

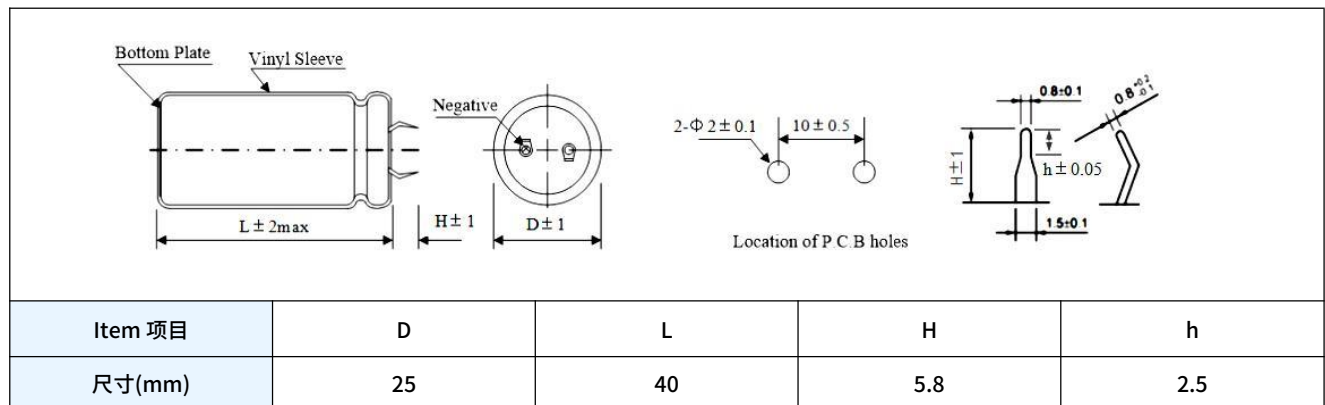
承 认 书  
APPROVAL SHEET

|               |                      |
|---------------|----------------------|
| 客户料号          |                      |
| Customer P/N  |                      |
| 客户名称          |                      |
| Customer Name |                      |
| 产品名称          | Snap-in型铝电解电容        |
| Product Name  |                      |
| 型号规格          | RXG 220uF 400V 25X40 |
| Specification |                      |
| 厂商料号          | RXG400V220M25X40     |
| Vendor P/N    |                      |
| 发行日期          | 2025/9/28            |
| Issue Date    |                      |

| 发行单位<br>ISSUED EPARTMENT                                                            |                    | 客户承认<br>APPROVED COLUMN                                         |  |
|-------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------|--|
|  |                    | <input type="checkbox"/> 合格<br><br><input type="checkbox"/> 不合格 |  |
| 制作<br>PREPARED BY                                                                   | 贺金欢<br>HE JIN HUAN | 审核<br>CHECKED                                                   |  |
| 批准<br>APPROVED                                                                      | 李伟业<br>LI WEI YE   | 批准<br>APPROVED                                                  |  |

贵司确认后，敬请回签一份 (After your confirmation, please sign back)

## 1. 外形尺寸图 (Dimensions)



## 2. 规格特性表 (Specification and Specifications Table)

| 料号 Part Number            | RXG400V220M25X40 | 备注 Note |
|---------------------------|------------------|---------|
| 系列 Series                 | RXG              |         |
| 标称容量 CAP(uF)              | 220              |         |
| 额定电压 WV(V)                | 400              |         |
| 尺寸 Size D×L(mm)           | 25×40            |         |
| 容差 Tolerance 120Hz        | - 20%~20%        |         |
| 损失角 DF(%)120Hzmax         | 15               |         |
| 漏电流 LC(uA)60smax          | 889.9            |         |
| 阻抗 ESR(Ω)100KHzmax        | N/A              |         |
| 纹波电流 R.C(mA)120Hz/85°Cmax | 1100             |         |
| 浪涌电压 SV(V)                | 450              |         |
| 寿命 Life(Hrs)              | 2000             |         |
| 套管颜色和材质 Sleeve            | 黑底白字 PET         |         |
| 工作温度 TEMP(°C)             | -25~85           |         |

