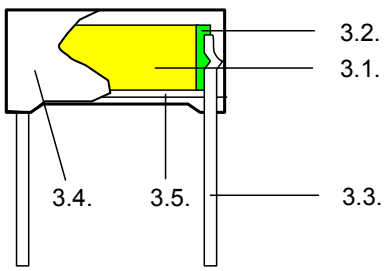
DEVETECH
ELECTRONICS

# DVTMCF29-Metallized Polypropylene Film Y2 Capacitor

**PRODUCT SPECIFICATIONS** **TYPE :** Y2

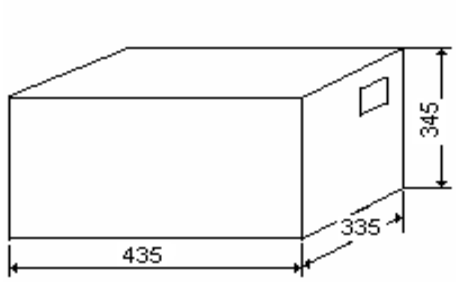
| NO. | ITEM | DESCRIPTIONS |
|---|---|---|
| **1.** | **SCOPE** | This specifications cover the requirements of DEVETECH Metallized Polypropylene Film AC Capacitor (Interference Suppressors Class-Y2) Type : Y2 |
| **2.** | **PARTS NUMBER CODE** | |
| | **DVTMCF29 - 105 - K 300VAC - P27.5B C**<br>**Type** / **Capacitance** / **Tolerance** / **Rated Volvage** / **Pitch** / lead cut, short lead length<br>型号 额定电压 容 量 误 差 脚 距 | |
| **3.** | **CONSTRUCTION** | |
| 3.1. | DIELECTRIC | Metallized Polypropylene Film |
| 3.2. | METAL SPRAY | Special Solder |
| 3.3. | LEAD WIRE | Copper-clad Steel Wire |
| 3.4. | PLASTIC CASE | UL94V-0 |
| 3.5. | EPOXY RESIN | UL94V-0 |
| **4.** | **MARKING** | |
| 4.1. | TYPE | "Y2" |
| 4.2. | CAPACITANCE | " 1μF" |
| 4.3. | TOLERANCE | "K" to "±10%" |
| 4.4. | RATED VOLTAGE | "300V~" to 300VAC" |
| 4.5. | MARKING COLOR | Black |
| **5.** | **STANDARD ATMOSPHERIC CONDITIONS FOR MAKING MEASUREMENTS** | |
| 5.1. | AMBIENT TEMPERATURE | 15℃ to 35℃ (If there is any doubt on the results, the measurements shall be made at +20 +/- 5℃.) |
| 5.2. | RELATIVE HUMIDITY (R.H.) | 45% to 75% (If there is any doubt on the results, the measurements shall be made at 45% to 75%.) |
| 5.3. | AIR PRESSURE | 86 kpa to 106 kpa. |
| 5.4. | OPERATING TEMPERATURE RANGE | -40℃ to +110℃ for which the capacitor can be operated continuously at rated voltage. |



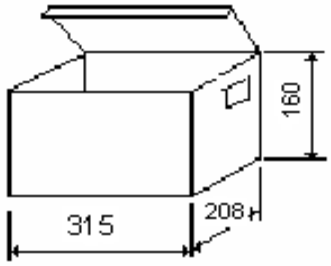
**PRODUCT SPECIFICATIONS** **TYPE :** Y2

| NO. | ITEM | DESCRIPTIONS |
|---|---|---|
| **6.** | **PACKING** | The capacitors shall be put in poly-bag and packed in box marked with necessary information. |

