

**PERFORMANCE CHARACTERISTICS ( continued )**

1. General Characteristics

1.1 Marking

Capacitors shall be marked with YAGEO mark ; rated capacitance ; rated DC working voltage . and the date code of manufacture . The cathode terminal or lead will be identified with minus signs ( - ) on the side of the case.

1.2 Operating Temperature Range

These capacitors are designed to operate over a temperature range of -40°C to +105°C, for rated voltage up to 100V , and -25°C to +105°C for rated voltage 160V to 450V .

1.2.1 At -40 (-25) °C , capacitance shall retain at least 70% of their initial value measured

@20°C , At 85°C capacitance shall increase to no more than 120% of their initial value measured @25°C

1.2.2 At -40 (-25) °C , impedance shall increase to no more than the following table.

Rated Voltage ( V )	6.3-16	25	35	50-63	80-100	160-400	450
Z(-25°C)/z(20°C)	4	3	3	2	2	4	8
Z(-40°C)/z(20°C)	15	10	8	6	5	---	---

1.3 Vent Test

During and after applicable test ( sec. 1.3.1 or 1.3.2 ) there shall be no explosion , flash flame or expulsion articles of the core or container . In addition , the case shall not be expelled from the core . If the capacitor under the test is a multisection unit, this test shall apply to input section only. Both of the following tests shall be performed , but on separate test units.

1.3.1 Forward Bias Test

The capacitor under test shall be connected to a DC power supply that has sufficient voltage to supply a constant direct current of 500 milliamperes with the positive terminal of the capacitor connected to positive supply terminal and the negative capacitor terminal connected to the negative supply terminal . The constant current shall be maintained until (1) the capacitor vents , (2) 300 seconds have elapsed , or (3) the capacitor under test open circuits .



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PERFORMANCE CHARACTERISTICS ( continued )

1.3.2 Reverse Bias Test

The capacitor under test shall be connected to a power supply with sufficient voltage to provide a constant direct current of 500 milliamperes when the positive capacitor terminal is connected to the negative supply terminal and the negative capacitor terminal to positive supply terminal. The constant current shall be maintained until (1) the capacitor vents , (2) 300 seconds have elapsed , or (3) the capacitor under open circuits.

2. Mechanical Characteristic

2.1 Lead Pull Test

Capacitor leads shall withstand a steady pull of 2.5kg applied axially to the leads for 5 seconds.

3. Electrical Characteristics

3.1 Standard Test Conditions

Unless otherwise specified all tests shall be performed at, or referred to, an ambient temperature of 20°C and a relative humidity not greater than 50%

3.2 Capacitance and Dissipation Factor

Measurement shall be made on capacitance bridge capable of  $\pm 2\%$  accuracy on capacitance and dissipation factor measurements. Measurements shall be at 120Hz . The RMS value of the AC measuring voltage shall not exceed 1.0 volt .

3.3 Leakage Current

3.3.1 Pre-conditioning . Rated working voltage shall be applied to capacitors for a minimum period of 15 minutes duration at least 24 hours and not more than 48 hours before test.

3.3.2 Test . Measurements shall be made after a 2 minutes charge at rated working voltage at 20°C with an application of a steady source of power. Such as a regular power supply, with a 1000 ohm resistance to limit the charging current , connected in series with each capacitor under test .

3.4 Surge Voltage

The surge DC rating is the maximum voltage to which the capacitor should be subjected under any conditions. This includes transients and peak ripple at the highest line voltage .

**PERFORMANCE CHARACTERISTICS ( continued )**

3.4.1 Capacitors , connected in series with 1000 ohm resistors , shall withstand the surge test voltage applied at the rated of 1/2 minute on, 5 1/2 minutes off, for 1000 successive test cycles at 20°C . ( see the following table )

Rated Voltage ( v )	10	16	25	35	50	63	80	100	160	180	200	250	350	400	450
Surge Voltage ( v )	13	20	32	44	63	79	100	125	200	225	250	300	400	450	500

3.4.2 After the test, the capacitors shall must meet the requirement specified in the following table .

Test	Value after test
Leakage Current	Not more than the initial value specified
Capacitance Change	More than +/-20% of the value before test
Dissipation Factor	Not more than 200% of the initial values specified

3.5 Humidity Test

Capacitors shall be subjected to a temperature of 40±2°C at a relative humidity of 90 to 95% for a period of 500 hours , then air dried for 1 hour. Follow this condition , capacitors shall meet the specified requirements for dissipation factor and DC leakage current , and the capacitance value shall not change than 10% .

4. Life and reliability Test

4.1 Life Test

4.1.1 Rated voltage with full rated ripple current shall be applied to the capacitors for period if 3000 hours while units are maintained at an ambient temperature of +105°C

4.1.2 Capacitors shall then be removed from the test chamber and return to room temperature

4.1.3 The capacitance shall then be measured in accordance with section 3.2 capacitance shall not decrease to less than 80% of the capacitance at 20°C , measured prior to the test , nor shall it increase to more than 120% of the original 20°C value.

4.1.4 The dissipation factor shall be measured in accordance with section 3.2 . The dissipation factor shall not exceed 200% of the initial requirement.

4.1.5 At the conclusion of the test, the leakage current shall not exceed the initial DC leakage

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PERFORMANCE CHARACTERISTICS ( continued )

current requirement . Measurement shall be made in accordance with section 3.3

4.2 Shelf Test

After storage for 1000 hours at 105°C with no voltage applied, the capacitance and dissipation factor shall meet the initial requirements of section 4.1.3 and 4.1.4 ; the DC leakage current measured in accordance with section 3.3 shall not 150% of the initial requirement.

