

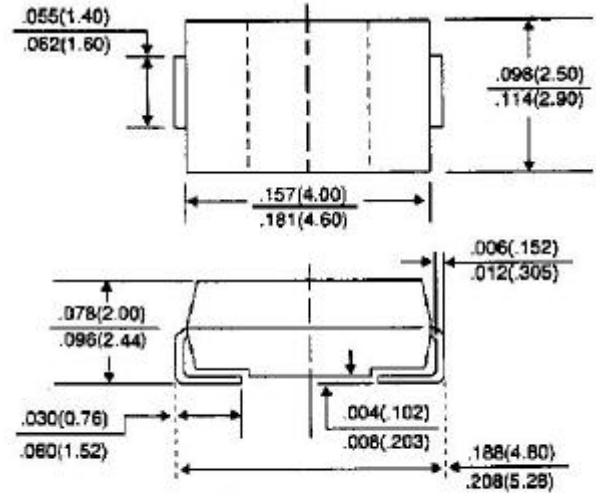
# P4SMAJ SERIES

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE - 5.0 TO 170 Volts      400Watt Peak Power Pulse

### FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate(duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical  $I_D$  less than 1 A above 10V
- High temperature soldering : 250 /10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

### SMA/DO-214AC



Dimensions in inches and (millimeters)

### MECHANICAL DATA

- Case: JEDEC DO-214AC low profile molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band except bi-directional types
- Weight: 0.002 ounces, 0.064 gram
- Standard packaging:12 mm tape per(EIA 481)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified.

|  | SYMBOL         | VALUE       | UNITS |
|--|----------------|-------------|-------|
| Peak Pulse Power Dissipation at $T_A=25$ , Fig. 1 (Note 1,2,5)   | $P_{PPM}$      | Minimum 400 | Watts |
| Peak forward Surge Current per Fig. 5 (Note 3)                   | $I_{FSM}$      | 40.0        | Amps  |
| Peak Pulse Current current on 10/1000 s waveform (Note 1, Fig 2) | $I_{PPM}$      | See Table 1 | Amps  |
| Steady State Power Dissipation (Note 4)                          | $P_{M(AV)}$    | 1.0         | Watts |
| Operating Junction and Storage Temperature Range                 | $T_J, T_{STG}$ | -55 to +150 |       |

### NOTES:

- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25$  per Fig. 2.
- 2.Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.
- 3.8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.