Unit:mm




External packing box




Inside packing box

**REMARK : We can offer your specific demand by technology treaty.**

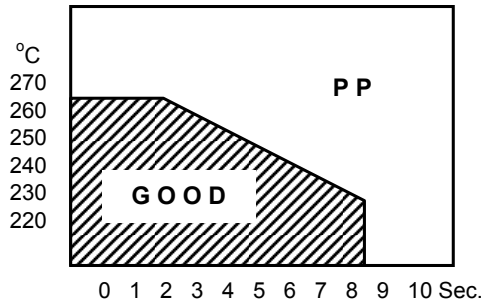
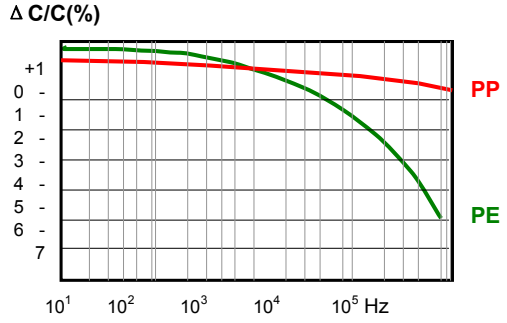
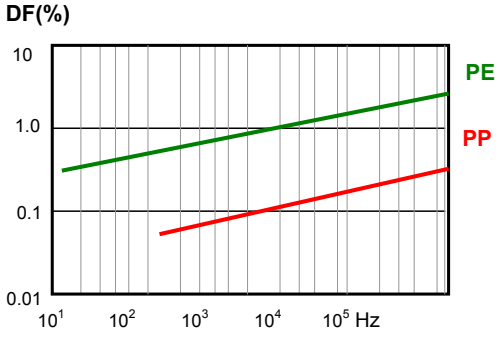
| | | |
|---|---|---|
| **7.** | **APPLICABLE SPECIFICATIONS** | Unless otherwise specified,test conditions and characteristics shall conform to International Industrial Standards IEC60384-14. |
| **8.** | **CERTAIN HAZARDOUS SUBSTANCES** | |

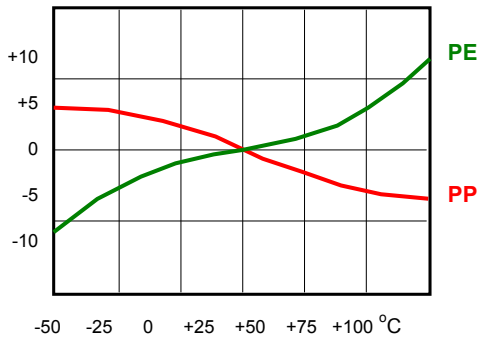
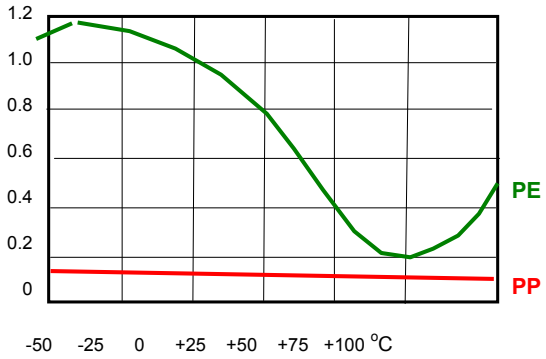
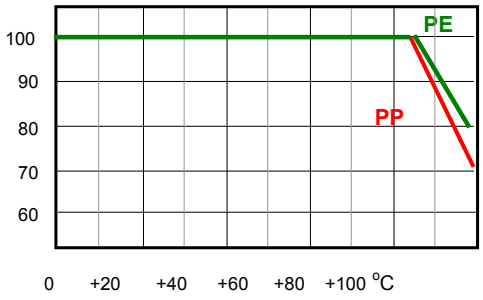
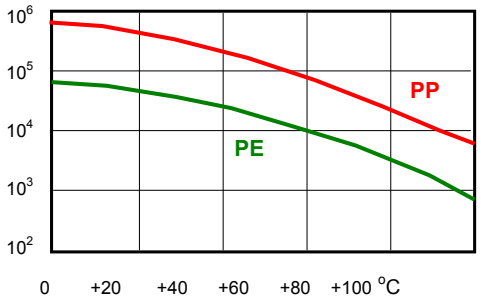
| Testing Item | Standards | Testing Method |
|---|---|---|
| Lead/Lead Compounds | 800ppm | US EPA3025 |
| Mercury/Mercury Compounds | 80ppm | US EPA3025 |
| Cadmium/Cadmium Compounds | 800ppm | EN 1122 |
| Hexavalent-Chromium Compounds | 800ppm | IEC 111/24CD 62321 |
| PBB&PBDE | 800ppm | US EPA3540C |
| OTHERS | COMPLY WITH ROHS | COMPLY WITH ROHS |

