◆料号说明 Explanation of parts numbers

JBL：品牌缩写

E	2	4	7	1	M	6	R	3	C	0	8	0	R	L	M

系列 Series
E1
E2
E4
E5
H2
H4
H5
M1
M2
M4
M5
H6
H7

代码 Code	标称容量 Nominal Capacitance
R47	0.47μF
1R0	1μF
4R7	4.7μF
470	47μF
471	470μF
472	4700μF

代码 Code	误差 Tolerance
J	±5%
K	±10%
V	-10~+20%
M	±20%
Q	-10~+30%
T	-10~+50%
Z	-20~+80%
A	特殊 Special

代码 Code	电压 Voltage
2R5	2.5V
004	4V
6R3	6.3V
6R8	6.8V
7R5	7.5V
010	10V
012	12V
016	16V
020	20V
025	25V
035	35V
050	50V
063	63V
080	80V
100	100V
160	160V

代码 Code	直径Φ Dia
A	5
B	5.5
C	6.3
D	8
E	10
F	12.5
G	13

代码 Code	长 Length
050	5
058	5.8
070	7
077	7.7
080	8
090	9
098	9.8
120	12
126	12.6

代码 Code	颜色 Color
B	蓝色 Blue
R	红色 Red
G	灰色 Gary

代码 Code	产品脚型 Lead Forming Type
L	长脚 Bagged
T	贴片 SMD
C	剪脚品 Lead cut
P	编带 Taping

代码 Code	解析 Analysis
M	固态电容

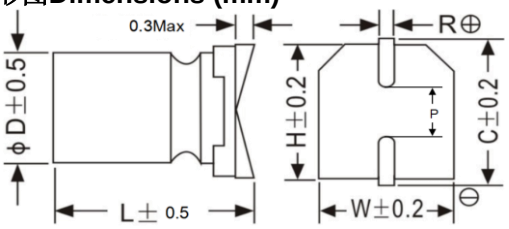
M2

- Low ESR, High ripple, miniaturized
- SMD type: lead free reflow soldering condition at 260℃ peak correspondence
- RoHS Compliant

◆ 规格表 Specifications

项目Items	特性参数Characteristics				
使用温度范围 Category Temperture Range	-55 ~ +105℃				
额定工作电压范围 Rated Voltage Range	2.5 ~ 100V				
静电容量允许偏差 Capacitance tolerance	±20%(M) (at 20℃,120Hz)				
漏电流 Leakage Current	施加额定工作电压2分钟后读数，小于或等于规格值 (at 20℃) Less than or equal to the specified value. After 2 minutes application of rated Voltage at 20℃			2.5~25V I≤0.2CV 或500μA(取大值)	35~100V I≤0.1CV 或 299μA(取大值)
损耗角正切值tanδ Dissipation Factor	Rated voltage (V)	2.5~6.3	10~100	(at 20℃,120Hz)	
	tanδ (Max.)	0.08	0.12		
温度特性 Low Temperture Characteristics (Max.Impedance Ratio)	Z(-25℃)/Z(+20℃)	≦1.25		(100KHz)	
	Z(-55℃)/Z(+20℃)	≦1.25			
耐久性 Endurence	105℃施加额定工作电压2000小时，恢复到20℃后，产品性能应满足以下要求 The specifications listed below shall be satisfied when the capacitors are restored to 20℃ after application of rated voltage for 2000 hours at 105℃.				
	Appearance	No significant damage			
	Capacitance change	≦±20% of the initial value			
	D.F.(tanδ)	≦150% of the specified value			
	ESR	≦150% of the specified value			
	Leakage current	≦The specified value			
耐湿负荷特性 Damp Heat (Steady State)	在60℃ 温度，湿度90%~95%RH的环境中，施加额定电压1000小时后，恢复到20℃后，产品性能应满足以下要求 The specifications listed below shall be satisfied when the capacitors are restored to 20℃after application of rated voltage for 1000 hours at 60℃,90%～ 95% RH.				
	Appearance	No significant damage			
	Capacitance change	≦±20% of the initial value			
	D.F.(tanδ)	≦150% of the specified value			
	ESR	≦150% of the specified value			
	Leakage current	≦The specified value			
浪涌电压特性 (Surge Voltage)	浪涌电压=额定电压× 1.15(V) Surge Voltage=Rated voltage × 1.15(V) 在105℃环境中，按充电30秒；放电5分30秒，连续施加浪涌电压1000次(Rc=1kΩ)，待恢复测试，应满足以下要求 The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages specified at 105℃ for 30 seconds through a protective resistor (Rc=1kΩ) and discharge for 5 minutes 30 seconds.				
	Appearance	No significant damage			
	Capacitance change	≦±20% of the initial value			
	D.F.(tanδ)	≦150% of the specified value			
	ESR	≦150% of the specified value			
	Leakage current	≦The specified value			
焊接耐热性 Resistance to soldering heat	按回流焊试验后，应满足于以下要求 Measurement for solder temperature profile shall be made at the capacitor top and the terminal.				
	Capacitance change	≦±10% of the initial value			
	D.F.(tanδ)	≦130% of the specified value			
	ESR	≦130% of the specified value			
	Leakage current	≦The specified value			

◆ 外形图Dimensions (mm)



ΦD	W	H	C	R	P
5	5.3	5.3	5.9	0.5~0.8	1.4
6.3	6.5	6.5	7.2	0.5~0.8	2.2
8	8.3	8.3	9.0	0.7~1.1	3.1
10	10.3	10.3	11.0	0.7~1.1	4.5