**GUIDE TO APPLICATION**

1. Maximum Ripple Current

1.1 Maximum rms ripple current at 105°C 120Hz is given in the table.

1.2 When capacitors are operated at temperature other than 105°C , the permissible 120Hz rms ripple current limit can be calculated using the multiplication factors shown below :

Ambient Temp. ( °C )	40	60	70	85	105
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Factors	2.47	2.37	2.17	1.67	1.0
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1.3 When capacitors are operated at frequency other than 120Hz , the permissible rms ripple current limit can be calculated using the multiplication factors shown below :

Frequency ( Hz )	50	60	120	400	1k	2.4K	5K	10K
Coefficient (V)	0.8	0.85	1.0	1.14	1.23	1.3	1.36	1.4

2.1 Ripple voltage must not exceed the sum of the DC voltage plus the AC ripple voltage must not exceed the rated DC voltage . The DC voltage plus the peak AC voltage must not cause a voltage reversal more than 1.5 volts.

3. Insulating

General types of aluminum electrolytic capacitors are covered with a vinyl sleeve or the like. And this sleeve is used for marking. When the internal element or the container is needed to be insulated , capacitors specially designed for insulation requirement are recommended to be used .

4. Soldering

2.2 When soldering a printed circuit board with various components, too high soldering temperature or too long dipping times may cause secondary shrinking of the sleeve which unnecessarily exposes the container. Soldering is allowed to performed at less than 260°C for less than 10 seconds .

2.3 Soldering may melt or break the sleeve, if sleeve is contacted with circuit patterns. To avoid this trouble , the capacitors are recommended to be slightly apart from the circuit boards.

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GUIDE TO APPLICATION ( continued )

5. Solderability

The solderability requirements shall be under soldering temperature at  $235\pm 2^{\circ}\text{C}$  , and soldering time  $2\pm 0.1$  seconds .

6. Vent

The capacitors are provided with a pressure resistive controlled safety vent formed on the bottom of the container . The vent is designed to rupture in the event that higher internal pressure developed by circuit malfunction or capacitor mis-use.

7. High Altitude

These capacitors are capable of withstanding in transit conditions where storage temperature may range from  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  and altitude may reach 200,000 feet.

8. Cleaning Agents

Halogenated hydrocarbon cleaning solvents are not recommended for use in cleaning capacitors supplied with exposed end seals . Where cleaning with a halogenated solvent is desired , capacitors should be ordered with a epoxy-coated end seal.

