

**WE CONNECT  
WE PROTECT**



**佳邦科技股份有限公司**  
INPAQ TECHNOLOGY CO., LTD.

**INTEGRATED  
COMPONENTS  
SOLUTION**

**2025**



**More Info:**

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# INPAQ Integrated Components Solution

We are INPAQ. Globally competitive and premium solutions of RF Antenna/Passive Components Multiple ODM/OBM/OEM services.

With independent R&D, in-house manufacturing, and patented processes, we serve over 100 global international brand customers, dedicated to creating connection and protection solutions essential for daily life.



## Inductor

- SMD Power Inductor
- RF Inductor

## Over Voltage Protection

- ESD Suppressor
- Multilayer Varistor
- TVS Diodes

## EMI Suppression Filter

- Common Mode Choke
- Ferrite Chip Bead

**We are INPAQ**  
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# INPAQ Integrated Component Solution

## Over Voltage Protection

INPAQ's **ESD Suppressor** product line offers a wide range of devices to suit the most of applications in the market with ESD level up to **15KV** and parasitic capacitances as low as **0.05pF**.

| Structure             | Series                                                  | Description                                                          |
|-----------------------|---------------------------------------------------------|----------------------------------------------------------------------|
| <b>ESD Suppressor</b> | <b>Thick Film</b><br>EGA<br>EGA AM<br>CGA<br>CES<br>TVU | Dielectric discharge:<br>Use the ESD Guard layer to form a jump path |
|                       | <b>Thin Film</b><br>TFE<br>TFE AM<br>TLE<br>TUE         | Air discharge:<br>Use an air chamber (Air gap) to form a jump path   |

INPAQ's **Multilayer Varistor** special coating technology provides good reliability and solderability.

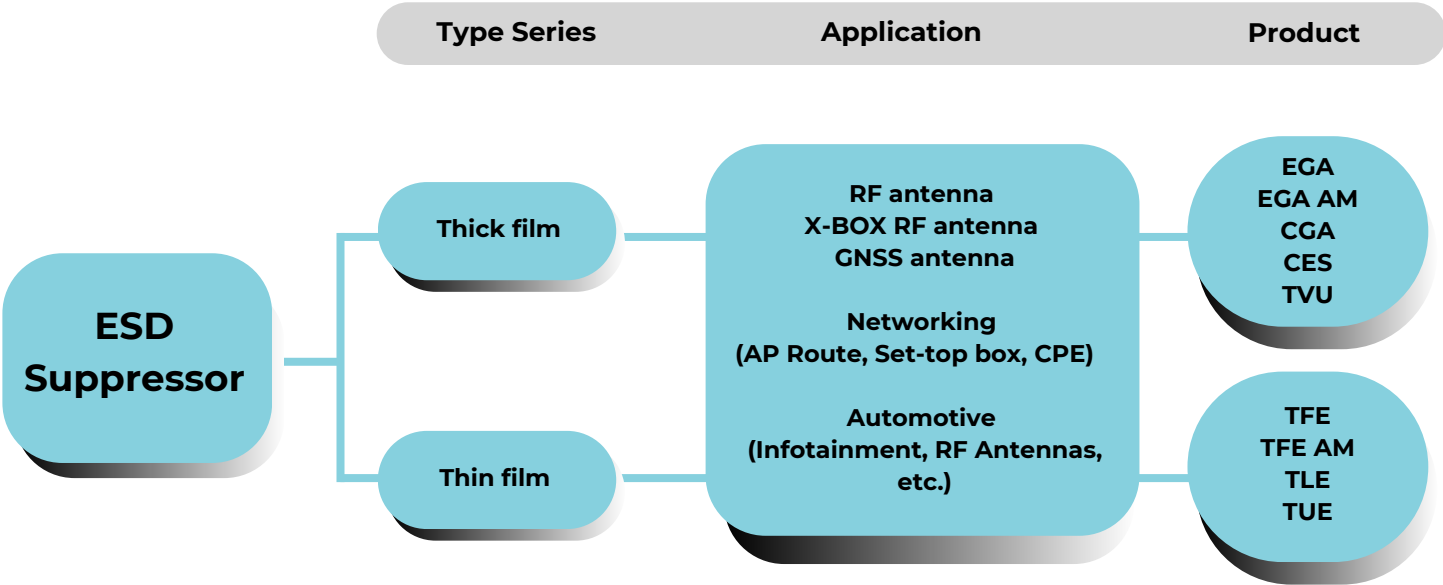
Lead free plating termination provided good solderability characteristic.

Insulator over coat keeps excellent low and stable leakage current.