4. Lead temperature at  $75 = T_L$ .

5. Peak pulse power waveform is 10/1000 s.

### MAXIMUM RATINGS AND CHARACTERISTIC CURVES P4SMAJ SERIES



Fig. 1-PEAK PULSE POWER RATING VERSUS PULSE WIDTH



Fig. 2-PULSE RATING CURVE

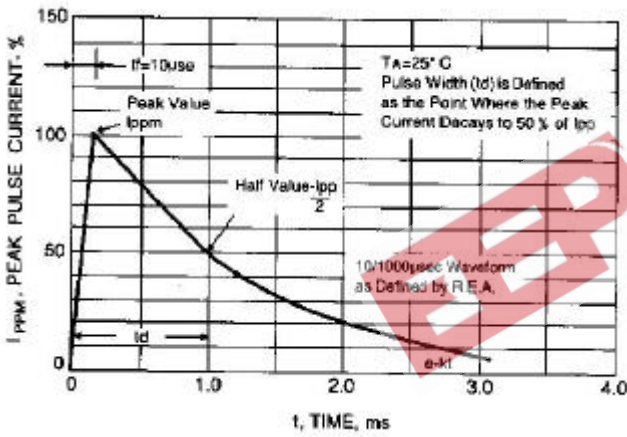


Fig. 3-PULSE WAVEFORM

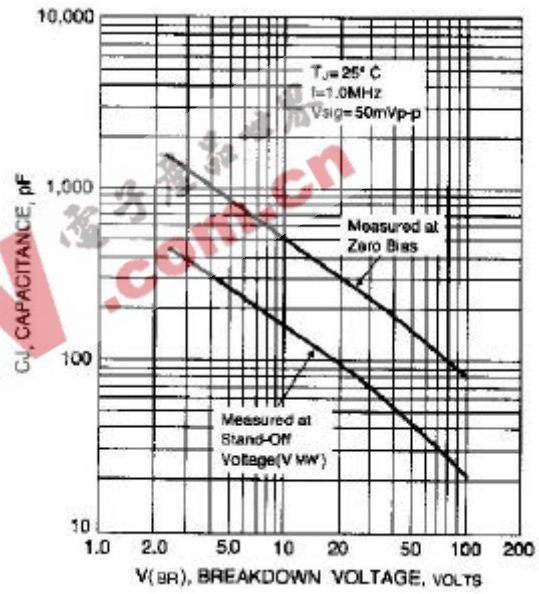


Fig. 4-TYPICAL JUNCTION CAPACITANCE



Fig. 5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

**UNI-DIRECTIONAL 400 Watt Surface Mount TVS**

| UNI-DIRECTIONAL PART NUMBER | DEVICE MARKING CODE | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @I <sub>PP</sub> VC (V) | PEAK PULSE CURRENT I <sub>PP</sub> (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|-----------------------------|---------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--|--|-------------------------------|
| P4SMAJ5.0                   | HD                  | 5.0                                | 6.40                               | 7.55                               | 10                   | 9.6  | 41.6                                   | 800                           |
| P4SMAJ5.0A                  | HE                  | 5.0                                | 6.40                               | 7.25                               | 10                   | 9.2  | 43.5                                   | 800                           |
| P4SMAJ6.0                   | HF                  | 6.0                                | 6.67                               | 8.45                               | 10                   | 11.4   | 35.1                                   | 800                           |
| P4SMAJ6.0A                  | HG                  | 6.0                                | 6.67                               | 7.67                               | 10                   | 10.3   | 38.8                                   | 800                           |
| P4SMAJ6.5                   | HH                  | 6.5                                | 7.22                               | 9.14                               | 10                   | 12.3   | 32.5                                   | 500                           |
| P4SMAJ6.5A                  | HK                  | 6.5                                | 7.22                               | 8.30                               | 10                   | 11.2   | 35.7                                   | 500                           |
| P4SMAJ7.0                   | HL                  | 7.0                                | 7.78                               | 9.86                               | 10                   | 13.3   | 30.1                                   | 200                           |
| P4SMAJ7.0A                  | HM                  | 7.0                                | 7.78                               | 8.95                               | 10                   | 12.0   | 33.3                                   | 200                           |
| P4SMAJ7.5                   | HN                  | 7.5                                | 8.33                               | 10.67                              | 1                    | 14.3   | 28.0                                   | 100                           |
| P4SMAJ7.5A                  | HP                  | 7.5                                | 8.33                               | 9.58                               | 1                    | 12.9   | 31.0                                   | 100                           |
| P4SMAJ8.0                   | HQ                  | 8.0                                | 8.89                               | 11.30                              | 1                    | 15.0   | 26.5                                   | 50                            |
| P4SMAJ8.0A                  | HR                  | 8.0                                | 8.89                               | 10.23                              | 1                    | 13.6   | 29.4                                   | 50                            |
| P4SMAJ8.5                   | HS                  | 8.5                                | 9.44                               | 11.92                              | 1                    | 15.9   | 25.1                                   | 10                            |
| P4SMAJ8.5A                  | HT                  | 8.5                                | 9.44                               | 10.82                              | 1                    | 14.4   | 27.7                                   | 10                            |
| P4SMAJ9.0                   | HU                  | 9.0                                | 10.00                              | 12.60                              | 1                    | 16.9   | 23.6                                   | 5                             |
| P4SMAJ9.0A                  | HV                  | 9.0                                | 10.00                              | 11.50                              | 1                    | 15.4   | 26.0                                   | 5                             |
| P4SMAJ10                    | HW                  | 10.0                               | 11.10                              | 14.10                              | 1                    | 18.8   | 21.2                                   | 5                             |
| P4SMAJ10A                   | HX                  | 10.0                               | 11.10                              | 12.80                              | 1                    | 17.0   | 23.5                                   | 5                             |
| P4SMAJ11                    | HY                  | 11.0                               | 12.20                              | 15.40                              | 1                    | 20.1   | 20.0                                   | 5                             |
| P4SMAJ11A                   | HZ                  | 11.0                               | 12.20                              | 14.00                              | 1                    | 18.2   | 22.0                                   | 5                             |
| P4SMAJ12                    | ID                  | 12.0                               | 13.30                              | 16.90                              | 1                    | 22.0   | 18.1                                   | 5                             |
| P4SMAJ12A                   | IE                  | 12.0                               | 13.30                              | 15.30                              | 1                    | 19.9   | 20.1                                   | 5                             |