# YAGEO Snap -in Type E/C Ordering Code

1. For worldwide customers use only
2. For standard specification use only

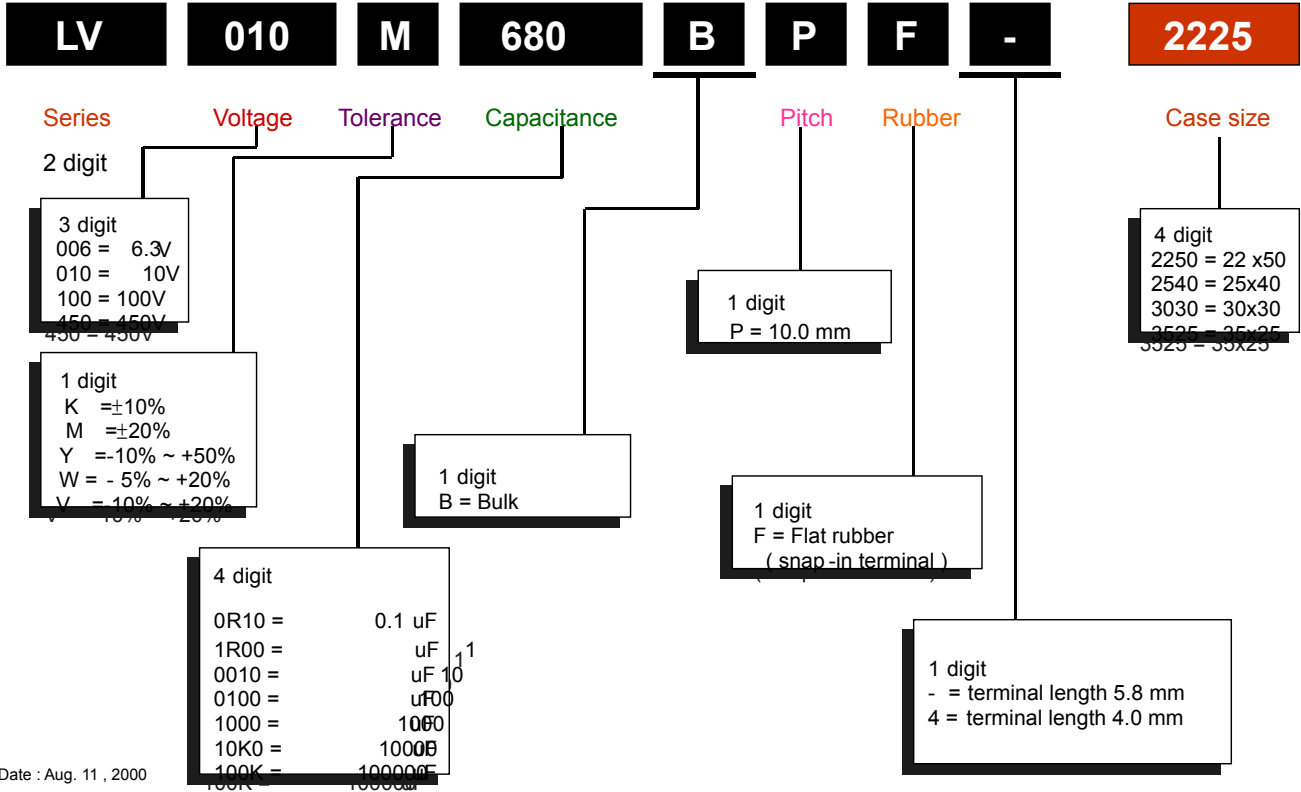


Table 1-1 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV010M10K0BPF-2225	10000	10	22X25	2000	0.55	1800	0.073
LV010M12K0BPF-2230	12000	10	22X30	2400	0.55	2050	0.061
LV010M12K0BPF-2525	12000	10	25X25	2400	0.55	2050	0.061
LV010M15K0BPF-2235	15000	10	22X35	3000	0.55	2450	0.049
LV010M15K0BPF-2530	15000	10	25X30	3000	0.55	2450	0.049
LV010M15K0BPF-3025	15000	10	30X25	3000	0.55	2550	0.049
LV010M18K0BPF-2240	18000	10	22X40	3000	0.55	2940	0.041
LV010M18K0BPF-2530	18000	10	25X30	3000	0.55	2800	0.041
LV010M18K0BPF-3030	18000	10	30X30	3000	0.55	3110	0.041
LV010M22K0BPF-2245	22000	10	22X45	3000	0.55	3240	0.033
LV010M22K0BPF-2535	22000	10	25X35	3000	0.55	3150	0.033
LV010M22K0BPF-3030	22000	10	30X30	3000	0.55	3280	0.033
LV010M22K0BPF-3525	22000	10	35X25	3000	0.55	3370	0.033
LV010M27K0BPF-2540	27000	10	25X40	3000	0.55	3500	0.027
LV010M27K0BPF-3035	27000	10	30X35	3000	0.55	3670	0.027
LV010M27K0BPF-3530	27000	10	35X30	3000	0.55	3780	0.027
LV010M33K0BPF-2545	33000	10	25X45	3000	0.55	4000	0.022
LV010M33K0BPF-3040	33000	10	30X40	3000	0.55	4200	0.022
LV010M33K0BPF-3530	33000	10	35X30	3000	0.55	4080	0.022
LV010M39K0BPF-2550	39000	10	25X50	3000	0.55	4450	0.019
LV010M39K0BPF-3045	39000	10	30X45	3000	0.55	4220	0.019
LV010M39K0BPF-3535	39000	10	35X35	3000	0.55	4630	0.019
LV010M47K0BPF-3540	47000	10	35X40	3000	0.55	4900	0.016
LV010M56K0BPF-3545	56000	10	35X45	3000	0.55	5500	0.013
LV010M68K0BPF-3550	68000	10	35X50	3000	0.55	6050	0.011
LV016M6800BPF-2225	6800	16	22X25	2176	0.55	1800	0.107
LV016M8200BPF-2230	8200	16	22X30	2624	0.55	2050	0.089
LV016M8200BPF-2525	8200	16	25X25	2624	0.55	2050	0.089
LV016M10K0BPF-2235	10000	16	22X35	3000	0.55	2450	0.073
LV016M10K0BPF-2530	10000	16	25X30	3000	0.55	2450	0.073
LV016M12K0BPF-2240	12000	16	22X40	3000	0.55	2730	0.061
LV016M12K0BPF-2530	12000	16	25X30	3000	0.55	2600	0.061
LV016M12K0BPF-3025	12000	16	30X25	3000	0.55	2680	0.061
LV016M15K0BPF-2245	15000	16	22X45	3000	0.55	2990	0.049
LV016M15K0BPF-2535	15000	16	25X35	3000	0.55	2900	0.049
LV016M15K0BPF-3030	15000	16	30X30	3000	0.55	3020	0.049
LV016M18K0BPF-2250	18000	16	22X50	3000	0.55	3430	0.041
LV016M18K0BPF-2540	18000	16	25X40	3000	0.55	3330	0.041
LV016M18K0BPF-3030	18000	16	30X30	3000	0.55	3300	0.041
LV016M18K0BPF-3525	18000	16	35X25	3000	0.55	3370	0.041
LV016M22K0BPF-2545	22000	16	25X45	3000	0.55	3700	0.033
LV016M22K0BPF-3035	22000	16	30X35	3000	0.55	3700	0.033
LV016M22K0BPF-3530	22000	16	35X30	3000	0.55	3810	0.033



Table 1-2 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm)	Leakage Current (uA)	Dissipation Factor (Tan $\delta$ )	Ripple 120 Hz (mA)	ESR 120Hz ( $\Omega$ )
			D X L				
LV016M27K0BPF-3040	27000	16	30X40	3000	0.55	4150	0.027
LV016M27K0BPF-3535	27000	16	35X35	3000	0.55	4270	0.027
LV016M33K0BPF-3050	33000	16	30X50	3000	0.55	4650	0.022
LV016M33K0BPF-3540	33000	16	35X40	3000	0.55	4650	0.022
LV016M39K0BPF-3545	39000	16	35X45	3000	0.55	5250	0.019
LV016M47K0BPF-3550	47000	16	35X50	3000	0.55	5800	0.016
LV025M3900BPF-2225	3900	25	22X25	1950	0.45	1500	0.153
LV025M4700BPF-2230	4700	25	22X30	2350	0.45	1800	0.127
LV025M5600BPF-2230	5600	25	22X30	2800	0.45	1950	0.107
LV025M5600BPF-2525	5600	25	25X25	2800	0.45	1950	0.107
LV025M6800BPF-2235	6800	25	22X35	3000	0.45	2200	0.088
LV025M6800BPF-2530	6800	25	25X30	3000	0.45	2200	0.088
LV025M8200BPF-2240	8200	25	22X40	3000	0.45	2470	0.073
LV025M8200BPF-2535	8200	25	25X35	3000	0.45	2500	0.073
LV025M8200BPF-3025	8200	25	30X25	3000	0.45	2450	0.073
LV025M10K0BPF-2245	10000	25	22X45	3000	0.45	2750	0.060
LV025M10K0BPF-2540	10000	25	25X40	3000	0.45	2800	0.060
LV025M10K0BPF-3030	10000	25	30X30	3000	0.45	2750	0.060
LV025M12K0BPF-2250	12000	25	22X50	3000	0.45	3130	0.050
LV025M12K0BPF-2545	12000	25	25X45	3000	0.45	3220	0.050
LV025M12K0BPF-3035	12000	25	30X35	3000	0.45	3190	0.050
LV025M12K0BPF-3525	12000	25	35X25	3000	0.45	3100	0.050
LV025M15K0BPF-2550	15000	25	25X50	3000	0.45	3430	0.040
LV025M15K0BPF-3040	15000	25	30X40	3000	0.45	3470	0.040
LV025M15K0BPF-3530	15000	25	35X30	3000	0.45	3400	0.040
LV025M18K0BPF-3045	18000	25	30X45	3000	0.45	3940	0.033
LV025M18K0BPF-3535	18000	25	35X35	3000	0.45	3900	0.033
LV025M22K0BPF-3050	22000	25	30X50	3000	0.45	4300	0.027
LV025M22K0BPF3540	22000	25	35X40	3000	0.45	4300	0.027
LV025M27K0BPF-3545	27000	25	35X45	3000	0.45	4850	0.022
LV035M2700BPF-2225	2700	35	22X25	1890	0.40	1450	0.190
LV035M3300BPF-2230	3300	35	22X30	2310	0.40	1600	0.161
LV035M3900BPF-2230	3900	35	22X30	2730	0.40	1800	0.136
LV035M4700BPF-2235	4700	35	22X35	3000	0.40	2230	0.113
LV035M4700BPF-2525	4700	35	25X25	3000	0.40	2100	0.113
LV035M5600BPF-2240	5600	35	22X40	3000	0.40	2410	0.095
LV035M5600BPF-2530	5600	35	25X30	3000	0.40	2300	0.095
LV035M5600BPF-3025	5600	35	30X25	3000	0.40	2370	0.095
LV035M6800BPF-2245	6800	35	22X45	3000	0.40	2680	0.078
LV035M6800BPF-2535	6800	35	25X35	3000	0.40	2600	0.078
LV035M6800BPF-3030	6800	35	30X30	3000	0.40	2700	0.078
LV035M8200BPF-2250	8200	35	22X50	3000	0.40	3020	0.065