执行标准(Execution standard) :JISC 5101-4

测试环境(In the test environment) :温度 T 20±2°C , 湿度 RH 65%±5%

## 3. 纹波电流修正系数(Multiplier for Ripple Current)

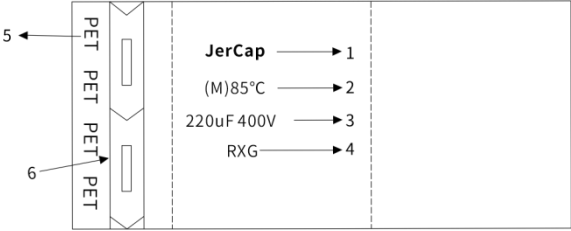
### 3.1 频率系数 Frequency Multipliers

| Freq      | 50Hz/60Hz | 120Hz | 300Hz | 1KHz | 10KHz | 100KHz |
|-----------|-----------|-------|-------|------|-------|--------|
| 6.3V~100V | 0.88      | 1.0   | 1.01  | 1.03 | 1.05  | 1.08   |
| 160V~250V | 0.75      | 1.0   | 1.17  | 1.32 | 1.45  | 1.50   |
| 315V~450V | 0.74      | 1.0   | 1.16  | 1.30 | 1.41  | 1.43   |
| 500V~550V | 0.72      | 1.0   | 1.15  | 1.30 | 1.40  | 1.40   |

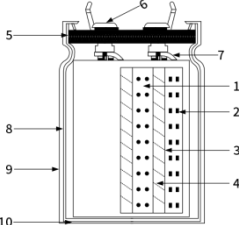
### 3.2 温度系数 Temperature Multipliers

| 温度系数 Temperature Multipliers |      |      |      |      |
|------------------------------|------|------|------|------|
| Temperatrue(°C)              | ≤45  | 60   | 70   | 85   |
| Multiplier                   | 1.65 | 1.50 | 1.30 | 1.00 |

4.套管标识示意图 (Marking)

|                                                                                   |                                                                            |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|  | 1.公司商标(Logo)                                                               |
|                                                                                   | 2. 工作最高温度与容量范围<br>(Operating Temperature Range and Capacitance Tolerance ) |
|                                                                                   | 3.电容器规格(额定电压和容量)<br>Capacitance and Rated Vlotage                          |
|                                                                                   | 4.产品系列(Series)                                                             |
|                                                                                   | 5.胶管材质(Material PET)                                                       |
|                                                                                   | 6.负极表示带 (Polarity bar)                                                     |
|                                                                                   | 7.颜色印字 Sleeve Color :黑底白字                                                  |

5.材料表(Material table)

|  |                    |                                      |
|------------------------------------------------------------------------------------|--------------------|--------------------------------------|
| 序号<br>NO                                                                           | 构成部件<br>Component  | 材质成分<br>Material                     |
| 1                                                                                  | 正极箔<br>Al Foil(+)  | 高纯铝<br>Aluminum 99.99%或 99.98%       |
| 2                                                                                  | 负极箔<br>Al Foil(-)  | 高纯铝<br>Aluminum 99.7%                |
| 3                                                                                  | 电解纸<br>Separator   | 木材纸浆、有机纤维<br>paper puCP、Cellulose    |
| 4                                                                                  | 电解液<br>Electrolyte | 乙二醇+有机酸盐<br>Glycol+organic acid salt |
| 5                                                                                  | 盖板<br>Cover disc   | 粘胶树脂<br>Viscose resin                |
| 6                                                                                  | 铆钉<br>Rivet        | 铝<br>Aluminum                        |
| 7                                                                                  | 导箔条<br>Tab         | 铝<br>Aluminum                        |
| 8                                                                                  | 铝壳<br>Case         | 铝<br>Aluminum                        |
| 9                                                                                  | 套管<br>Sleeve       | 聚对苯二甲酸乙二醇酯<br>PET                    |
| 10                                                                                 | 垫片<br>Bottom disc  | 聚丙烯<br>PP                            |