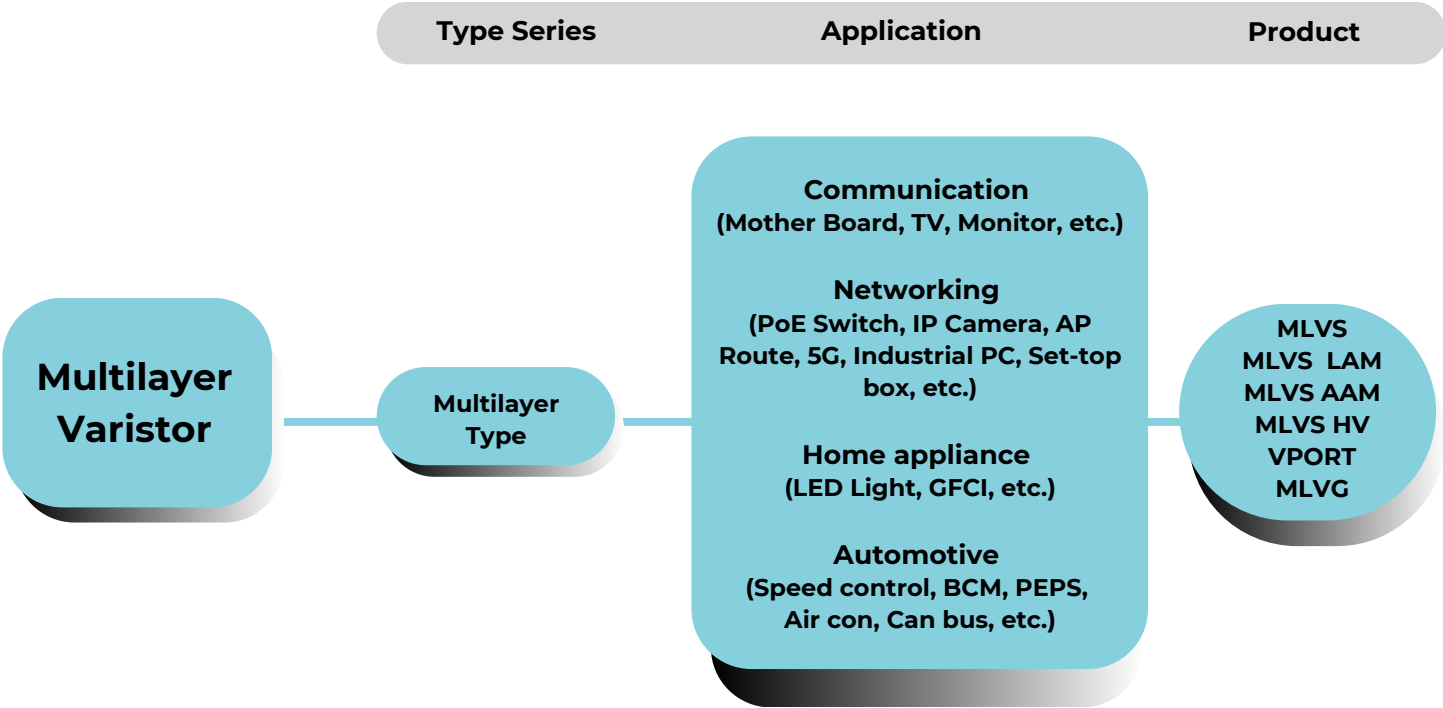
| Structure         | Series                                  | Description                                                                                                                                                          |
|-------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Multilayer</b> | MLVS<br>MLVS LAM<br>MLVS AAM<br>MLVS HV | The <b>varistor</b> body structure consists of a matrix of conductive ZNO grains separated by grain boundaries providing P-N junction semiconductor characteristics. |
|                   | VPORT<br>MLVG                           |                                                                                                                                                                      |

# Over Voltage Protection

## ESD Suppressor



## Multilayer Varistor



# Over Voltage Protection

## Process & Package

| Product           | Process    | Series | Feature                                                                                                                                                                                                                                 |
|-------------------|------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESD<br>Suppressor | Thick film | EGA    | <ul style="list-style-type: none"><li>EIA 0201~0603 , Array 1206</li><li>Low capacitance (0.2 pF typical)</li></ul>                                                                                                                     |
|                   |            | EGA AM | <ul style="list-style-type: none"><li>EIA 0402/0603</li><li>Low capacitance (0.2 pF typical)</li><li>Automotive grade (AEC-Q200) </li></ul>          |
|                   |            | CGA    | <ul style="list-style-type: none"><li>EIA 0201~0603</li><li>Low capacitance (0.2 pF typical)</li></ul>                                                                                                                                  |
|                   |            | CES    | <ul style="list-style-type: none"><li>EIA 0201/0402</li><li>Ultra low capacitance (0.1 pF typical)</li></ul>                                                                                                                            |
|                   |            | TVU    | <ul style="list-style-type: none"><li>EIA Array 2510</li><li>Low capacitance (0.2 pF typical)</li></ul>                                                                                                                                 |
|                   | Thin film  | TFE    | <ul style="list-style-type: none"><li>EIA 0201/0402</li><li>Ultra low capacitance (0.05 pF typical)</li></ul>                                                                                                                           |
|                   |            | TFE AM | <ul style="list-style-type: none"><li>EIA 0201/0402</li><li>Ultra low capacitance (0.05 pF typical)</li><li>Automotive grade (AEC-Q200) </li></ul> |
|                   |            | TLE    | <ul style="list-style-type: none"><li>EIA 0201/0402</li><li>Ultra low capacitance (0.05 pF typical)</li></ul>                                                                                                                           |
|                   |            | TUE    | <ul style="list-style-type: none"><li>EIA 0201/0402</li><li>Ultra low trigger voltage</li><li>Ultra low capacitance (0.07 pF typical)</li></ul>                                                                                         |

