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# XBP06V4E4GR-G

ETR2903-005

## Transient Voltage Suppressor (TVS)

### GENERAL DESCRIPTION

Four elements in USP-4 package (Anode Common)

High ESD

### ABSOLUTE MAXIMUM RATINGS

Ta=25°C

| PARAMETER                          | SYMBOL | RATINGS              | UNITS |
|------------------------------------|--------|----------------------|-------|
| Peak Pulse Power <sup>(*1)</sup>   | Ppk    | 70                   | W     |
| Power Dissipation                  | Pd     | 120                  | mW    |
|                                    |        | 1000 <sup>(*2)</sup> |       |
| Junction Temperature               | Tj     | 150                  | °C    |
| Storage Temperature                | Tstg   | -55~+150             | °C    |
| ESD Durability <sup>(*3)(*4)</sup> | Vpp    | 30                   | kV    |
| Contact Discharge                  |        |                      |       |

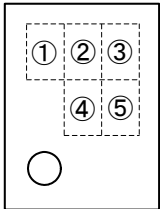
(\*1): tp=8/20 μs

(\*2): This is a reference data taken by using the test board.

(\*3): Test Condition IEC61000-4-2 Standard

(\*4): Criterion: No damage to device elements

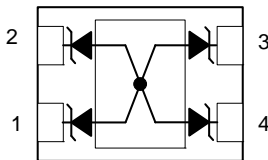
### MARKING RULE



①②③ : BP2(Product Number)

④⑤ : Lot Number

### PIN CONFIGURATION



BOTTOM VIEW

1. Cathode

2. Cathode

3. Cathode

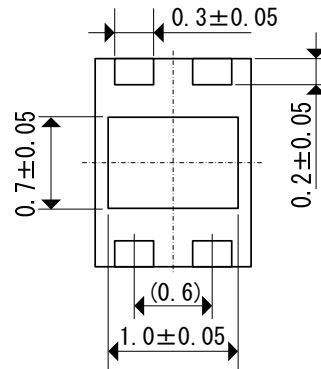
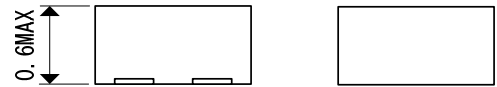
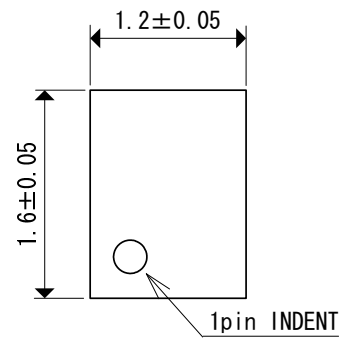
4. Cathode

TAB. Anode

### APPLICATIONS

ESD protection

### PACKAGING INFORMATION



### PRODUCT NAME

| PRODUCT NAME  | PACKAGE | ORDER UNIT |
|---------------|---------|------------|
| XBP06V4E4GR-G | USP-4   | 3,000/Reel |

\* The "G" suffix indicates that the products are Halogen and Antimony free as well as being fully RoHS compliant.

### ELECTRICAL CHARACTERISTICS

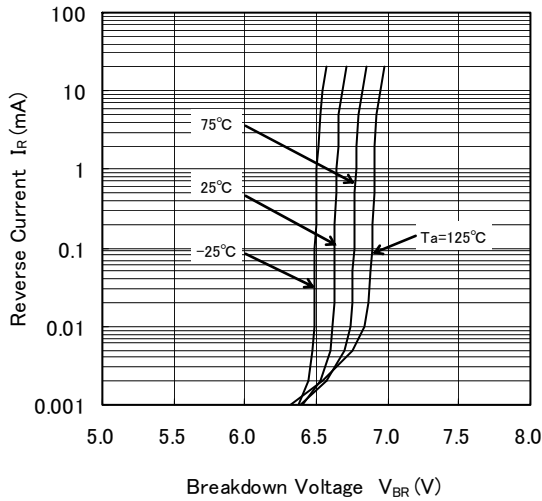
Ta=25°C

| PARAMETER               | SYMBOL          | TEST CONDITION             | LIMITS |      |      | UNITS |
|-------------------------|-----------------|----------------------------|--------|------|------|-------|
|                         |                 |                            | MIN.   | TYP. | MAX. |       |
| Breakdown Voltage       | V <sub>BR</sub> | I <sub>R</sub> =5mA        | 6.4    | 6.8  | 7.2  | V     |
| Leakage Current         | I <sub>RM</sub> | V <sub>RM</sub> =5V        | -      | -    | 1.0  | μA    |
| Forward Voltage         | V <sub>F</sub>  | I <sub>F</sub> =10mA       | -      | -    | 1.25 | V     |
| Inter-Terminal Capacity | C <sub>t</sub>  | V <sub>R</sub> =0V, f=1MHz | -      | 40   | -    | pF    |