| P4SMAJ13                    | IF                  | 13.0                               | 14.40                              | 18.20                              | 1                    | 23.8   | 16.8                                   | 5                             |
| P4SMAJ13A                   | IG                  | 13.0                               | 14.40                              | 16.50                              | 1                    | 21.5   | 18.6                                   | 5                             |
| P4SMAJ14                    | IH                  | 14.0                               | 15.60                              | 19.80                              | 1                    | 25.8   | 15.5                                   | 5                             |
| P4SMAJ14A                   | IK                  | 14.0                               | 15.60                              | 17.90                              | 1                    | 23.2   | 17.2                                   | 5                             |
| P4SMAJ15                    | IL                  | 15.0                               | 16.70                              | 21.10                              | 1                    | 26.9   | 14.8                                   | 5                             |
| P4SMAJ15A                   | IM                  | 15.0                               | 16.70                              | 19.20                              | 1                    | 24.4   | 16.4                                   | 5                             |
| P4SMAJ16                    | IN                  | 16.0                               | 17.80                              | 22.60                              | 1                    | 28.8   | 13.8                                   | 5                             |
| P4SMAJ16A                   | IP                  | 16.0                               | 17.80                              | 20.50                              | 1                    | 26.0   | 15.3                                   | 5                             |
| P4SMAJ17                    | IQ                  | 17.0                               | 18.90                              | 23.90                              | 1                    | 30.5   | 13.1                                   | 5                             |
| P4SMAJ17A                   | IR                  | 17.0                               | 18.90                              | 21.70                              | 1                    | 27.6   | 14.5                                   | 5                             |
| P4SMAJ18                    | IS                  | 18.0                               | 20.00                              | 25.30                              | 1                    | 32.2   | 12.4                                   | 5                             |
| P4SMAJ18A                   | IT                  | 18.0                               | 20.00                              | 23.30                              | 1                    | 29.2   | 13.7                                   | 5                             |
| P4SMAJ20                    | IU                  | 20.0                               | 22.20                              | 28.10                              | 1                    | 35.8   | 11.1                                   | 5                             |
| P4SMAJ20A                   | IV                  | 20.0                               | 22.20                              | 25.50                              | 1                    | 32.4   | 12.3                                   | 5                             |
| P4SMAJ22                    | IW                  | 22.0                               | 24.40                              | 30.90                              | 1                    | 39.4   | 10.1                                   | 5                             |
| P4SMAJ22A                   | IX                  | 22.0                               | 24.40                              | 28.00                              | 1                    | 35.5   | 11.2                                   | 5                             |
| P4SMAJ24                    | IY                  | 24.0                               | 26.70                              | 33.80                              | 1                    | 43.0   | 9.3                                    | 5                             |
| P4SMAJ24A                   | IZ                  | 24.0                               | 26.70                              | 30.70                              | 1                    | 38.9   | 10.3                                   | 5                             |
| P4SMAJ26                    | JD                  | 26.0                               | 28.90                              | 36.60                              | 1                    | 46.6   | 8.6                                    | 5                             |
| P4SMAJ26A                   | JE                  | 26.0                               | 28.90                              | 33.20                              | 1                    | 42.1   | 9.5                                    | 5                             |
| P4SMAJ28                    | JF                  | 28.0                               | 31.10                              | 39.40                              | 1                    | 50.0   | 8.0                                    | 5                             |
| P4SMAJ28A                   | JG                  | 28.0                               | 31.10                              | 35.80                              | 1                    | 45.4   | 8.8                                    | 5                             |
| P4SMAJ30                    | JH                  | 30.0                               | 33.30                              | 42.20                              | 1                    | 53.5   | 7.5                                    | 5                             |
| P4SMAJ30A                   | JK                  | 30.0                               | 33.30                              | 38.30                              | 1                    | 48.4   | 8.3                                    | 5                             |
| P4SMAJ33                    | JL                  | 33.0                               | 36.70                              | 46.50                              | 1                    | 59.0   | 6.8                                    | 5                             |
| P4SMAJ33A                   | JM                  | 33.0                               | 36.70                              | 42.20                              | 1                    | 53.3   | 7.5                                    | 5                             |