# Over Voltage Protection

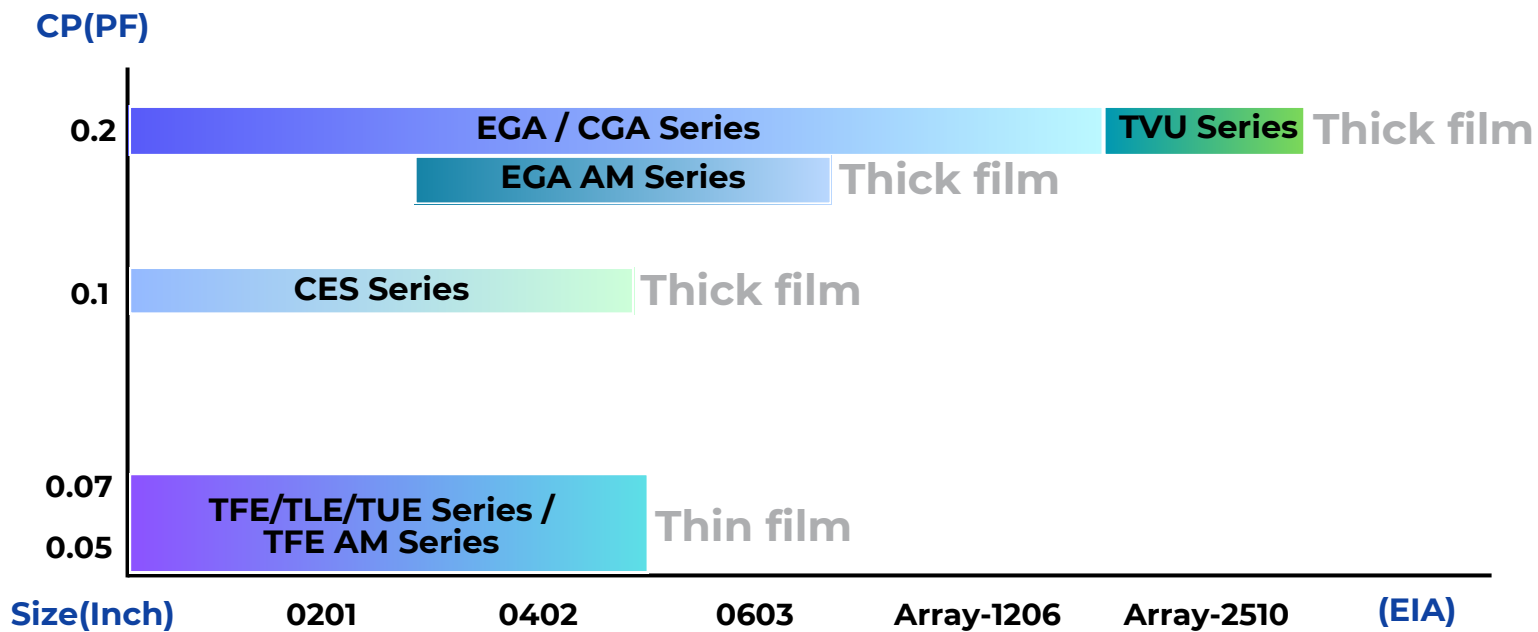
## Process & Package

| Product             | Process    | Series               | Feature                                                                                                                                                                                                                                                                      |
|---------------------|------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multilayer Varistor | Multilayer | MLVS                 | <ul style="list-style-type: none"><li>• EIA 0201~2220</li><li>• General surge / Hight Surge</li><li>• Lead free plating termination provided good solderability characteristic</li></ul>                                                                                     |
|                     |            | MLVS LAM<br>MLVS AAM | <ul style="list-style-type: none"><li>• EIA 0402~2220</li><li>• Lead free plating termination provided good solderability characteristic</li><li>• Automotive grade (AEC-Q200) </li></ul> |
|                     |            | MLVS HV              | <ul style="list-style-type: none"><li>• EIA 0604/0806</li><li>• Hight working voltage</li><li>• Lead free plating termination provided good solderability characteristic</li><li>• Meet UL/cUL Certification</li></ul>                                                       |
|                     |            | VPORT                | <ul style="list-style-type: none"><li>• EIA 0402/0603</li><li>• Working voltage 5V / 12V</li><li>• Lead free plating termination provided good solderability characteristic</li></ul>                                                                                        |
|                     |            | MLVG                 | <ul style="list-style-type: none"><li>• EIA 0402/0603</li><li>• Low capacitance (0.5 pF typical)</li><li>• Lead free plating termination provided good solderability characteristic</li></ul>                                                                                |