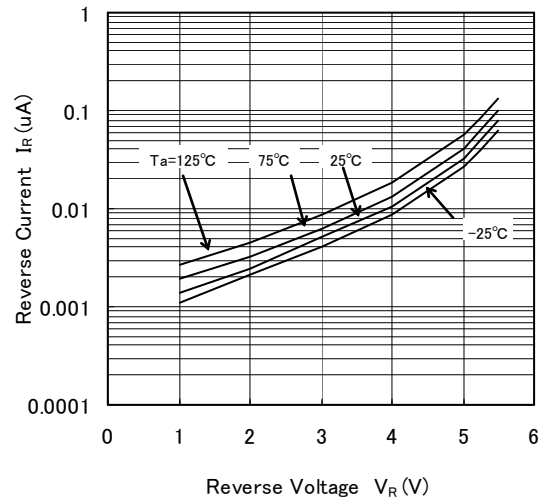
# XBP06V4E4GR-G

## TYPICAL PERFORMANCE CHARACTERISTICS

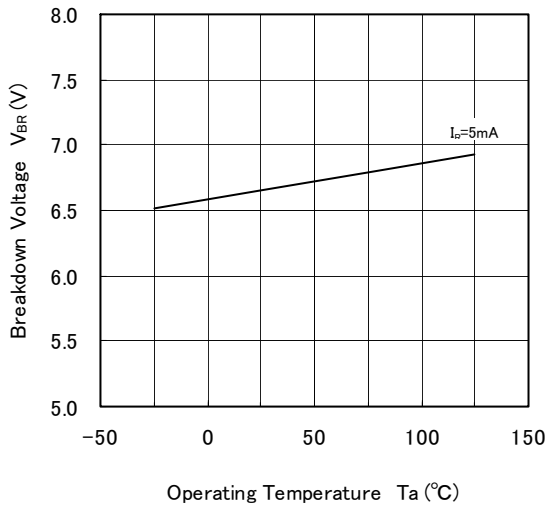
(1) Reverse Current vs. Breakdown Voltage



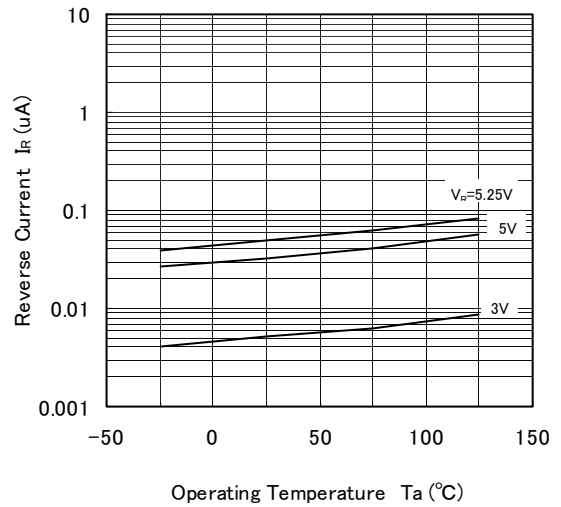
(2) Reverse Current vs. Reverse Voltage



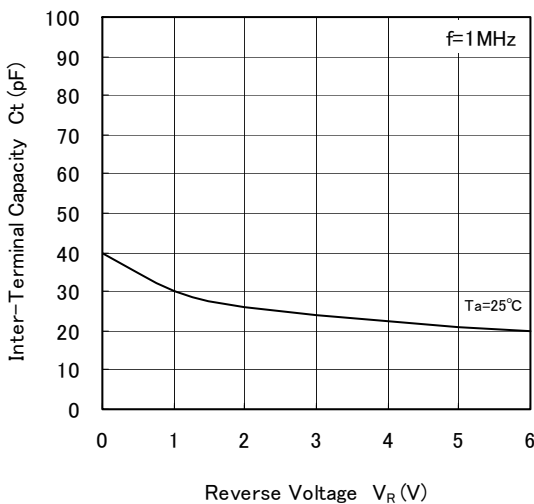
(3) Breakdown Voltage vs. Operating Temperature



