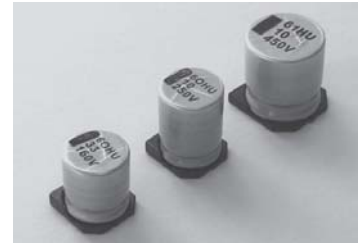


HU-UD Series

MID-TO-HIGH VOLTAGE 中高压品

- Load life of 5000 hours with temperature up to +105°C
在温度高至+105°C环境下，负荷寿命可达5000小时
- Case size from Φ12.5×13.5 to Φ16×16.5
体积范围：从Φ12.5×13.5到Φ16×16.5
- Lead-free reflow soldering is available subject to customer's request
无铅回流焊接可按照客户的要求



主要技术性能 Specification

项目 Item	特性 Performance Characteristics						
使用温度范围 Operating temperature rang	-40°C ~+ 105°C						
额定电压范围 Rated voltage range	160 ~ 450 V						
静电容量范围 Capacitance Range	3.3~68 μF						
静电容量允许偏差Capacitance Tolerance	±20% at 120 Hz, 20						
漏电流 Leakage current	After 2 minutes application of rated voltage,leakage current is not more than 0.04CV+100(μA) 施加额定工作电压2分钟, LC≤0.04CV+100 (μA)						
损耗角正切值 Tan δ	Measurement frequen测试频率: 120Hz, Temperature 温度: 20°C						
	Rated voltage(V.DC) 额定工作电压	160	200	250	400	450	
	Tan δ 损耗角正切 (max)	0.15	0.15	0.15	0.20	0.20	
低温特性 Stability at Low Temperature	Measurement frequency 测试频率: 120Hz						
	Rated voltage(V.DC) 额定工作电压	160	200	250	400	450	
	Impedance ratio 阻抗比 XT/Z20(max)	Z(-25°C)/Z(-20°C)	3	3	3	6	6
		Z(-40°C)/Z(-20°C)	6	6	6	10	10
高温负荷特性 Load Life	After 5000 hours application of rated voltage at 105°C, capacitances meet the characteristics requirements listed at right. 在105°C环境中施加额定工作电压5000小时后，电容器的特性符合右表的要求。		Capacitance Change 静电容量变化率	Within ±20% of the initial value 初始值±20%以内			
			Tan δ 损耗角正切	200% or less of the initial specified value 不大于规范值的200%			
			Leakage Current 漏电流	Initial specified value or less 不大于规范值			
高温储存特性 Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在105°C环境中无负荷放置1000小时后，电容器的特性符合高温负荷特性中所列的规定值。						
耐焊接热特性 Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics requirements listed at right. 经过回流焊并冷却至室温后，电容器的特性符合右表的要求。		Capacitance Change 静电容量变化率	Within ±10% of the initial value 初始值±10%以内			
			Tan δ 损耗角正切	Initial specified value or less 不大于规范值			
			Leakage Current 漏电流	Initial specified value or less 不大于规范值			
适用标准 Applicable Standards	IEC-60384-18						

外形图及尺寸图 Case size table

Capacitance
Series Type
Date Code
Year Quarter

*1 Voltage

Plastic Platform

0.3MAX

C±0.2

0.5MAX

A±0.2

B±0.2

0.9~1.2

A±0.2

+ Positive

- Negative

单位Unit: mm

DXL	Φ12.5X13.5/16	Φ16X16.5/21.5
A	4.7	5.5
B	13.0	17.0
C	13.0	17.0
E±0.2	4.6	6.7
L	13.5 / 16	16.5 / 21.5

A pressure relief vent is attached to products over ØD=12.5

Re: Date code and series type _ 1st digit for Year; 2nd digit for Quarter, 4 quarter codes in one year are 1, 4, 7, 0; 3rd & 4th characters for Series.

HU Series

■ 规格尺寸及最大允许纹波电流 Standard size Maximum permissible ripple current

容量 Cap(uF)		WV电压		160		220		250		400		450	
				2C		2D		2E		2G		2W	
3.5	3R3												
4.7	4R7							12.5×13.5	65	12.5×16	50	12.5×13.5	40
10	100					12.5×13.5	80	12.5×16	105	16×16.5	85	12.5×16	50
22	220	12.5×13.5	85	12.5×16	110	16×16.5	180					16×16.5	85
33	330	12.5×13.5	95	16×16.5	220	16×21.5	230						
47	470	16×16.5	280	16×21.5	270								Ripples Current
68	680	16×21.5	320									CaseSize	

Ripple Current (mA ms) at 105°C 120Hz

■ 纹波电流频率补偿系数 Frequency Coefficient Factor of Rated Ripple Current

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz~
Coefficient	0.80	1.00	1.25	1.40	1.60

HU Parts List

Size	Part No.	R.V. (V.DC)	Cap. (μ F)	Tangent of Loss Angle ($\tan \delta$)	TLeakage Current (μ A)	Ripple Current (mA ms.) (120Hz, 105°C)
				max.	max.	max.
12.5×13.5	160HU220MLC12.5×13.5EC	160	22	0.15	241	85
12.5×13.5	160HU330MLC12.5×13.5EC	160	33	0.15	311	95
16×16.5	160HU470MLC16×16.5EC	160	47	0.15	401	260
16×21.5	160HU680MLC16×21.5EC	160	68	0.15	535	320
12.5×13.5	200HU100MLC12.5×13.5EC	200	10	0.15	180	80
12.5×16	200HU220MLC12.5×16EC	200	22	0.15	276	110
16×16.5	200HU330MLC16×16.5EC	200	33	0.15	364	220
16×21.5	200HU470MLC16×21.5EC	200	47	0.15	476	270
12.5×13.5	250HU100MLC12.5×13.5EC	250	4.7	0.15	147	65
12.5×16	250HU220MLC12.5×16EC	250	10	0.15	200	105
16×16.5	250HU330MLC16×16.5EC	250	22	0.15	320	180
16×21.5	250HU470MLC16×21.5EC	250	33	0.15	430	230
12.5×16	400HU4R7MLC12.5×16EC	400	4.7	0.20	175	50
16×16.5	400HU100MLC16×16.5EC	400	10	0.20	260	85
12.5×13.5	450HU3R3MLC12.5×13.5EC	450	3.3	0.20	159	40
12.5×16	450HU4R7MLC12.5×16EC	450	4.7	0.20	185	50
16×16.5	450HU100MLC16×16.5EC	450	10	0.20	280	85