注:电容产品和构成材料均满足 ROHS2.0、REACH、HF 禁用环境管理物质要求。

## 6.测试与试验项目 (Test item)

| No                 | 项 目 Items                            | 条 件<br>Conditions                                                                                                                                                                                                                                                                                                                                                          |                    | 判 定<br>Decide                                                                                                                                                                                                |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|--------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------|-------------------------------------|---------|-----|---------|-------------------------------------|------|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| 1                  | 静电容量<br>Capacitance                  | 测试频率:120Hz±10Hz<br>Test Frequency : 120Hz±10Hz<br>测试电压:≤ 0.5Vrms +1.0V.DC                                                                                                                                                                                                                                                                                                  |                    | 1.容量偏差符合 2.规格特性表<br>Tolerance capacitance see the table 2                                                                                                                                                    |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| 2                  | 耗角正切值<br>Dissipation Factor          | Test Voltage:≤ 0.5Vrms +1.0V.DC<br>测试温度:20±2℃<br>Test Temperature:20±2℃                                                                                                                                                                                                                                                                                                    |                    | 2.耗角正切值: Dissipation Factor                                                                                                                                                                                  |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    |                                      |                                                                                                                                                                                                                                                                                                                                                                            |                    | Vote(V)                                                                                                                                                                                                      | 63                   | 10   | 16                                  | 25      | 35  | 50      | 63                                  |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    |                                      |                                                                                                                                                                                                                                                                                                                                                                            |                    | tanδ                                                                                                                                                                                                         | 0.6                  | 0.55 | 0.5                                 | 0.45    | 0.4 | 0.35    | 0.3                                 |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    |                                      |                                                                                                                                                                                                                                                                                                                                                                            |                    | Vote(V)                                                                                                                                                                                                      | 80                   | 100  | 120                                 | 160~450 |     | 500~550 |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| tanδ               | 0.25                                 | 0.2                                                                                                                                                                                                                                                                                                                                                                        | 0.16               | 0.15                                                                                                                                                                                                         |                      | 0.20 |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| 3                  | 漏电流<br>Leakage Current               | 测试电压:400 V<br>Test Voltage:400 V<br>充电时间:5 分钟<br>Charging :5min<br>测试温度;20±2℃<br>Test Temperature: 20±2℃                                                                                                                                                                                                                                                                   |                    | 漏电流≤3√CV<br>I≤3√CV                                                                                                                                                                                           |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| 4                  | 温度循环<br>Temperature Cycle            | <table><tr><td rowspan="6">周期<br/>One<br/>Cycle</td><td>温度<br/>Temperature(°C)</td><td rowspan="2">时间 Time<br/>(minutes)</td></tr><tr><td>低温特性</td></tr><tr><td>Rated low category<br/>temperature±3</td><td>30±3</td></tr><tr><td>25℃</td><td>3max</td></tr><tr><td>Rated low category<br/>temperature±3</td><td>30±3</td></tr><tr><td>25℃</td><td>3max</td></tr></table> | 周期<br>One<br>Cycle | 温度<br>Temperature(°C)                                                                                                                                                                                        | 时间 Time<br>(minutes) | 低温特性 | Rated low category<br>temperature±3 | 30±3    | 25℃ | 3max    | Rated low category<br>temperature±3 | 30±3 | 25℃ | 3max | 1.外观无损坏<br>No appearance defect.<br>2.容量变化率在±5%以内<br>Capacitance change within ±5%<br>3.损失角小于规格值<br>DF smaller than specification value.<br>4.泄漏电流小于规格值<br>Leakage current smaller than specifica |  |  |  |  |
| 周期<br>One<br>Cycle | 温度<br>Temperature(°C)                | 时间 Time<br>(minutes)                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    | 低温特性                                 |                                                                                                                                                                                                                                                                                                                                                                            |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    | Rated low category<br>temperature±3  | 30±3                                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    | 25℃                                  | 3max                                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    | Rated low category<br>temperature±3  | 30±3                                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    | 25℃                                  | 3max                                                                                                                                                                                                                                                                                                                                                                       |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
|                    |                                      | 循环次数 Total number of cycles: 5                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                                                                                                                                              |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| 5                  | 耐焊接热<br>Resistance to Soldering Heat | 预热时间: 120±2 秒<br>Warm up time :120±2 seconds 达到 120±2℃<br>to reach 120±2℃<br>焊锡炉温度: 260±5℃ .<br>Solder bath temperature: 260±5℃ .<br>焊料成分:<br>Solder bath composition:<br>Sn-96.5% , Ag-3.0% , Cu-0.5%<br>浸入深度: 1.5~2.0mm<br>Immersion depth: 1.5 to 2.0mm<br>浸入时间: 10±1 秒<br>Immersion duration: 10±1 seconds                                                             |                    | 1.无外观缺陷<br>No appearance defect<br>2.容量变化在±5%以内<br>Capacitance change within ±5%<br>3.损失角小于规定值<br>D.F.smaller than specification value.<br>4.泄漏电流值小于规定值<br>Leakage current smaller than specification value. |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |
| 6                  | 可焊性<br>Solder Ability                | 焊锡炉温度: 235±5℃ .<br>Solder bath temperature: 235±5℃ .<br>焊料成分:<br>Solder bath composition:<br>Sn-96.5% , Ag-3.0% , Cu-0.5%<br>浸入深度: 1.5~2.0mm<br>Immersion depth: 1.5 to 2.0mm<br>浸入时间: 10±1 秒<br>Immersion duration: 10±1 seconds                                                                                                                                          |                    | 锡液要覆盖导针浸入表面积的 95%以上<br>A minimum of95% the immersed surface is to be coated with the new solder.                                                                                                             |                      |      |                                     |         |     |         |                                     |      |     |      |                                                                                                                                                                                                   |  |  |  |  |

