

■ RX 特性 FEATURE

- * 壽命: 105°C 1000小時
Life time: 105°C 1000 hours
- * 寬溫度範圍
Wide operating temperature range
- * 適用於高可靠電路
Ideally suited for high stability circuits



■ 特性表 SPECIFICATIONS

項目 Item	主要特性 Performance Characteristics	
額定工作電壓範圍 Rated Voltage Range	6.3V DC - 100V DC	160V DC - 450V DC
使用溫度範圍 Operating Temperature Range	-40°C ~ +105°C	-25°C ~ +105°C
標稱靜電容量範圍 Nominal Capacitance Range	0.1 µF - 22000 µF	0.47 µF - 220 µF
靜電容量允許偏差 Capacitance Tolerance	± 20% (M, +20°C, 120Hz)	
漏電流 Leakage Current	額定工作電壓 (V) Rated working voltage	6.3 - 100 160 - 450
	漏電流 Leakage Current	施加額定電壓2分鐘: I < 0.01CV 或 3µA (取較大者) 20°C After application of rated voltage for 2 minutes: I < 0.01CV or 3µA (Whichever is greater) 20°C
		施加額定電壓2分鐘: I < 0.03CV 20°C After application of rated voltage for 2 minutes: I < 0.03CV
		C: 標稱靜電容量 (µF); Nominal Capacitance in µF; V: 額定工作電壓 (V) Rated Working Voltage in V
損耗角正切值 (tan δ) Dissipation Factor	額定工作電壓 (V) Rated working voltage	6.3 10 16 25 35 50 63 100 160-450
	tan δ (MAX) (20°C, 120Hz)	0.26 0.22 0.18 0.16 0.14 0.12 0.10 0.08 0.15
標稱靜電容量大於1000 µF者, 其標稱靜電容量每增加1000 µF, 損耗角正切值增加0.02 When capacitance is over 1000 µF, tan δ shall be added 0.02 with increase of every 1000 µF		
溫度特性 Temperature Stability	額定工作電壓 (V) Rated working voltage	6.3 10 16 25 35 50 63 100 160-250 350-450
	阻抗比 (120Hz) Impedance Ratio	Z-25°C/Z+20°C 4 3 2 3 6 Z-40°C/Z+20°C 8 6 4 4 3
高溫負荷特性 Load Life	在+105°C環境中施加工作電壓和最大允許紋波電流1000小時後, 電容器的性能符合下表要求: After application of rated working voltage and maximum permissible ripple current specified of +105°C for 1000 hours Capacitors meet the characteristics requirement measured at +20°C listed:	
	靜電容量變化 Capacitance Change	初始值的 ± 20% 以內 Within ± 20% of the initial measured value
	漏電流 Leakage Current	不於初期規定值 Less than the initial specified value
損耗角正切值 tan δ	不於初期規定值的200% Less than 200% of the initial specified value	外徑 Case Dia 時間 (hrs) Life Time φ D < 8 1000 φ D > 10 2000
高溫貯存特性 Shelf Life	在+105°C環境中無負荷放置500小時後, 電容器的性能符合高溫負荷特性中所列的規定值 After Leaving capacitor under no load at +105°C for 500 hours, Capacitors meet the characteristics listed above.	

* 紋波倍乘因子 MULTIPLIER FOR RIPPLE CURRENT

* 頻率因子 Frequency coefficient

Cap (µF)	Freq (Hz)	50(60)	100(120)	1K	≥10K
0.1~1.5		0.50	1.00	1.30	1.50
2.2~6.8		0.65	1.00	1.30	1.50
10~68		0.80	1.00	1.30	1.50
100~1500		0.80	1.00	1.15	1.20
2200~3300		0.80	1.00	1.10	1.15

• 外形圖及尺寸表 CASE SIZE TABLE

D	±0.5			±1.0			
	5	6.3	8	10	12.5	16	18
F±0.5	2.0	2.5	3.5	5	5	7.5	7.5
d±0.1	0.5	0.5	0.6	0.6	0.6	0.8	0.8
L	11	11	12	12,16,20	16,20,25	16,20,25,30,35	20,25,30,35,40
	L=11, 12, 16; L±1.5;				L=20, 25, 30, 35, 40; L±2.0		