**9. ELECTRICAL CHARACTERISTICS**

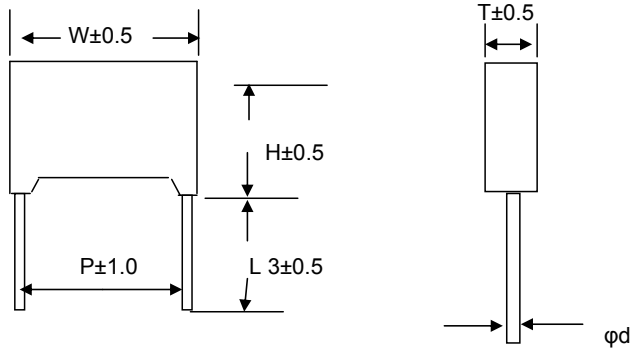
| NO. | ITEM | | PERFORMANCE | TEST CONDITIONS |
|---|---|---|---|---|
| 9.1. | Withstand Voltage (TV) | Between Terminals | Shall be no breakdown | Apply 400% of rated voltage for 60 sec., or 1500VDC for 1 min. at +20 +/- 5℃. The charging current must be ≤ 1 Amp. |
| | | Between Terminals & Enclosure | Shall be no breakdown | Apply 2500VDC for 60sec. at +20 +/- 5℃. |
| 9.2. | Insulation Resistance (I.R.) | | ≥15000 MΩ (C ≤ 0.33 uF)<br>≥ 5000 Ω F (C > 0.33 uF) | Apply Vt ± 15% for 60 ± 5 sec. at 20±5℃<br>Vt = 100 VDC |
| 9.3. | Capacitance (CAP) | | Within the tolerance specified. (at +20 +/- 5℃ ). | Measuring Frequency : 1 KHz +/- 10%. Measuring Voltage : ≤ 1 Vrms.max. |
| 9.4. | Dissipation Factor (DF) | | ≤ 0.0010 (0.10%) at 1 KHz. | Measuring Frequency : 1KHz+/- 10%<br>Measuring Voltage : ≤ 1 Vrms.max. |

| NO. | ITEM | | PERFORMANCE | TEST CONDITIONS |
|---|---|---|---|---|
| **10.** | **MECHANICAL CHARACTERISTICS** | | | |
| NO. | ITEM | | PERFORMANCE | TEST CONDITIONS |
| 10.1. | Terminal Strength | Tensil | Shall be no abnormality. | Apply 1.0 kg for 10 +/- 1 sec.<br>to the terminal in the axial direction,<br>and acting in a direction away from the body. |
| | | Bending | Shall be no abnormality. | Apply 0.5 kg for 2 cycles.<br>Each cycle includes:<br>90° once, return to its initial position for 2-3 sec.,<br>and then to the opposite direction once. |
| 10.2. | Vibration resistance | | No electrical discontinuity such as opening ,short-circuit of 0.5ms or more. Also,no abnormality on appearance after test. | The freqency shall be varied uniformly from 10Hz to 55Hz at 1.5mm amplitude and back to 10Hz in approximately 1 minute intervals. This test shall be applied 2hours per each direction, total 6 hours. |
| 10.3. | Solderability | | At least 90% of the circumferential face of termination up to immersed level shall be covered with new solder. | Soldering temperature : +260 +/- 5℃.<br>Immersion duration : 2 +/- 0.5 sec. |
| 10.4. | Resistance to soldering heat | Appearance | No visible damage. | Soldering Temperature : +260 +/- 5℃.<br>Immersion Duration : 10+/- 1 sec.<br>Immersion Deepth : 4 +/- 0.8 mm from roots.<br>After test, allow it stay alone for 1.5 +/- 0.5 hrs.<br>at standard temperature and humidity before making measurements. |
| | | Dielectric strength (Between terminations) | No breakdown. | |
| | | Capacitance change | Within +/- 3% of the value before test. | |
| **11.** | **CLIMATIC TEST** | | | |
| NO. | ITEM | | PERFORMANCE | TEST CONDITIONS |
| 11.1. | Cold Resistance | Capacitance change | Within +/- 3% of the value before test. | Test Temperature : -40 +/-2 ℃<br>Test Duration : 2 +/-1 hrs. |
| 11.2. | Dry Heat Resistance | Appearance | Shall be no remarkable change. | Test Temperature : +85 +/- 2℃<br>Test Duration : 16 +1/-0 hrs.<br>After the test ,apply 400% of rated voltage for 60 sec., or 2000VDC for 1~3 sec. at +20 +/- 5℃.<br>The charging current must be ≤ 1 Amp. |
| | | Withstand Voltage | No breakdown. | |
| | | Capacitance Change Rate (△C/C) | Within +/- 3% of the value before test. | |
| 11.3. | Humidity resistance (steady state) | Appearance | No visible damage. | Test temperature :+40 +/- 2℃<br>Test humidity : 90% to 95% R.H.<br>Test duration : 500 +24/-0 hrs.<br>After test, allow it stay alone for 2.0+/- 0.5 hrs<br>at standard temperature and humidity beforemaking measurements.<br>After the test ,apply 400% of rated voltage for 60 sec., or 2000VDC for 1~3 sec. at +20 +/- 5℃.<br>The charging current must be ≤ 1 Amp. |
| | | Withstand Voltage | No breakdown. | |
| | | Capacitance Change Rate (△C/C) | Within +/- 5% of the value before test. | |
| | | Dissipation Factor | Tan δ :0.2% max.(1KHz) | |
| | | Insulation Resistance (I.R.) | ≥ 50% of the limit value of No. 9.2. | |