## 6.测试与试验项目 (Test item)

| No | 项 目<br>Items                                                                       | 条 件<br>Conditions                                                                                                                                                                                                    | 判 定<br>Decide                                                                                                                                                                                                                                                                        |                  |     |     |     |     |     |
|----|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----|-----|-----|-----|-----|
| 7  | 低温特性<br>(最大阻抗比)<br>Low<br>Temperature<br>Charcteristics<br>(MaxImpedance<br>Ratio) | 工作电压 working Voltage (v)                                                                                                                                                                                             | 6.3                                                                                                                                                                                                                                                                                  | 10               | 16  | 25  | 35  | 50  | 63  |
|    |                                                                                    | 阻抗 Impedance Z(-40°C)/Z(+20°C)                                                                                                                                                                                       | 8                                                                                                                                                                                                                                                                                    | 6                | 4   | 3   | 3   | 3   | 3   |
|    |                                                                                    | 工作电压 working Voltage (v)                                                                                                                                                                                             | 160                                                                                                                                                                                                                                                                                  | 200              | 250 | 400 | 420 | 450 | 500 |
|    |                                                                                    | 阻抗 Impedance Z(-25°C)/Z(+20°C)                                                                                                                                                                                       | 3                                                                                                                                                                                                                                                                                    | 3                | 4   | 6   | 6   | 8   | 8   |
| 8  | 高湿度储存<br>High<br>Humidity<br>storage                                               | 温度: 40±2°C<br>Temperature:40±2°C<br>相对湿度: 90%至 95%<br>Relative humidity :90 to 95%<br>持续时间: 240±8 hours<br>Duration : 240±8 hours                                                                                    | 1.无电气或机械损坏.<br>No electrical or mechanical damage.<br>2.容量变化率在±15%以内.<br>Capacitance change within ±15%.<br>3.损失角值小于规定值.<br>DF smaller than specification volue.<br>4.泄漏电流小于规定值.<br>Leakage current smaller than specification volue.                                                |                  |     |     |     |     |     |
|    |                                                                                    |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                      |                  |     |     |     |     |     |
| 9  | 防爆<br>Vent                                                                         | 反向电压试验: 电压设定为 100±5V.<br>Reverse voltage test: Voltage set to 100±5V.                                                                                                                                                | 在测试期间或之后, 电容器不应发生爆炸、闪光、火焰 、火花或火灾, 也不应从外壳中喷出任何金属.<br>There shall be no explosion,flash,flame,spark or fire from the capacitor during or after the test,nor shall there be expulsion of any metal from the casing                                                                      |                  |     |     |     |     |     |
|    |                                                                                    | 电容直径<br>Capacitor<br>diameter                                                                                                                                                                                        | 电 流<br>Current(A)                                                                                                                                                                                                                                                                    | 时 间<br>Time      |     |     |     |     |     |
|    |                                                                                    | More than<br>22.5mm                                                                                                                                                                                                  | 10                                                                                                                                                                                                                                                                                   | 30 分钟内<br>Within |     |     |     |     |     |
| 10 | 振动<br>Vibration                                                                    | 频率范围: 10 Hz 至 55 Hz<br>Frequency range : 10 Hz to 55 Hz<br>振幅: 0.75 毫米<br>Amplitude :0.75 mm<br>总持续时间: 3×2h. X-Y-Z 方向各 2 小时<br>Total duration: 3× 2h.<br>x-y-z directions each for 2 hours                           | 1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化: 初始值的±5%以内<br>Capacitance change: within ±5% of the initial value.                                                                                                                          |                  |     |     |     |     |     |
|    |                                                                                    |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                      |                  |     |     |     |     |     |
| 11 | 高温负荷<br>Load Life                                                                  | 试验温度: 85±2°C<br>Test Temp: 85±2°C<br>额定电压: 400 V<br>Rated Voltage: 400V<br>试验时间: 2000(+72 -0)小时<br>Test Time: 2000(+72 -0)hours<br>在室温放置 16 小时后再测试。<br>Restore them to room temperature for 16 hours before testing. | 1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化:初始值的±20%以内.<br>Capacitance change: within ±20% of the initial value.<br>3.损耗角正切: ≤200%规定值<br>tanδ: ≤200% of specified value<br>4.漏电流: ≤规定值<br>Leakage Current: ≤Specified value             |                  |     |     |     |     |     |
|    |                                                                                    |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                      |                  |     |     |     |     |     |
| 12 | 高温储存<br>Shelf Life                                                                 | 试验温度:85±2°C<br>Test Temp: 85±2°C<br>试验时间:1000 (+72 -0) 小时<br>Test Time: 1000 (+72 -0) hours<br>在室温放置 16 小时后再测试。<br>Restore them to room temperature for 16hours before testing.                                      | 1.外观:无明显的损伤或电解液漏出<br>Appearance: No visible damage or leakage of electrolyte.<br>2.电容量变化:初始值的±20%以内.<br>VCapacitance change: within ±20% of the initial value.<br>3.损耗角正切: ≤200%规定值<br>tgδ: ≤200% of specified value<br>4.漏电流: ≤200%规定值<br>Leakage Current: ≤200% of specified value |                  |     |     |     |     |     |
|    |                                                                                    |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                      |                  |     |     |     |     |     |