|           |    |      |       |       |   |       |     |   |
|-----------|----|------|-------|-------|---|-------|-----|---|
| P4SMAJ36  | JN | 36.0 | 40.00 | 50.70 | 1 | 64.3  | 6.2 | 5 |
| P4SMAJ36A | JP | 36.0 | 40.00 | 46.00 | 1 | 58.1  | 6.9 | 5 |
| P4SMAJ40  | JQ | 40.0 | 44.40 | 56.30 | 1 | 71.4  | 5.6 | 5 |
| P4SMAJ40A | JR | 40.0 | 44.40 | 51.10 | 1 | 64.5  | 6.2 | 5 |
| P4SMAJ43  | JS | 43.0 | 47.80 | 60.50 | 1 | 76.7  | 5.2 | 5 |
| P4SMAJ43A | JT | 43.0 | 47.80 | 54.90 | 1 | 69.4  | 5.7 | 5 |
| P4SMAJ45  | JU | 45.0 | 50.00 | 63.30 | 1 | 80.3  | 5.0 | 5 |
| P4SMAJ45A | JV | 45.0 | 50.00 | 57.50 | 1 | 72.7  | 5.5 | 5 |
| P4SMAJ48  | JW | 48.0 | 53.30 | 67.50 | 1 | 85.5  | 4.7 | 5 |
| P4SMAJ48A | JX | 48.0 | 53.30 | 61.30 | 1 | 77.4  | 5.2 | 5 |
| P4SMAJ51  | JY | 51.0 | 56.70 | 71.80 | 1 | 91.1  | 4.4 | 5 |
| P4SMAJ51A | JZ | 51.0 | 56.70 | 65.20 | 1 | 82.4  | 4.9 | 5 |
| P4SMAJ54  | RD | 54.0 | 60.00 | 76.00 | 1 | 96.3  | 4.2 | 5 |
| P4SMAJ54A | RE | 54.0 | 60.00 | 69.00 | 1 | 87.1  | 4.6 | 5 |
| P4SMAJ58  | RF | 58.0 | 64.40 | 81.60 | 1 | 103.0 | 3.9 | 5 |
| P4SMAJ58A | RG | 58.0 | 64.40 | 74.10 | 1 | 93.6  | 4.3 | 5 |
| P4SMAJ60  | RH | 60.0 | 66.70 | 84.50 | 1 | 107.0 | 3.7 | 5 |
| P4SMAJ60A | RK | 60.0 | 66.70 | 76.70 | 1 | 96.8  | 4.1 | 5 |
| P4SMAJ64  | RL | 64.0 | 71.10 | 90.10 | 1 | 114.0 | 3.5 | 5 |
| P4SMAJ64A | RM | 64.0 | 71.10 | 81.80 | 1 | 103.0 | 3.9 | 5 |