| NO. | ITEM | | PERFORMANCE | TEST CONDITIONS |
|---|---|---|---|---|
| 11.4. | Damp Heat Loading | Appearance | No visible damage. | Test temperature :+40 +/- 2℃<br>Test humidity : 90% to 95% R.H.<br>Test voltage : rated voltage.<br>Test duration : 500 +24/-0 hrs.<br>After test, allow it stay alone for 2.0+/- 0.5 hrs at standard temperature and humidity beforemaking measurements.<br>After the test ,apply 400% of rated voltage for 60 sec., or 2000VDC for 1~3 sec. at +20 +/- 5℃.<br>The charging current must be ≤ 1 Amp. |
| | | Withstand Voltage | No breakdown. | |
| | | Capacitance Change Rate (△C/C) | Within +/- 10% of the value before test. | |
| | | Dissipation Factor | Tan δ :0.2% max.(1KHz) | |
| | | Insulation Resistance (I.R.) | ≥ 50% of the limit value of No. 9.2. | |
| 11.5. | High Temperature Loading | Appearance | No visible damage. | Test Temperature : +85 +/-2 ℃ .<br>Apply 125% of rated voltage for 500 +24/-0hrs;<br>After test, allow it stay alone for 2.0+/- 0.5 hrs at standard temperature and humidity before making measurements.<br>After the test ,apply 400% of rated voltage for 60 sec., or 2000VDC for 1~3 sec. at +20 +/- 5℃.<br>The charging current must be ≤ 1 Amp. |
| | | Withstand Voltage | No breakdown. | |
| | | Capacitance Change Rate (△C/C) | Within +/- 10% of the value before test. | |
| | | Dissipation Factor | Tan δ :0.2% max.(1KHz) | |
| | | Insulation Resistance (I.R.) | ≥ 50% of the limit value of No. 9.2. | |
| 11.6. | Temperature Cycle | Appearance | No visible damage. | Test Temperature Cycle : Total 5 cycles.<br>Each cycle includes :<br>1. +20 +/- 2℃ for 3 min.<br>2. -40 +0/-3 ℃ for 30 min.<br>3. +20 +/- 2℃ for 3 min.<br>4. +85 +3/-0 ℃ for 30 min.<br>5. +20 +/- 2℃ for 3 min. |
| | | Insulation Resistance (I.R.) | ≥ 50% of the limit value of No. 9.2. | |
| | | Capacitance Change Rate (△C/C) | Within +/- 3% of the value before test. | |
| | | Dissipation Factor | Tan δ :0.2% max.(1KHz) | |
| **12** | **REGULATION IN USAGE** | | | |
| 12.1 | Soldering Temperatur e VS Time | When soldering a capacitor ,heat in soldering is conducted to the elements of the capacitor from lead wire and an enclosure, and hence it should be noted that soldering under high temperature and a long period may cause deterioration of characteristic or breakdown of capacitors. | |  |
| 12.2. | Frequency Characteristi cs |  | |  |

| | | | |
|---|---|---|---|
| 12.3. | Temperature Characteristics[ΔC/C&DF] | **ΔC/C(%) at 1KHz**<br>  | **DF(%) at 1KHz**<br>  |
| 12.4. | Temperature Characteristics[Vn&I.R.] | **Vn(%)**<br>  | **I.R.(MOhm)**<br>  |

## 13. DRAWING OF DIMENSION




W:32mm
T:13mm
H:22mm
P:27.5mm
L:6mm
d:1mm

## 14. ACCEPTABLE QUALITY LEVEL (AQL)

| NO. | ITEM | AQL | SAMPLING PLAN |
|---|---|---|---|
| 14.1. | Appearance AQL | 0.65 | According to MIL-STD-105E level II.<br>By lot outgoing inspection. |
| 14.2. | Dimension AQL | 0.65 | |
| 14.3. | Mechanical Characteristics AQL | 0.40 | |
| 14.4. | Electrical Characteristics AQL | | |
| | CAP, DF, | 0.04 | |
| | TV, IR, | Zero Defect | |