• RX 扁平形尺寸、額定電壓及標稱容量
DIMENSIONS, RATED VOLTAGE AND CAPACITANCE

WV(v) Cap(μF)	6.3(LA)		10(LB)		16(LC)		25(LD)		35(LE)		50(LF)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
470(471)											12.5×16	710
680(681)							12.5×16	640	12.5×16	640	16×16	570
1000(102)	12.5×16	770	12.5×16	770	16×16	930	12.5×16	670	16×16	850	16×20	890
2200(222)	16×16	930	16×16	930	16×20	1200	16×20	1100	18×20	1200	18×25	1320
3300(332)	16×20	1000	16×20	1200	18×20	1330	18×20	1200	18×25	1490		
4700(472)	16×20	1200	18×20	1330	18×25	1680	18×25	1490				
6800(682)	18×20	1430	18×25	1680								
10000(103)												

WV(v) Cap(μF)	160(MB)		200(MC)		250(MD)		350(MF)		400(VA)		450(VB)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
10(100)							12.5×16	100	16×16	120	16×16	109
22(220)					16×16	183	16×16	183	16×20	187	16×20	170
33(330)	12.5×16	175	16×16	230	16×16	238	16×20	238	16×20	238	18×25	238
47(470)	16×16	245	16×16	250	16×20	309	18×20	309	18×20	309	18×25	275
68(680)	16×20	305	16×20	355	18×20	397	18×25	397				
100(101)	16×20	381	18×20	417	18×25	451						
150(151)	18×20	464	18×25	532								
220(221)	18×25	602										

→ 最大允許紋波電流 Max allowable ripple current (mA r.m.s./105°C, 120Hz)
→ 外形尺寸 Case Size D × L(mm)

■ RX 尺寸、額定電壓及標稱容量

DIMENSIONS, RATED VOLTAGE AND CAPACITANCE

WV(V) Cap(μF)	6.3(LA)		10(LB)		16(LC)		25(LD)		35(LE)		50(LF)		63(LG)		100(MA)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
0.1(R10)											5X11	1.0				
0.15(R15)											5X11	1.5				
0.22(R22)											5X11	2.5				
0.33(R33)											5X11	4				
0.47(R47)											5X11	7			5X11	8
0.68(R68)											5X11	10			5X11	11
1(R10)											5X11	13			5X11	15
1.5(R15)											5X11	16			5X11	17
2.2(R22)											5X11	20			5X11	21
3.3(R33)											5X11	25			5X11	29
4.7(R47)											5X11	32			5X11	32
6.8(R68)											5X11	38			5X11	46
10(100)					5X11	17	5X11	21			5X11	47	5X11	48	6.3X11	54
15(150)					5X11	25	5X11	31			5X11	52	5X11	51	6.3X11	75
22(220)					5X11	37	5X11	46	5X11	64	5X11	70	6.3X11	76	8X12	93
33(330)					5X11	56	5X11	69	5X11	77	6.3X11	92	6.3X11	100	8X12	130
47(470)			5X11	49	5X11	80	5X11	84	(5X11) 6.3X11	(94) 94	6.3X11 (8X12)	115 (115)	(6.3X11) 8X12	(130) 130	10X12	165
68(680)			5X11	71	5X11	82	5X11	94	6.3X11	100	8X12	153	8X12	146	10X16	210
100(101)	5X11	96	5X11	105	(5X11) 6.3X11	(100) 130	6.3X11	140	(6.3X11) 8X12	(150) 150	8X12	190	10X12	215	10X20	265
150(151)	5X11	103	6.3X11	117	6.3X11	169	8X12	160	8X12	185	10X12	276	10X16	230	12.5X20	380
220(221)	(5X11) 6.3X11	(160) 160	6.3X11	175	6.3X11 (8X12)	220 (220)	(6.3X11) 8X12	(240) 240	8X12 (10X12)	(275) 275	(10X12) 10X16	(305) 305	(10X16) 10X20	(340) 340	12.5X25	440
330(331)	6.3X11	210	6.3X11	235	8X12	270	(8X12) 10X12	(310) 315	(10X12) 10X16	(350) 350	(10X16) 10X20	(380) 380	(10X20) 12.5X20	(540) 540	(12.5X25) 16X25	(540) 540
470(471)	(6.3X11) 8X12	(275) 275	(6.3X11) 8X12	(250) 295	8X12 (10X12)	375 (375)	(10X12) 10X16	(385) 385	(10X16) 10X20	(480) 480	(10X20) 12.5X20	(535) 535	(12.5X20) 12.5X25	(640) 640	(16X25) 16X30	(880) 880
680(681)	8X12	285	10X12	415	10X16	450	10X20	460	12.5X20	560	12.5X25	646	16X25	630	18X35	830
1000(102)	(8X12) 10X12	(315) 460	(10X12) 10X16	(470) 470	10X16	640	10X20 (12.5X20)	680 (740)	12.5X20	830	(12.5X25) 16X25	(950) 950	(16X25) 16X30	(930) 930	18X40	985
1500(152)	10X16	490	10X20	560	12.5X20	660	12.5X25	750	12.5X25	1250	16X25	1080	18X30	1120		
2200(222)	(10X16) 10X20	(710) 775	10X20	860	12.5X20	1050	12.5X25 (16X25)	1230 (1230)	16X25	1270	(16X30) 16X35	(1480) 1480	(18X35) 18X40	(1650) 1650		
3300(332)	10X20	985	12.5X20	1100	12.5X25	1300	16X25	1520	16X35	1610	(18X35) 18X40	(1780) 1780				
4700(472)	12.5X20	1150	12.5X25	1350	16X25 (16X30)	1490 (1650)	16X30	1800	18X35	1920						
6800(682)	12.5X25	1480	16X25	1700	16X30	1900	(16X35) 18X35	(1910) 2050								
10000(103)	16X25	1700	16X35	1950	18X35	2070										
15000(153)	16X35	2090	18X35	2180												
22000(223)	18X40	2350														