## 6.测试与试验项目 (Test item)

| No     | 项 目<br>Items         | 条 件<br>Conditions                                                                                                                                                                                                                                               | 判 定<br>Decide                                                                                                                                                                                                             |        |     |     |     |     |     |     |     |     |        |     |     |     |     |     |     |     |     |
|--------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 13     | 浪涌电压<br>Surge Voltag | 试验温度: 15~35 °C, Test Temp: 15~35 °C<br>试验电压: 浪涌电压 Test voltage: surge voltage<br>施加浪涌电压 30 秒,然后放电 330 秒,<br>共循环 1000 次.<br>Charge surge voltage for 30 seconds and discharge for 330 seconds. Repeat this cycle 1000 times.                                     | 1.电容量变化:初始值的±15%以内<br>Capacitance change: within ± 15% of the initial value.<br>2.损耗角正切: ≤规定值<br>Tgδ:≤ Specified value<br>3.漏电流: ≤规定值<br>Leakage current:≤Specified value<br>4.外观: 无可见损伤<br>Appearance: No visible damage |        |     |     |     |     |     |     |     |     |        |     |     |     |     |     |     |     |     |
|        |                      | <table><tr><td>UR (V)</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td></tr><tr><td>S.V(V)</td><td>13</td><td>20</td><td>32</td><td>44</td><td>63</td><td>79</td><td>100</td><td>125</td></tr></table>              |                                                                                                                                                                                                                           | UR (V) | 10  | 16  | 25  | 35  | 50  | 63  | 80  | 100 | S.V(V) | 13  | 20  | 32  | 44  | 63  | 79  | 100 | 125 |
|        |                      | UR (V)                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           | 10     | 16  | 25  | 35  | 50  | 63  | 80  | 100 |     |        |     |     |     |     |     |     |     |     |
|        |                      | S.V(V)                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                           | 13     | 20  | 32  | 44  | 63  | 79  | 100 | 125 |     |        |     |     |     |     |     |     |     |     |
|        |                      |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |        |     |     |     |     |     |     |     |     |        |     |     |     |     |     |     |     |     |
|        |                      | <table><tr><td>UR (V)</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td><td>500</td><td>550</td></tr><tr><td>S.V(V)</td><td>200</td><td>250</td><td>300</td><td>400</td><td>450</td><td>500</td><td>550</td><td>600</td></tr></table> |                                                                                                                                                                                                                           | UR (V) | 160 | 200 | 250 | 350 | 400 | 450 | 500 | 550 | S.V(V) | 200 | 250 | 300 | 400 | 450 | 500 | 550 | 600 |
| UR (V) | 160                  | 200                                                                                                                                                                                                                                                             | 250                                                                                                                                                                                                                       | 350    | 400 | 450 | 500 | 550 |     |     |     |     |        |     |     |     |     |     |     |     |     |
| S.V(V) | 200                  | 250                                                                                                                                                                                                                                                             | 300                                                                                                                                                                                                                       | 400    | 450 | 500 | 550 | 600 |     |     |     |     |        |     |     |     |     |     |     |     |     |
|        |                      |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |        |     |     |     |     |     |     |     |     |        |     |     |     |     |     |     |     |     |
|        |                      |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                           |        |     |     |     |     |     |     |     |     |        |     |     |     |     |     |     |     |     |