Table 1-3 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV035M8200BPF-2540	8200	35	25X40	3000	0.40	2930	0.065
LV035M8200BPF-3030	8200	35	30X30	3000	0.40	2900	0.065
LV035M8200BPF-3525	8200	35	35X25	3000	0.40	2960	0.065
LV035M10K0BPF-2545	10000	35	25X45	3000	0.40	3200	0.0531
LV035M10K0BPF-3035	10000	35	30X35	3000	0.40	3200	0.0531
LV035M10K0BPF-3530	10000	35	35X30	3000	0.40	3300	0.0531
LV035M12K0BPF-2550	12000	35	25X50	3000	0.40	3640	0.044
LV035M12K0BPF-3040	12000	35	30X40	3000	0.40	3670	0.044
LV035M12K0BPF-3530	12000	35	35X30	3000	0.40	3600	0.044
LV035M15K0BPF-3045	15000	35	30X45	3000	0.40	4040	0.035
LV035M15K0BPF-3535	15000	35	35X35	3000	0.40	4000	0.035
LV035M18K0BPF-3540	18000	35	35X40	3000	0.40	4600	0.029
LV035M22K0BPF-3550	22000	35	35X50	3000	0.40	5100	0.024
LV050M1500BPF-2225	1500	50	22X25	1500	0.35	1250	0.309
LV050M1800BPF-2230	1800	50	22X30	1800	0.35	1450	0.258
LV050M2200BPF-2230	2200	50	22X30	2200	0.35	1600	0.211
LV050M2200BPF-2525	2200	50	25X25	2200	0.35	1600	0.211
LV050M2700BPF-2235	2700	50	22X35	2700	0.35	1800	0.172
LV050M2700BPF-2530	2700	50	25X30	2700	0.35	1800	0.172
LV050M3300BPF-2240	3300	50	22X40	3000	0.35	2050	0.141
LV050M3300BPF-2530	3300	50	25X30	3000	0.35	1950	0.141
LV050M3300BPF-3025	3300	50	30X25	3000	0.35	2010	0.141
LV050M3900BPF-2245	3900	50	22X45	3000	0.35	2270	0.119
LV050M3900BPF-2535	3900	50	25X35	3000	0.35	2200	0.119
LV050M3900BPF-3030	3900	50	30X30	3000	0.35	2290	0.119
LV050M4700BPF-2250	4700	50	22X50	3000	0.35	2500	0.099
LV050M4700BPF-2540	4700	50	25X40	3000	0.35	2420	0.099
LV050M4700BPF-3030	4700	50	30X30	3000	0.35	2400	0.099
LV050M4700BPF-3525	4700	50	35X25	3000	0.35	2450	0.099
LV050M5600BPF-2545	5600	50	25X45	3000	0.35	2700	0.083
LV050M5600BPF-3035	5600	50	30X35	3000	0.35	2700	0.083
LV050M5600BPF-3530	5600	50	35X30	3000	0.35	2780	0.083
LV050M6800BPF-3040	6800	50	30X40	3000	0.35	3060	0.068
LV050M6800BPF-3530	6800	50	35X30	3000	0.35	3000	0.068
LV050M8200BPF-3045	8200	50	30X45	3000	0.35	3380	0.057
LV050M8200BPF-3535	8200	50	35X35	3000	0.35	3350	0.057
LV050M10K0BPF-3540	10000	50	35X40	3000	0.35	3700	0.046
LV050M12K0BPF-3550	12000	50	35X50	3000	0.35	4200	0.039
LV063M1200BPF-2225	1200	63	22X25	1512	0.30	1250	0.332
LV063M1500BPF-2230	1500	63	22X30	1890	0.30	1450	0.265
LV063M1500BPF-2525	1500	63	25X25	1890	0.30	1450	0.265
LV063M1800BPF-2235	1800	63	22X35	2268	0.30	1600	0.221