WV(V) Cap(μF)	160(MB)		200(MC)		250(MD)		350(MF)		400(VA)		450(VB)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
0.47(R47)					6.3X11	9						
1(1R0)	6.3X11	9			6.3X11	13			8X12	15	8X12	15
1.5(1R5)	6.3X11	11			6.3X11	17			8X12	23	8X12	20
2.2(2R2)	6.3X11	18	6.3X11	17	6.3X11	23	8X12	25	(8X12) 10X12	(29) 37	10X12	25
3.3(3R3)	6.3X11	23	(6.3X11) 8X12	(26) 37	8X12	35	(8X12) 10X12	(40) 46	10X12	40	(10X12) 10X16	(33) 37
4.7(4R7)	8X12	43	8X12	40	8X12	40	(10X12) 10X16	(50) 52	10X16	52	(10X16) 10X20	(42) 47
6.8(6R8)	8X12	51	10X12	58	10X12	51	10X16	55	10X20	58	10X20	51
10(100)	8X12 (10X12)	77 (81)	(10X12) 10X16	(70) 75	(10X12) 10X16	(75) 85	10X20	80	(10X20) 12.5X20	(85) 88	12.5X20	67
15(150)	10X16	85	10X20	85	10X20	91	12.5X20	93	12.5X20	91	12.5X25	94
22(220)	10X16	125	10X20	125	(10X20) 12.5X20	(130) 140	(12.5X20) 12.5X25	(135) 150	12.5X25	140	(12.5X25) 16X25	(115) 135
33(330)	10X20	170	(10X20) 12.5X20	(140) 165	12.5X20	170	16X25	195	16X25	200	16X30	155
47(470)	12.5X20	210	12.5X20	210	12.5X25	220	(16X25) 16X30	(230) 240	16X30	250	(16X35) 18X30	(185) 215
68(680)	12.5X25	200	12.5X25	230	16X25	250	18X30	260	18X30	270		
100(101)	12.5X25 (16X25)	320 (340)	16X25	335	16X30	360	(18X35) 18X40	(375) 385	18X40	380		
150(151)	16X30	370	18X25	410								
220(221)	(16X35) 18X30	(580) 600	(16X35) 18X30	(580) 600								

→ 最大允許紋波電流 Max allowable ripple current (mA r.m.s./105°C, 120Hz)

→ 外形尺寸 Case Size D × L(mm)

*括號內尺寸為非常規品，需特別做

The size in parenthesis is not normal, must be produced specially.