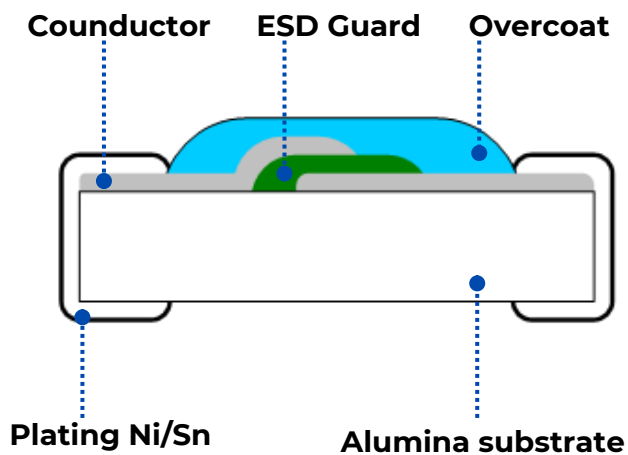
# Over Voltage Protection

## Competitive Product Series

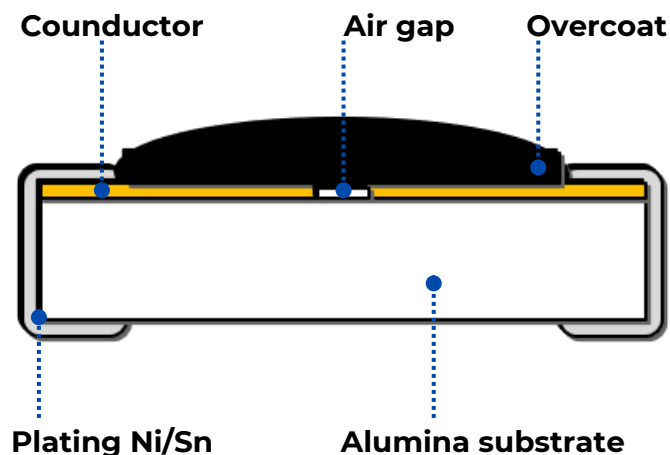
### ESD Suppressor



#### Thick film Structure



#### Thin film Structure



# Over Voltage Protection

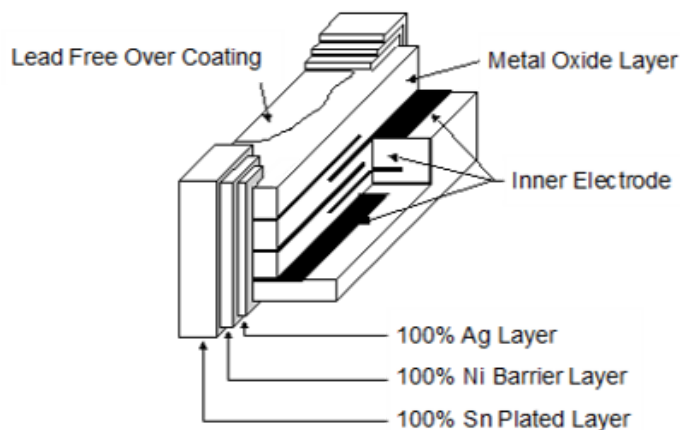
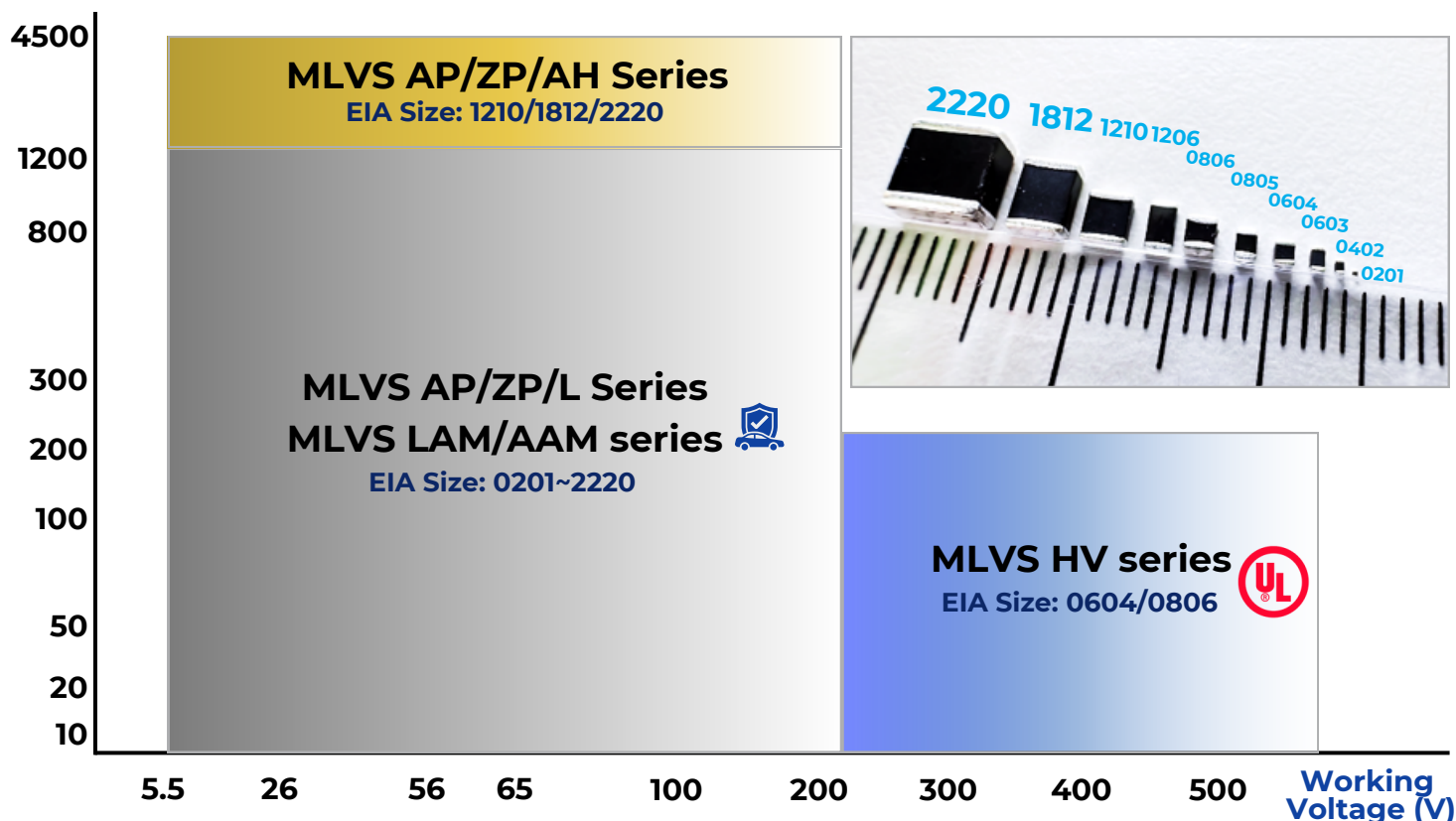
## Competitive Product Series

