0.041	0.11	2,370

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Rated voltage (V _{dc})	Case size φD (mm)	Frequency (Hz)			
		120	1k	10k	100k
6.3 & 10	5 to 8	0.65	0.83	0.95	1.00
	10 & 12.5	0.70	0.85	0.96	1.00
	16 & 18	0.85	0.92	0.97	1.00
16 & 25	5 to 8	0.55	0.76	0.91	1.00
	10 & 12.5	0.65	0.83	0.93	1.00
	16 & 18	0.70	0.87	0.96	1.00
35 & 50	5 to 8	0.40	0.66	0.85	1.00
	10 & 12.5	0.50	0.73	0.89	1.00
	16 & 18	0.60	0.81	0.94	1.00
63 to 100	5 to 8	0.20	0.55	0.80	1.00
	10 & 12.5	0.35	0.65	0.85	1.00
	16 & 18	0.50	0.75	0.90	1.00