### UNI-DIRECTIONAL 400 Watt Surface Mount TVS

| UNI-DIRECTIONAL PART NUMBER | DEVICE MARKING CODE | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @I <sub>PP</sub> VC (V) | PEAK PULSE CURRENT I <sub>PP</sub> (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|-----------------------------|---------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--|--|-------------------------------|
| P4SMAJ70                    | RN                  | 70.0                               | 77.80                              | 98.60                              | 1                    | 125.0  | 3.2                                    | 5                             |
| P4SMAJ70A                   | RP                  | 70.0                               | 77.80                              | 89.50                              | 1                    | 113.0  | 3.5                                    | 5                             |
| P4SMAJ75                    | RQ                  | 75.0                               | 83.30                              | 105.70                             | 1                    | 134.0  | 3.0                                    | 5                             |
| P4SMAJ75A                   | RR                  | 75.0                               | 83.30                              | 95.80                              | 1                    | 121.0  | 3.3                                    | 5                             |
| P4SMAJ78                    | RS                  | 78.0                               | 86.70                              | 109.80                             | 1                    | 139.0  | 2.9                                    | 5                             |
| P4SMAJ78A                   | RT                  | 78.0                               | 86.70                              | 99.70                              | 1                    | 126.0  | 2.2                                    | 5                             |
| P4SMAJ85                    | RU                  | 85.0                               | 94.40                              | 119.20                             | 1                    | 151.0  | 2.6                                    | 5                             |
| P4SMAJ85A                   | RV                  | 85.0                               | 94.40                              | 108.20                             | 1                    | 137.0  | 2.9                                    | 5                             |
| P4SMAJ90                    | RW                  | 90.0                               | 100.00                             | 126.50                             | 1                    | 160.0  | 2.5                                    | 5                             |
| P4SMAJ90A                   | RX                  | 90.0                               | 100.00                             | 115.50                             | 1                    | 146.0  | 2.7                                    | 5                             |
| P4SMAJ100                   | RY                  | 100.0                              | 111.00                             | 141.00                             | 1                    | 179.0  | 2.2                                    | 5                             |
| P4SMAJ100A                  | RZ                  | 100.0                              | 111.00                             | 128.00                             | 1                    | 162.0  | 2.5                                    | 5                             |
| P4SMAJ110                   | SD                  | 110.0                              | 122.00                             | 154.50                             | 1                    | 196.0  | 2.0                                    | 5                             |
| P4SMAJ110A                  | SE                  | 110.0                              | 122.00                             | 140.50                             | 1                    | 177.0  | 2.3                                    | 5                             |
| P4SMAJ120                   | SF                  | 120.0                              | 133.00                             | 169.00                             | 1                    | 214.0  | 1.9                                    | 5                             |
| P4SMAJ120A                  | SG                  | 120.0                              | 133.00                             | 153.00                             | 1                    | 193.0  | 2.0                                    | 5                             |
| P4SMAJ130                   | SH                  | 130.0                              | 144.00                             | 182.50                             | 1                    | 231.0  | 1.7                                    | 5                             |
| P4SMAJ130A                  | SK                  | 130.0                              | 144.00                             | 165.50                             | 1                    | 209.0  | 1.9                                    | 5                             |
| P4SMAJ150                   | SL                  | 150.0                              | 167.00                             | 211.50                             | 1                    | 268.0  | 1.5                                    | 5                             |
| P4SMAJ150A                  | SM                  | 150.0                              | 167.00                             | 192.50                             | 1                    | 243.0  | 1.6                                    | 5                             |
| P4SMAJ160                   | SN                  | 160.0                              | 178.00                             | 226.00                             | 1                    | 287.0  | 1.4                                    | 5                             |
| P4SMAJ160A                  | SP                  | 160.0                              | 178.00                             | 205.00                             | 1                    | 259.0  | 1.5                                    | 5                             |
| P4SMAJ170                   | SQ                  | 170.0                              | 189.00                             | 239.50                             | 1                    | 304.0  | 1.3                                    | 5                             |
| P4SMAJ170A                  | SR                  | 170.0                              | 189.00                             | 217.50                             | 1                    | 275.0  | 1.4                                    | 5                             |