Table 1-4 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV063M1800BPF-2530	1800	63	25X30	2268	0.30	1600	0.221
LV063M2200BPF-2240	2200	63	22X40	2772	0.30	1890	0.181
LV063M2200BPF-2530	2200	63	25X30	2772	0.30	1800	0.181
LV063M2200BPF-3025	2200	63	30X25	2772	0.30	1850	0.181
LV063M2700BPF-2245	2700	63	22X45	3000	0.30	2060	0.147
LV063M2700BPF-2535	2700	63	25X35	3000	0.30	2000	0.147
LV063M2700BPF-3030	2700	63	30X30	3000	0.30	2080	0.147
LV063M3300BPF-2540	3300	63	25X40	3000	0.30	2320	0.121
LV063M3300BPF-3030	3300	63	30X30	3000	0.30	2300	0.121
LV063M3300BPF-3525	3300	63	35X25	3000	0.30	2350	0.121
LV063M3900BPF-2545	3900	63	25X45	3000	0.30	2550	0.102
LV063M3900BPF-3035	3900	63	30X35	3000	0.30	2550	0.102
LV063M3900BPF-3530	3900	63	35X30	3000	0.30	2630	0.102
LV063M4700BPF-2550	4700	63	25X50	3000	0.30	2830	0.085
LV063M4700BPF-3040	4700	63	30X40	3000	0.30	2860	0.085
LV063M4700BPF-3530	4700	63	35X30	3000	0.30	2800	0.085
LV063M5600BPF-3045	5600	63	30X45	3000	0.30	3180	0.071
LV063M5600BPF-3535	5600	63	35X35	3000	0.30	3150	0.071
LV063M6800BPF-3050	6800	63	30X50	3000	0.30	3500	0.059
LV063M6800BPF-3540	6800	63	35X40	3000	0.30	3500	0.059
LV063M8200BPF-3545	8200	63	35X45	3000	0.30	3900	0.049
LV080M0820BPF-2225	820	80	22X25	1312	0.25	1200	0.404
LV080M1000BPF-2230	1000	80	22X30	1600	0.25	1350	0.332
LV080M1200BPF-2235	1200	80	22X35	1920	0.25	1590	0.276
LV080M1200BPF-2525	1200	80	25X25	1920	0.25	1500	0.276
LV080M1500BPF-2240	1500	80	22X40	2400	0.25	1780	0.221
LV080M1500BPF-2530	1500	80	25X30	2400	0.25	1700	0.221
LV080M1500BPF-3025	1500	80	30X25	2400	0.25	1750	0.221
LV080M1800BPF-2245	1800	80	22X45	2880	0.25	2010	0.184
LV080M1800BPF-2535	1800	80	25X35	2880	0.25	1950	0.184
LV080M1800BPF-3030	1800	80	30X30	3000	0.25	2030	0.184
LV080M2200BPF-2540	2200	80	25X40	3000	0.25	2170	0.151
LV080M2200BPF-3030	2200	80	30X30	3000	0.25	2150	0.151
LV080M2200BPF-3525	2200	80	35X25	3000	0.25	2190	0.151
LV080M2700BPF-2545	2700	80	25X45	3000	0.25	2450	0.123
LV080M2700BPF-3035	2700	80	30X35	3000	0.25	2450	0.123
LV080M2700BPF-3530	2700	80	35X30	3000	0.25	2520	0.123
LV080M3300BPF-3040	3300	80	30X40	3000	0.25	2750	0.100
LV080M3300BPF-3535	3300	80	35X35	3000	0.25	2830	0.100
LV080M3900BPF-3045	3900	80	30X45	3000	0.25	3130	0.085
LV080M3900BPF-3535	3900	80	35X35	3000	0.25	3100	0.085
LV080M4700BPF-3540	4700	80	35X40	3000	0.25	3400	0.071

Table 1-5 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV080M5600BPF-3550	5600	80	35X50	3000	0.25	3800	0.059
LV100M0560BPF-2225	560	100	22X25	1120	0.25	1200	0.592
LV100M0680BPF-2230	680	100	22X30	1360	0.25	1350	0.488
LV100M0820BPF-2230	820	100	22X30	1640	0.25	1500	0.404
LV100M0820BPF-2525	820	100	25X25	1640	0.25	1500	0.404
LV100M1000BPF-2235	1000	100	22X35	2000	0.25	1700	0.332
LV100M1000BPF-2530	1000	100	25X30	2000	0.25	1700	0.332
LV100M1200BPF-2240	1200	100	22X40	2400	0.25	1970	0.276
LV100M1200BPF-2535	1200	100	25X35	2400	0.25	1990	0.276
LV100M1200BPF-3025	1200	100	30X25	2400	0.25	1950	0.276
LV100M1500BPF-2245	1500	100	22X45	3000	0.25	2150	0.221
LV100M1500BPF-2540	1500	100	25X40	3000	0.25	2190	0.221
LV100M1500BPF-3030	1500	100	30X30	3000	0.25	2150	0.221
LV100M1500BPF-3525	1500	100	35X25	3000	0.25	2210	0.221
LV100M1800BPF-2545	1800	100	25X45	3000	0.25	2450	0.184
LV100M1800BPF-3035	1800	100	30X35	3000	0.25	2500	0.184
LV100M1800BPF-3530	1800	100	35X30	3000	0.25	2520	0.184
LV100M2200BPF-2550	2200	100	25X50	3000	0.25	2750	0.151
LV100M2200BPF-3040	2200	100	30X40	3000	0.25	2750	0.151
LV100M2200BPF-3535	2200	100	35X35	3000	0.25	2860	0.151
LV100M2700BPF-3045	2700	100	30X45	3000	0.25	3080	0.123
LV100M2700BPF-3535	2700	100	35X35	3000	0.25	3050	0.123
LV100M3300BPF-3050	3300	100	30X50	3000	0.25	3450	0.100
LV100M3300BPF-3540	3300	100	35X40	3000	0.25	3450	0.100
LV100M3900BPF-3545	3900	100	35X45	3000	0.25	3900	0.085
LV100M4700BPF-3545	4700	100	35X45	3000	0.25	3900	0.071
LV100M4700BPF-3550	4700	100	35X50	3000	0.25	4300	0.071
LV160M0270BPF-2225	270	160	22X25	864	0.15	850	0.737
LV160M0330BPF-2230	330	160	22X30	1056	0.15	1000	0.603
LV160M0390BPF-2230	390	160	22X30	1248	0.15	1150	0.510
LV160M0390BPF-2525	390	160	25X25	1248	0.15	1150	0.510
LV160M0470BPF-2235	470	160	22X35	1504	0.15	1300	0.423
LV160M0470BPF-2530	470	160	25X30	1504	0.15	1300	0.423
LV160M0560BPF-2240	560	160	22X40	1792	0.15	1570	0.355
LV160M0560BPF-2530	560	160	25X30	1792	0.15	1500	0.355
LV160M0560BPF-3025	560	160	30X25	1792	0.15	1540	0.355
LV160M0680BPF-2245	680	160	22X45	2176	0.15	1750	0.293
LV160M0680BPF-2535	680	160	25X35	2176	0.15	1700	0.293
LV160M0680BPF-3030	680	160	30X30	2176	0.15	1770	0.293
LV160M0820BPF-2250	820	160	22X50	2624	0.15	2030	0.243
LV160M0820BPF-2540	820	160	25X40	2624	0.15	1970	0.243
LV160M0820BPF-3030	820	160	30X30	2624	0.15	1950	0.243