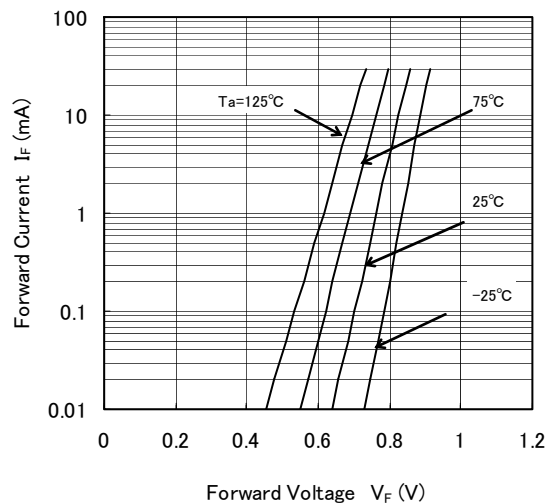
(4) Reverse Current vs. Operating Temperature



(5) Inter-Terminal Capacity vs. Reverse Voltage



(6) Forward Current vs. Forward Voltage



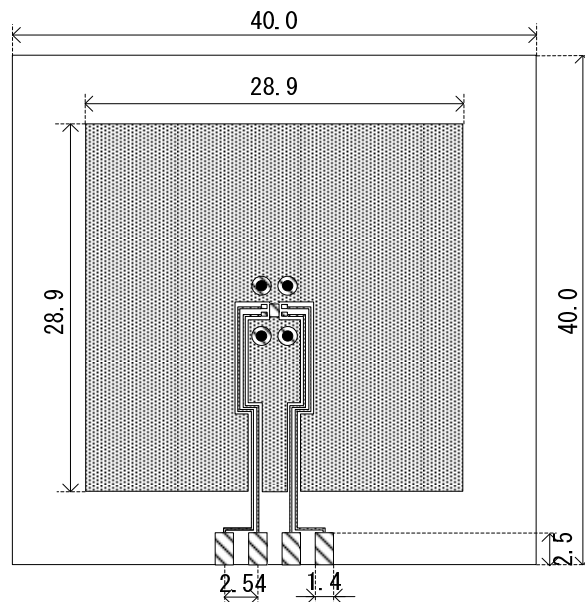
## ■ PACKAGING INFORMATION

### ● USP-4 Power Dissipation

Power dissipation data for the USP-4 is shown in this page.  
 The value of power dissipation varies with the mount board conditions.  
 Please use this data as one of reference data taken in the described condition.

#### 1. Measurement Condition (Reference data)

|               |   |
|---------------|---|
| Condition:    | Mount on a board  |
| Ambient:      | Natural convection  |
| Soldering:    | Lead (Pb) free  |
| Board:        | Dimensions 40 x 40 mm (1600 mm <sup>2</sup> in one side)<br>Copper (Cu) traces occupy 50% of the board area in top and back faces.<br>Package heat-sink is tied to the copper traces. |
| Material:     | Glass Epoxy (FR-4)  |
| Thickness:    | 1.6 mm  |
| Through-hole: | 4 x 0.8 Diameter  |

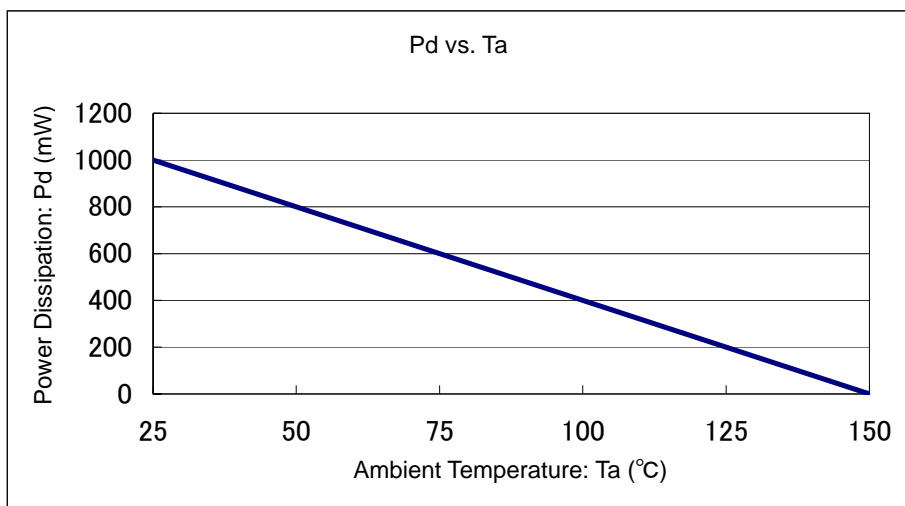


Evaluation Board (Unit: mm)

#### 2. Power Dissipation vs. Ambient temperature

Board Mount (T<sub>j</sub> max = 150°C)

| Ambient Temperature (°C) | Power Dissipation Pd (mW) | Thermal Resistance (°C/W) |
|--------------------------|---------------------------|---------------------------|
| 25                       | 1000                      | 125.00                    |
| 150                      | 0                         |                           |



## XBP06V4E4GR-G

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