### Multilayer Varistor

Surge(A)



Automotive grade (AEC-Q200)



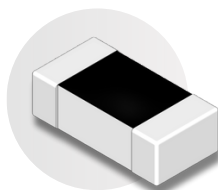
#### Lead Free Over coating



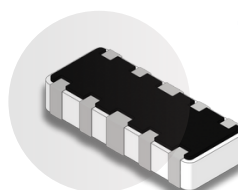
- Special coating technology (Patent)
- Provides good reliability and solderability

# Over Voltage Protection

## ESD Suppressor - Product Line Up



EGA CGA CES  
TFE TLE TUE  
EGA AM  
TFE AM



TVU

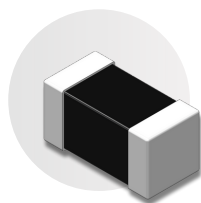


Automotive grade (AEC-Q200)

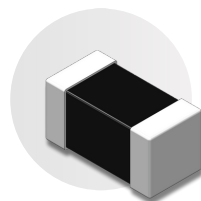
| Series | Structure  | EIA  |      |      |            |            | AEC-Q200 | Rated Voltage (V) |   |   |    |    |    |    | Capacitance (PF) |      |      |
|--------|------------|------|------|------|------------|------------|----------|-------------------|---|---|----|----|----|----|------------------|------|------|
|        |            | 0201 | 0402 | 0603 | Array-1206 | Array-2510 |          | 5                 | 6 | 7 | 12 | 15 | 24 | 30 | 0.05             | 0.10 | 0.20 |
| EGA    | Thick film |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| CGA    |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| CES    |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| TVU    |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| EGA AM |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| TFE    | Thin film  |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| TLE    |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| TUE    |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |
| TFE AM |            |      |      |      |            |            |          |                   |   |   |    |    |    |    |                  |      |      |

# Over Voltage Protection

## Multilayer Varistor- Product Line Up



MLVS MLVG  
VPORT



MLVS LAM  
MLVS AAM  
MLVS HV



Automotive grade (AEC-Q200)

| Series               | EIA  |      |      |      |      |      |      |      |      |      | AEC-Q200 |
|----------------------|------|------|------|------|------|------|------|------|------|------|----------|
|                      | 0201 | 0402 | 0603 | 0604 | 0805 | 0806 | 1206 | 1210 | 1812 | 2220 |          |
| MLVS                 |      |      |      |      |      |      |      |      |      |      |          |
| MLVS LAM<br>MLVS AAM |      |      |      |      |      |      |      |      |      |      |          |
| MLVS HV              |      |      |      |      |      |      |      |      |      |      |          |
| VPORT                |      |      |      |      |      |      |      |      |      |      |          |
| MLVG                 |      |      |      |      |      |      |      |      |      |      |          |

| Series               | Working voltage (V) |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
|----------------------|---------------------|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
|                      | 5.5                 | 7 | 9 | 11 | 12 | 14 | 17 | 18 | 20 | 22 | 24 | 26 | 29 | 30 | 31 | 36 | 38 | 42 | 45 | 48 | 56 | 60 | 63 | 65 | 85 | 100 | 200 | 225 | 320 | 385 |
| MLVS                 |                     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| MLVS LAM<br>MLVS AAM |                     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| MLVS HV              |                     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| VPORT                |                     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |
| MLVG                 |                     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |

| Series               | Peak current (A) |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |
|----------------------|------------------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|--|
|                      | 5                | 10 | 20 | 30 | 50 | 100 | 160 | 200 | 300 | 400 | 450 | 500 | 800 | 1200 | 4000 | 4500 | 5000 |  |
| MLVS                 |                  |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |
| MLVS LAM<br>MLVS AAM |                  |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |
| MLVS HV              |                  |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |
| VPORT                |                  |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |
| MLVG                 |                  |    |    |    |    |     |     |     |     |     |     |     |     |      |      |      |      |  |