Table 1-6 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV160M0820BPF-3525	820	160	35X25	2624	0.15	1990	0.243
LV160M1000BPF-2545	1000	160	25X45	3000	0.15	2150	0.199
LV160M1000BPF-3035	1000	160	30X35	3000	0.15	2150	0.199
LV160M1000BPF-3530	1000	160	35X30	3000	0.15	2210	0.199
LV160M1200BPF-3040	1200	160	30X40	3000	0.15	2450	0.166
LV160M1200BPF-3535	1200	160	35X35	3000	0.15	2520	0.166
LV160M1500BPF-3050	1500	160	30X50	3000	0.15	2750	0.133
LV160M1500BPF-3540	1500	160	35X35	3000	0.15	2750	0.133
LV160M1800BPF-3545	1800	160	35X45	3000	0.15	3000	0.111
LV160M2200BPF-3550	2200	160	35X50	3000	0.15	3500	0.090
LV180M0270BPF-2225	270	180	22X25	972	0.15	850	0.737
LV180M0330BPF-2230	330	180	22X30	1188	0.15	1100	0.603
LV180M0390BPF-2235	390	180	22X35	1404	0.15	1320	0.510
LV180M0390BPF-2525	390	180	25X25	1404	0.15	1250	0.510
LV180M0470BPF-2240	470	180	22X40	1692	0.15	1470	0.423
LV180M0470BPF-2530	470	180	25X30	1692	0.15	1400	0.423
LV180M0560BPF-2245	560	180	22X45	2016	0.15	1700	0.355
LV180M0560BPF-2535	560	180	25X35	2016	0.15	1630	0.355
LV180M0560BPF-3025	560	180	30X25	2016	0.15	1600	0.355
LV180M0680BPF-2250	680	180	22X50	2248	0.15	1870	0.293
LV180M0680BPF-2540	680	180	25X40	2248	0.15	1820	0.293
LV180M0680BPF-3030	680	180	30X30	2248	0.15	1800	0.293
LV180M0680BPF-3525	680	180	35X25	2248	0.15	1840	0.293
LV180M0820BPF-2545	820	180	25X45	2952	0.15	2050	0.243
LV180M0820BPF-3035	820	180	30X35	2952	0.15	2050	0.243
LV180M0820BPF-3530	820	180	35X30	2952	0.15	2110	0.243
LV180M1000BPF-2550	1000	180	25X50	3000	0.15	2270	0.199
LV180M1000BPF-3040	1000	180	30X40	3000	0.15	2290	0.199
LV180M1000BPF-3530	1000	180	35X30	3000	0.15	2250	0.199
LV180M1200BPF-3045	1200	180	30X45	3000	0.15	2570	0.166
LV180M1200BPF-3535	1200	180	35X35	3000	0.15	2550	0.166
LV180M1500BPF-3540	1500	180	35X40	3000	0.15	2850	0.133
LV180M1800BPF-3550	1800	180	35X50	3000	0.15	3100	0.111
LV200M0220BPF-2225	220	200	22X25	880	0.15	850	0.905
LV200M0270BPF-2230	270	200	22X30	1080	0.15	1000	0.737
LV200M0330BPF-2230	330	200	22X30	1320	0.15	1150	0.603
LV200M0330BPF-2525	330	200	25X25	1320	0.15	1150	0.603
LV200M0390BPF-2235	390	200	22X35	1560	0.15	1300	0.510
LV200M0390BPF-2530	390	200	25X30	1560	0.15	1300	0.510
LV200M0470BPF-2240	470	200	22X40	1880	0.15	1520	0.423
LV200M0470BPF-2535	470	200	25X35	1880	0.15	1540	0.423
LV200M0470BPF-3025	470	200	30X25	1880	0.15	1490	0.423