M2

◆ 纹波电流补正系数 Rated Ripple Current Coefficient

频率Frequency(Hz)	120Hz ≦ f ＜1kHz	1kHz≦ f ＜ 10kHz	10kHz ≦ f ＜ 100kHz	100kHz≦ f ＜ 500kHz
系数 Coefficient	0.05	0.30	0.70	1.00

◆ 尺寸与个技术参数一览表Standard Ratings

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20℃,100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105℃/100kHz)
2.5	470	6.3*9	30	500	4100
	470	6.3*9	30	500	4100
	560	6.3*9	30	500	4100
	560	6.3*9	30	500	4100
	680	6.3*9	30	500	4100
	820	6.3*9	30	500	4100
4	560	6.3*9	30	500	4100
	680	6.3*9	30	544	4100
	820	6.3*9	30	656	4100
	1000	6.3*9	30	800	4100
	1200	6.3*9	30	960	4100
6.3	220	5*7.5	45	500	2500
	220	6.3*5.8	35	500	3200
	220	6.3*7	35	500	3500
	330	6.3*5.8	35	500	3200
	330	6.3*7	35	500	3500
	330	6.3*7.7	35	500	3500
	470	6.3*7.7	35	592	3500
	560	6.3*7.7	35	706	3500
	680	6.3*9	30	857	3800
	820	6.3*9	30	1033	3800
	1000	8*9.8	25	1260	4100
	1500	10*12.6	20	1890	4800
10	220	6.3*7	35	500	2650
	330	6.3*7	35	660	2650
	470	6.3*7.7	35	940	2700
	560	6.3*9	35	1120	2900
	680	8*9.8	25	1360	3500
	820	10*10.2	25	1640	4100
	820	8*12.6	25	1640	4100
	1000	8*12.6	25	2000	4100
	1500	10*12.6	25	2000	4500
16	47	6.3*7	50	500	2100
	68	6.3*7	40	500	2100
	100	6.3*5.8	40	500	1900

M2

◆ 尺寸与个技术参数一览表**Standard Ratings**

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20℃,100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105℃/100kHz)
16	100	6.3*7	40	500	2100
	220	6.3*7	40	704	2100
	220	6.3*7.7	40	704	2260
	220	8*9.8	35	704	2690
	330	6.3*7.7	40	1056	2260
	330	8*9.8	40	1056	2900
	330	8*12.6	30	1056	3500
	470	8*9.8	40	1504	2900
	470	8*12.6	30	1504	3500
	680	8*12.6	30	2176	3500
	820	8*12.6	30	2624	3500
	1000	8*12.6	30	3200	3500
	1500	10*12.6	30	4800	4100
25	47	6.3*5.8	60	500	1870
	47	6.3*7	60	500	1950
	100	5*7.5	70	500	1650
	100	6.3*5.8	50	500	1870
	100	6.3*7	50	500	1950
	100	6.3*9	50	500	2100
	220	6.3*9	50	1100	2100
	220	8*9.8	50	1100	2690
	270	6.3*10	50	1350	2400
	330	8*9.8	50	1650	2690
	470	8*12.6	45	2350	3100
	470	10*10.2	45	2350	3100
	680	8*12.6	40	3400	3100
	680	10*12.6	35	3400	3800
	820	10*12.6	35	4100	3800
	1000	10*12.6	35	5000	3800
35	47	6.3*7	80	299	1410
	100	6.3*7	80	350	1516
	100	6.3*7.7	80	350	1870
	100	6.3*9	80	350	1950
	100	8*9.8	50	350	2450
	150	6.3*10	70	525	2100
	220	8*9.8	50	770	2450
	220	8*12.6	50	770	2910
	330	8*12.6	50	1155	2910
	330	10*12.6	40	1155	3640
	470	10*12.6	40	1155	3640

M2

◆ 尺寸与个技术参数一览表**Standard Ratings**

Rated voltage (V)	Rated capacitance (uF)	Case size ΦD×L(mm)	ESR(mΩ) at 20℃,100 KHz	Leakage Current (μA)	Rated ripple current (mArms/105℃/100kHz)
50	10	5*9	100	299	550
	22	6.3*9	100	299	850
	33	6.3*9	100	299	850
	47	6.3*9	80	299	920
	47	8*9.8	60	299	1200
	47	8*12.6	60	299	1500
	100	8*9.8	60	500	1320
	100	8*12.6	60	500	1550
	100	10*12.6	55	500	2100
	150	8*12.6	60	750	1550
	220	10*12.6	55	1100	2100
63	10	6.3*9	110	299	750
	22	6.3*9	110	299	750
	33	6.3*9	100	299	820
	33	8*9.8	60	299	1100
	47	8*9.8	60	299	1100
	47	8*12.6	60	299	1300
	82	8*12.6	60	517	1550
	100	8*12.6	60	630	1550
	100	10*12.6	55	630	1800
	150	10*12.6	55	945	1800
80	10	6.3*9	120	299	550
	22	6.3*9	120	299	600
	22	8*9.8	70	299	950
	33	8*9.8	70	299	950
	33	8*12.6	70	299	1300
	47	8*12.6	70	376	1300
	56	8*12.6	70	448	1400
	68	10*12.6	50	544	1750
	100	10*12.6	50	800	1750
100	10	6.3*9	120	299	550
	22	8*9.8	80	299	950
	22	8*12.6	70	299	1300
	33	8*12.6	70	330	1300
	47	10*12.6	50	470	1700
	68	10*12.6	50	680	1750