# INPAQ Integrated Component Solution



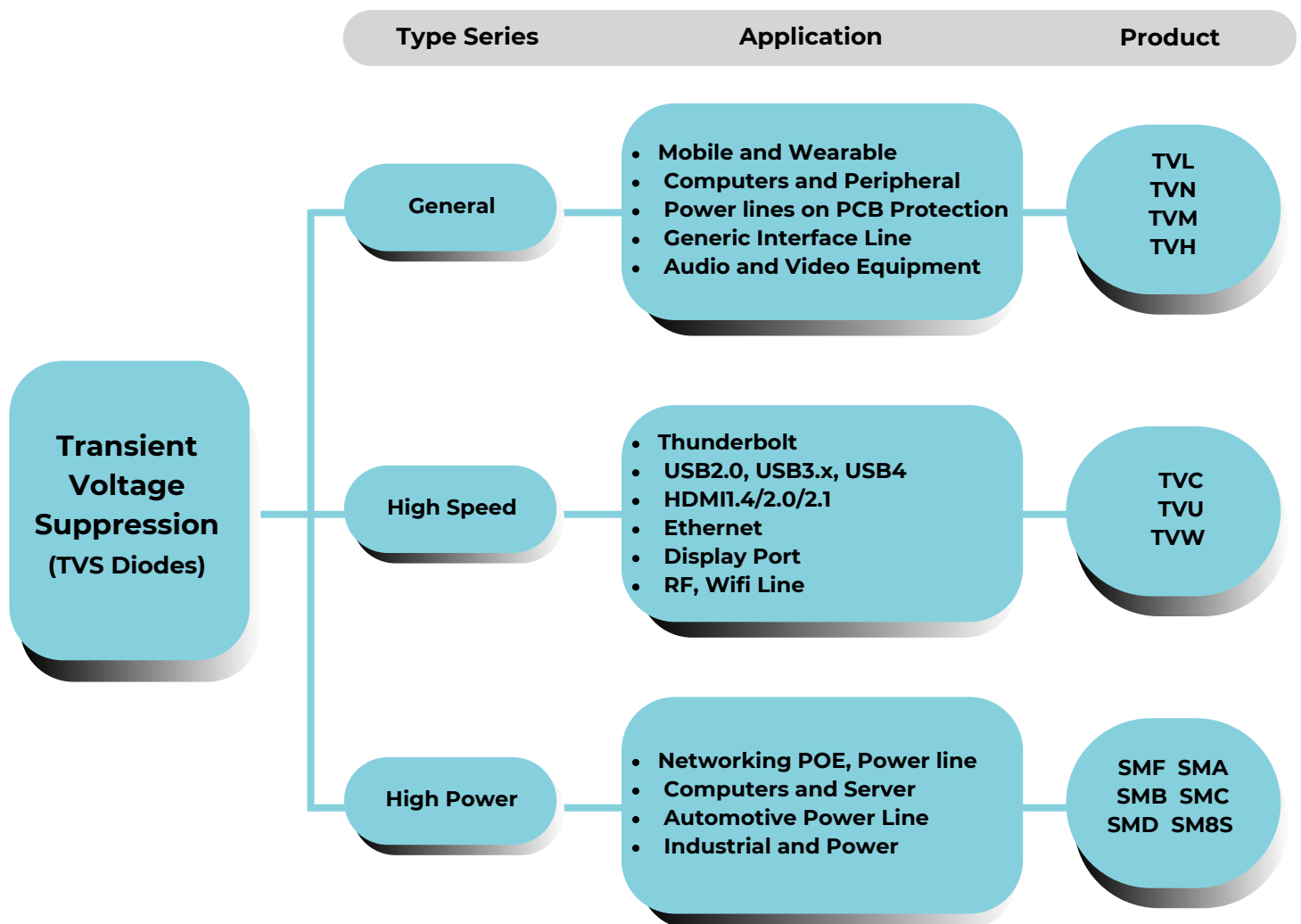
## Over Voltage Protection

INPAQ's **Transient Voltage Suppression (TVS)** focused on provide **ESD** and **EOS protection**. We provide a wide range of products focused on three application areas.

| Product                             | Type       | Series                   | Description                                                                                                                                                                                                                        |
|-------------------------------------|------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transient Voltage Suppression (TVS) | General    | TVL/TVN/TVM/TVH          | TVS diode products are designed to protect power/control line or low speed interfaces on electronic equipment against ESD (Electrostatic Discharge)<br><b>IEC 61000-4-2 and EOS (Electrical Over Stress 8/20μs) IEC 61000-4-5.</b> |
|                                     | High Speed | TVC/TVU/TVW              | TVS diode products are designed to protect high speed interfaces on electronic equipment against ESD (Electrostatic Discharge)<br><b>IEC 61000-4-2. Featuring super/ultra-low capacitance.</b>                                     |
|                                     | High Power | SMF/SMA/SMB/SMC/SMD/SM8S | High Power TVS diode products are designed to protect electronic circuits against <b>EOS (Electrical Over Stress 10/1000μs)</b> , such as from lightning and inductive load switching.                                             |