Table 1-7 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV200M0560BPF-2245	560	200	22X45	2240	0.15	1700	0.355
LV200M0560BPF-2535	560	200	25X35	2240	0.15	1650	0.355
LV200M0560BPF-3030	560	200	30X30	2240	0.15	1720	0.355
LV200M0680BPF-2545	680	200	25X45	2720	0.15	1970	0.293
LV200M0680BPF-3035	680	200	30X35	2720	0.15	1970	0.293
LV200M0680BPF-3530	680	200	35X30	2720	0.15	2020	0.293
LV200M0820BPF-2545	820	200	25X45	3000	0.15	2200	0.243
LV200M0820BPF-3035	820	200	30X35	3000	0.15	2100	0.243
LV200M0820BPF-3530	820	200	35X30	3000	0.15	2160	0.243
LV200M1000BPF-3045	1000	200	30X45	3000	0.15	2320	0.199
LV200M1000BPF-3535	1000	200	35X35	3000	0.15	2300	0.199
LV200M1200BPF-3050	1200	200	30X50	3000	0.15	2750	0.166
LV200M1200BPF-3540	1200	200	35X40	3000	0.15	2750	0.166
LV200M1500BPF-3545	1500	200	35X45	3000	0.15	2900	0.133
LV250M0150BPF-2225	150	250	22X25	750	0.15	750	1.330
LV250M0180BPF-2230	180	250	22X30	900	0.15	850	1.110
LV250M0220BPF-2230	220	250	22X30	1100	0.15	1000	0.905
LV250M0220BPF-2525	220	250	25X25	1100	0.15	1000	0.905
LV250M0270BPF-2235	270	250	22X35	1350	0.15	1220	0.737
LV250M0270BPF-2525	270	250	25X25	1350	0.15	1150	0.737
LV250M0330BPF-2240	330	250	22X40	1650	0.15	1360	0.603
LV250M0330BPF-2530	330	250	25X30	1650	0.15	1300	0.603
LV250M0390BPF-2245	390	250	22X45	1950	0.15	1540	0.510
LV250M0390BPF-2535	390	250	25X35	1950	0.15	1480	0.510
LV250M0390BPF-3025	390	250	30X25	1950	0.15	1450	0.510
LV250M0390BPF-3525	390	250	35X25	1950	0.15	1590	0.510
LV250M0470BPF-2250	470	250	22X50	2350	0.15	1780	0.423
LV250M0470BPF-2540	470	250	25X40	2350	0.15	1750	0.423
LV250M0470BPF-3030	470	250	30X30	2350	0.15	1720	0.423
LV250M0470BPF-3530	470	250	35X30	2350	0.15	1880	0.423
LV250M0560BPF-2540	560	250	25X40	2800	0.15	1800	0.355
LV250M0560BPF-3035	560	250	30X35	2800	0.15	1890	0.355
LV250M0560BPF-3530	560	250	35X30	2800	0.15	1940	0.355
LV250M0680BPF-2550	680	250	25X50	3000	0.15	2100	0.293
LV250M0680BPF-3040	680	250	30X40	3000	0.15	2100	0.293
LV250M0680BPF-3535	680	250	35X35	3000	0.15	2180	0.293
LV250M0820BPF-3045	820	250	30X45	3000	0.15	2300	0.243
LV250M0820BPF-3540	820	250	35X40	3000	0.15	2390	0.243
LV250M1000BPF-3540	1000	250	35X40	3000	0.15	2400	0.199
LV250M1000BPF-3545	1000	250	35X45	3000	0.15	2650	0.199
LV250M1000BPF-3050	1000	250	30X50	3000	0.15	2550	0.199
LV250M1200BPF-3550	1200	250	35X50	3000	0.15	2900	0.166

Table 1-8 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (uF)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (uA)	Dissipation Factor (Tan δ)	Ripple 120 Hz (mA)	ESR 120Hz (Ω)
LV315M0082BPF-2225	82	315	22X25	517	0.15	550	2.426
LV315M0100BPF-2230	100	315	22X30	630	0.15	650	1.989
LV315M0120BPF-2230	120	315	22X30	756	0.15	750	1.658
LV315M0120BPF-2525	120	315	25X25	756	0.15	750	1.658
LV315M0150BPF-2235	150	315	22X35	945	0.15	800	1.326
LV315M0150BPF-2530	150	315	25X30	945	0.15	800	1.326
LV315M0180BPF-2240	180	315	22X40	1134	0.15	1010	1.105
LV315M0180BPF-2535	180	315	25X35	1134	0.15	1020	1.105
LV315M0180BPF-3025	180	315	30X25	1134	0.15	1000	1.105
LV315M0220BPF-2245	220	315	22X45	1386	0.15	1100	0.905
LV315M0220BPF-2540	220	315	25X40	1386	0.15	1120	0.905
LV315M0220BPF-3030	220	315	30X30	1386	0.15	1100	0.905
LV315M0270BPF-2545	270	315	25X45	1701	0.15	1250	0.737
LV315M0270BPF-3035	270	315	30X35	1701	0.15	1250	0.737
LV315M0330BPF-2550	330	315	25X50	2079	0.15	1530	0.603
LV315M0330BPF-3040	330	315	30X40	2079	0.15	1530	0.603
LV315M0330BPF-3530	330	315	35X30	2079	0.15	1500	0.603
LV315M0390BPF-3045	390	315	30X45	3157	0.15	1710	0.510
LV315M0390BPF-3530	390	315	35X30	3157	0.15	1600	0.510
LV315M0470BPF-3050	470	315	30X50	2961	0.15	1850	0.423
LV315M0470BPF-3535	470	315	35X35	2961	0.15	1750	0.423
LV315M0560BPF-3540	560	315	35X40	3000	0.15	2000	0.355
LV315M0680BPF-3545	680	315	35X45	3000	0.15	2200	0.293
LV350M0082BPF-2225	82	350	22X25	574	0.15	600	2.426
LV350M0100BPF-2230	100	350	22X30	700	0.15	700	1.989
LV350M0100BPF-2525	100	350	25X25	700	0.15	700	1.989
LV350M0120BPF-2235	120	350	22X35	840	0.15	800	1.658
LV350M0120BPF-2530	120	350	25X30	840	0.15	800	1.658
LV350M0150BPF-2240	150	350	22X40	1050	0.15	860	1.326
LV350M0150BPF-2535	150	350	25X35	1050	0.15	870	1.326
LV350M0150BPF-3025	150	350	30X25	1050	0.15	850	1.326
LV350M0180BPF-2245	180	350	22X45	1260	0.15	1050	1.105
LV350M0180BPF-2540	180	350	25X40	1240	0.15	1070	1.105
LV350M0180BPF-3030	180	350	30X30	1240	0.15	1050	1.105
LV350M0220BPF-2250	220	350	22X50	1540	0.15	1160	0.905
LV350M0220BPF-2545	220	350	25X45	1540	0.15	1200	0.905
LV350M0220BPF-3035	220	350	30X35	1540	0.15	1180	0.905
LV350M0220BPF-3525	220	350	35X25	1540	0.15	1150	0.905
LV350M0270BPF-2550	270	350	25X50	1890	0.15	1310	0.737
LV350M0270BPF-3040	270	350	30X40	1890	0.15	1330	0.737
LV350M0270BPF-3530	270	350	35X30	1890	0.15	1300	0.737
LV350M0330BPF-3045	330	350	30X45	2310	0.15	1460	0.603



Table 1-9 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (Uf)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (Ua)	Dissipation Factor (Tan δ)	Ripple 120 Hz (Ma)	ESR 120Hz (Ω)
LV350M0330BPF-3535	330	350	35X35	2310	0.15	1450	0.603
LV350M0390BPF-3050	390	350	30X50	2730	0.15	1650	0.510
LV350M0390BPF-3540	390	350	35X40	2730	0.15	1650	0.510
LV350M0470BPF-3545	470	350	35X45	3000	0.15	1850	0.423
LV350M0560BPF-3550	560	350	35X50	3000	0.15	2100	0.355
LV400M0068BPF-2225	68	400	22X25	544	0.15	550	2.926
LV400M0082BPF-2230	82	400	22X30	656	0.15	650	2.4256
LV400M0082BPF-2525	82	400	25X25	656	0.15	650	2.426
LV400M0100BPF-2235	100	400	22X35	800	0.15	790	1.989
LV400M0100BPF-2525	100	400	25X25	800	0.15	750	1.989
LV400M0120BPF-2240	120	400	22X40	960	0.15	890	1.658
LV400M0120BPF-2530	120	400	25X30	960	0.15	850	1.658
LV400M0120BPF-3025	120	400	30X25	960	0.15	870	1.658
LV400M0150BPF-2240	150	400	22X40	1200	0.15	850	1.326
LV400M0150BPF-2245	150	400	22X45	1200	0.15	930	1.326
LV400M0150BPF-2535	150	400	25X35	1200	0.15	900	1.326
LV400M0150BPF-3030	150	400	30X30	1200	0.15	940	1.326
LV400M0150BPF-3525	150	400	35X25	1200	0.15	960	1.326
LV400M0180BPF-2250	180	400	22X50	1440	0.15	1140	1.105
LV400M0180BPF-2540	180	400	25X40	1440	0.15	1110	1.105
LV400M0180BPF-3030	180	400	30X30	1440	0.15	1100	1.105
LV400M0180BPF-3525	180	400	35X25	1440	0.15	1120	1.105
LV400M0220BPF-2545	220	400	25X45	1760	0.15	1200	0.905
LV400M0220BPF-3035	220	400	30X35	1760	0.15	1200	0.905
LV400M0220BPF-3530	220	400	35X30	1760	0.15	1240	0.905
LV400M0270BPF-2550	270	400	25X50	2160	0.15	1360	0.737
LV400M0270BPF-3040	270	400	30X40	2160	0.15	1380	0.737
LV400M0270BPF-3530	270	400	35X30	2160	0.15	1350	0.737
LV400M0330BPF-3045	330	400	30X45	2640	0.15	1510	0.603
LV400M0330BPF-3535	330	400	35X35	2640	0.15	1500	0.603
LV400M0390BPF-3050	390	400	30X50	3000	0.15	1700	0.510
LV400M0390BPF-3540	390	400	35X40	3000	0.15	1700	0.510
LV400M0470BPF-3545	470	400	35X45	3000	0.15	1900	0.423
LV400M0560BPF-3550	560	400	35X50	3000	0.15	1900	0.420
LV400M0680BPF-3550	680	400	35X50	3000	0.15	2100	0.400
LV450M0056BPF-2225	56	450	22X25	504	0.25	550	5.921
LV450M0068BPF-2230	68	450	22X30	612	0.25	650	4.876
LV450M0082BPF-2235	82	450	22X35	738	0.25	800	4.044
LV450M0082BPF-2525	82	450	25X25	738	0.25	750	4.044
LV450M0100BPF-2240	100	450	22X40	900	0.25	890	3.316
LV450M0100BPF-2530	100	450	25X30	900	0.25	850	3.316
LV450M0100BPF-3025	100	450	30X25	900	0.25	850	3.316



Table 1-10 LV Type, Standard Ratings and Catalog Number (LIFE : 105°C,3000Hr.)

Catalog Number	Capacitance (Uf)	Rated Voltage (V.DC)	Size (mm) D X L	Leakage Current (Ua)	Dissipation Factor (Tan $\delta$ )	Ripple 120 Hz (Ma)	ESR 120Hz ( $\Omega$ )
LV450M0120BPF-2245	120	450	22X45	1080	0.25	950	2.763
LV450M0120BPF-2535	120	450	25X35	1080	0.25	920	2.763
LV450M0120BPF-3025	120	450	30X25	1080	0.25	900	2.763
LV450M0150BPF-2250	150	450	22X50	1350	0.25	1140	2.210
LV450M0150BPF-2540	150	450	25X40	1350	0.25	1110	2.210
LV450M0150BPF-3030	150	450	30X30	1350	0.25	1100	2.210
LV450M0180BPF-2545	180	450	25X45	1620	0.25	1250	1.842
LV450M0180BP3-2545	180	450	25X45	2430	0.25	1250	1.842
LV450M0180BPF-3035	180	450	30X35	1620	0.25	1240	1.842
LV450M0180BP3-3035	180	450	30X35	1620	0.25	1240	1.842
LV450M0180BPF-3525	180	450	35X25	1620	0.25	1200	1.842
LV450M0220BPF-2550	220	450	25X50	1980	0.25	1360	1.507
LV450M0220BPF-3040	220	450	30X40	1980	0.25	1380	1.507
LV450M0220BPF-3530	220	450	35X30	1980	0.25	1350	1.507
LV450M0270BPF-3045	270	450	30X45	2430	0.25	1510	1.228
LV450M0270BPF-3535	270	450	35X35	2430	0.25	1500	1.228
LV450M0270BP3-3535	270	450	35X35	2430	0.25	1500	1.228
LV450M0330BPF-3050	330	450	30X50	2970	0.25	1700	1.005
LV450M0330BPF-3540	330	450	35X40	2970	0.25	1700	1.005
LV450M0390BPF-3545	390	450	35X45	3000	0.25	1900	0.850
LV450M0470BPF-3550	470	450	35X50	3000	0.25	2100	0.705

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