# Over Voltage Protection

## Transient Voltage Suppression (TVS Diodes)

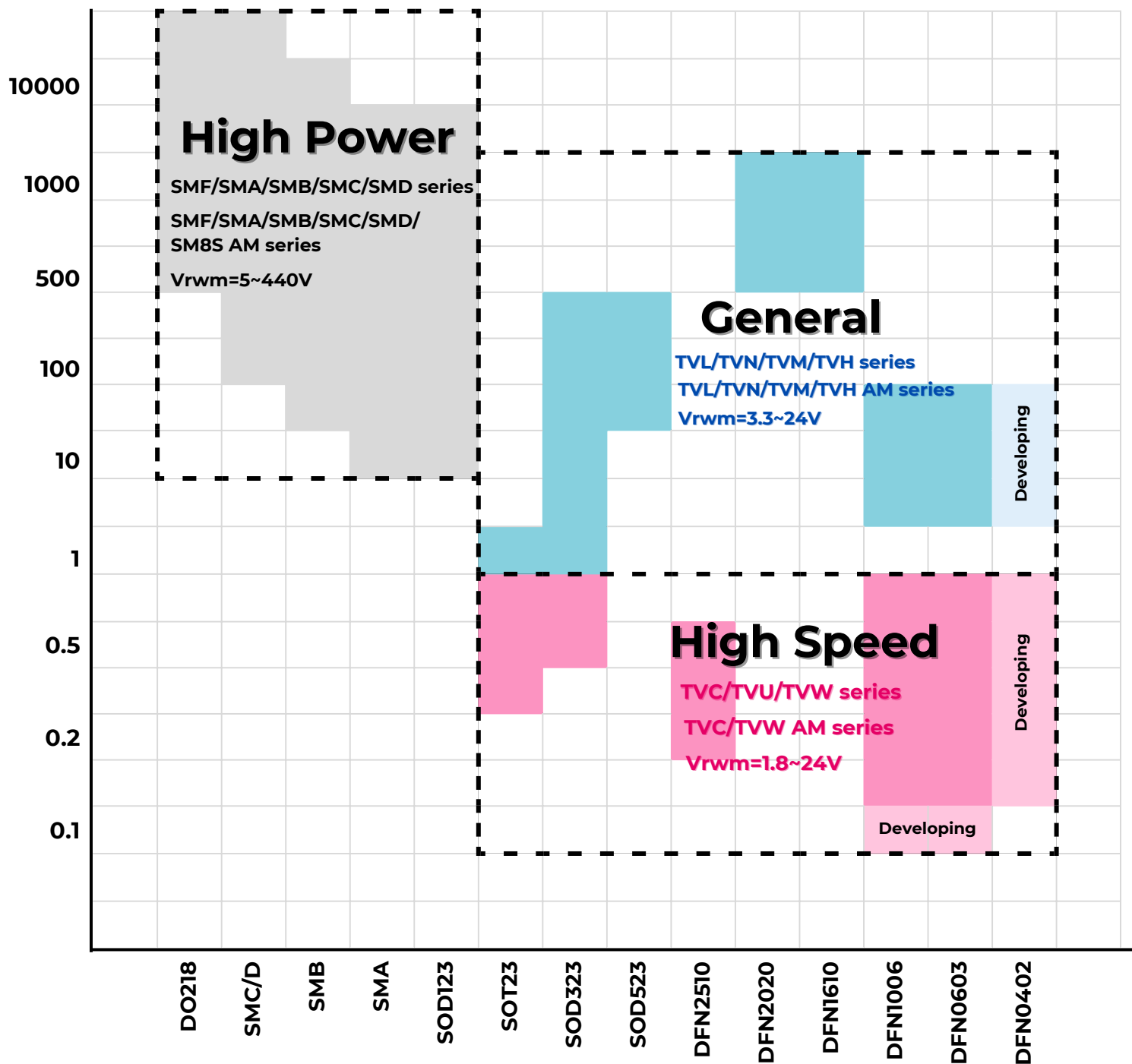


# Over Voltage Protection

## Competitive Product Series

### Transient Voltage Suppression (TVS Diodes)

Capacitance(pF)

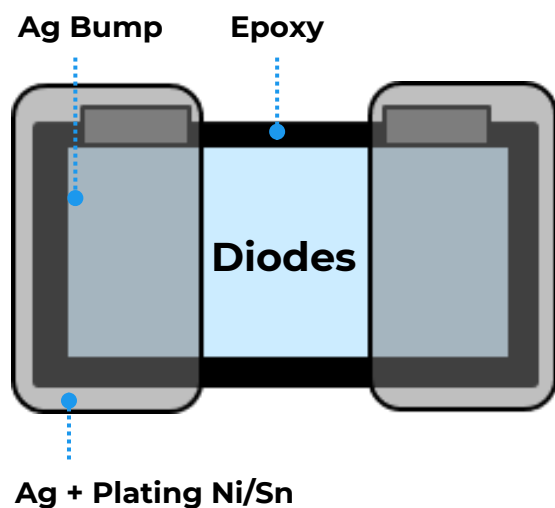


# Over Voltage Protection

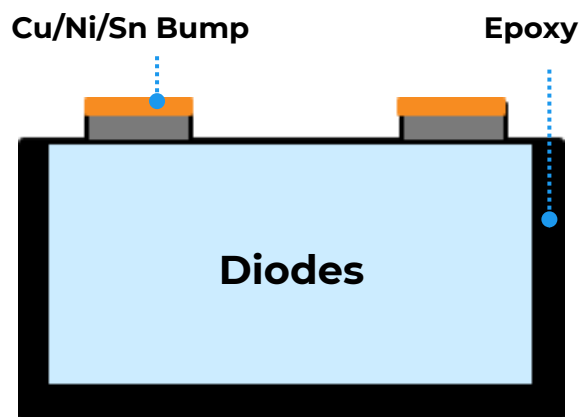
## Competitive Product Series

### Transient Voltage Suppression (TVS Diodes)

#### End-Cap Type



#### DFN Type



#### Chip Scale Package(CSP) Package

- Wafer design ability
- Excellent solderability
- In-house assembly
- High production capacity
- Stable process
- 0201 package size

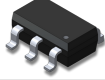
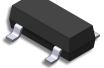
# Over Voltage Protection

## TVS Diodes - Product Line Up

### ESD TVS Diodes



Automotive grade (AEC-Q101)

| Appearance                                                                          | Size Code<br>(inch/mm) | Voltage |     |     |     |   |   |    |    |    |    | AEC-Q101                                                                              |
|-------------------------------------------------------------------------------------|------------------------|---------|-----|-----|-----|---|---|----|----|----|----|---------------------------------------------------------------------------------------|
|                                                                                     |                        | (V)     |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     |                        | 1.0     | 1.5 | 3.3 | 4.5 | 5 | 7 | 15 | 20 | 25 | 30 |                                                                                       |
|    | CSP0201                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|    | DFN0603                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | DFN0603                |         |     |     |     |   |   |    |    |    |    |    |
|                                                                                     | DFN1006                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | DFN1006                |         |     |     |     |   |   |    |    |    |    |    |
|                                                                                     | DFN1610                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | DFN2020                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|  | DFN2510                |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | DFN2510                |         |     |     |     |   |   |    |    |    |    |  |
|  | SOD523                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | SOD523                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|  | SOD323                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|                                                                                     | SOD323                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|  | SOT23                  |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|  | SOT23                  |         |     |     |     |   |   |    |    |    |    |  |
|  | SOT143                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |
|  | SOT523                 |         |     |     |     |   |   |    |    |    |    |                                                                                       |

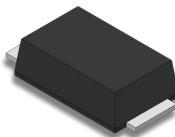
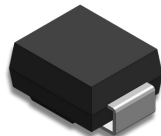
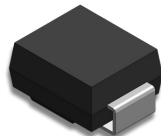
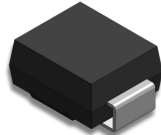
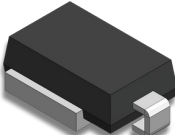
# Over Voltage Protection

## TVS Diodes - Product Line Up

### Power TVS Diodes



Automotive grade (AEC-Q101)

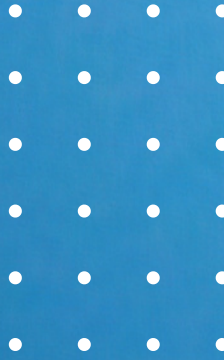
| Appearance                                                                         | Size Code<br>(inch/mm) | Voltage |    |     |     |     |     |     | Peak Power | AEC-Q101                                                                              | Series     |
|------------------------------------------------------------------------------------|------------------------|---------|----|-----|-----|-----|-----|-----|------------|---------------------------------------------------------------------------------------|------------|
|                                                                                    |                        | (V)     |    |     |     |     |     |     |            |                                                                                       |            |
|                                                                                    |                        | 5       | 50 | 100 | 200 | 300 | 400 | 440 | (V)        |                                                                                       |            |
|    | SOD123                 |         |    |     |     |     |     |     | 200        |                                                                                       | SMFJ-T     |
|                                                                                    | SOD123                 |         |    |     |     |     |     |     | 200        |    | SMFJ-AM    |
|                                                                                    | SOD123                 |         |    |     |     |     |     |     | 400        |                                                                                       | SM4FJ-T    |
|                                                                                    | SOD123                 |         |    |     |     |     |     |     | 400        |    | SM4FJ-AM   |
|   | SMA                    |         |    |     |     |     |     |     | 400        |                                                                                       | SMAL-T     |
|                                                                                    | SMA                    |         |    |     |     |     |     |     | 400        |   | SMAJ-AM    |
|                                                                                    | SMA                    |         |    |     |     |     |     |     | 600        |                                                                                       | SMA6L-T    |
|  | SMB                    |         |    |     |     |     |     |     | 600        |                                                                                       | SMBL-T     |
|                                                                                    | SMB                    |         |    |     |     |     |     |     | 600        |  | SMBJ-AM    |
|                                                                                    | SMB                    |         |    |     |     |     |     |     | 1000       |                                                                                       | 1.0SMBL-T  |
|                                                                                    | SMB                    |         |    |     |     |     |     |     | 1500       |                                                                                       | 1.5SMBL-T  |
|  | SMC                    |         |    |     |     |     |     |     | 1500       |                                                                                       | SMCL-T     |
|                                                                                    | SMC                    |         |    |     |     |     |     |     | 1500       |  | SMCJ-AM    |
|                                                                                    | SMD                    |         |    |     |     |     |     |     | 3000       |                                                                                       | SMDL-T     |
|                                                                                    | SMD                    |         |    |     |     |     |     |     | 3000       |  | SMDJ-AM    |
|                                                                                    | SMD                    |         |    |     |     |     |     |     | 5000       |                                                                                       | 5.0SMDL-T  |
|                                                                                    | SMD                    |         |    |     |     |     |     |     | 5000       |  | 5.0SMDJ-AM |
|  | DO218                  |         |    |     |     |     |     |     | 6600       |  | SM8S-AM    |



**WE CONNECT  
WE PROTECT**

**PSA** 佳邦科技股份有限公司  
INPAQ TECHNOLOGY CO., LTD.

**WE ARE INPAQ  
TECHNOLOGY**



**Taiwan | China | Korea | Japan  
USA | Canada | Australia | Germany**



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