### BI-DIRECTIONAL 400 Watt Surface Mount TVS

| BI-DIRECTIONAL PART NUMBER | DEVICE MARKING CODE | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @I <sub>PP</sub> VC (V) | PEAK PULSE CURRENT I <sub>PP</sub> (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|----------------------------|---------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--|--|-------------------------------|
| P4SMAJ5.0C                 | TD                  | 5.0                                | 6.40                               | 7.55                               | 10                   | 9.6  | 41.6                                   | 1600                          |
| P4SMAJ5.0CA                | TE                  | 5.0                                | 6.40                               | 7.25                               | 10                   | 9.2  | 43.5                                   | 1600                          |
| P4SMAJ6.0C                 | TF                  | 6.0                                | 6.67                               | 8.45                               | 10                   | 11.4   | 35.1                                   | 1600                          |
| P4SMAJ6.0CA                | TG                  | 6.0                                | 6.67                               | 7.67                               | 10                   | 10.3   | 38.8                                   | 1600                          |
| P4SMAJ6.5C                 | TH                  | 6.5                                | 7.22                               | 9.14                               | 10                   | 12.3   | 32.5                                   | 1000                          |
| P4SMAJ6.5CA                | TK                  | 6.5                                | 7.22                               | 8.30                               | 10                   | 11.2   | 35.7                                   | 1000                          |
| P4SMAJ7.0C                 | TL                  | 7.0                                | 7.78                               | 9.86                               | 10                   | 13.3   | 30.1                                   | 400                           |
| P4SMAJ7.0CA                | TM                  | 7.0                                | 7.78                               | 8.95                               | 10                   | 12.0   | 33.3                                   | 400                           |
| P4SMAJ7.5C                 | TN                  | 7.5                                | 8.33                               | 10.67                              | 1                    | 14.3   | 28.0                                   | 200                           |
| P4SMAJ7.5CA                | TP                  | 7.5                                | 8.33                               | 9.58                               | 1                    | 12.9   | 31.0                                   | 200                           |
| P4SMAJ8.0C                 | TQ                  | 8.0                                | 8.89                               | 11.30                              | 1                    | 15.0   | 26.5                                   | 100                           |
| P4SMAJ8.0CA                | TR                  | 8.0                                | 8.89                               | 10.23                              | 1                    | 13.6   | 29.4                                   | 100                           |
| P4SMAJ8.5C                 | TS                  | 8.5                                | 9.44                               | 11.92                              | 1                    | 15.9   | 25.1                                   | 20                            |
| P4SMAJ8.5CA                | TT                  | 8.5                                | 9.44                               | 10.82                              | 1                    | 14.4   | 27.7                                   | 20                            |
| P4SMAJ9.0C                 | TU                  | 9.0                                | 10.00                              | 12.60                              | 1                    | 16.9   | 23.6                                   | 10                            |
| P4SMAJ9.0CA                | TV                  | 9.0                                | 10.00                              | 11.50                              | 1                    | 15.4   | 26.0                                   | 10                            |
| P4SMAJ10C                  | TW                  | 10.0                               | 11.10                              | 14.10                              | 1                    | 18.8   | 21.2                                   | 5                             |
| P4SMAJ10CA                 | TX                  | 10.0                               | 11.10                              | 12.80                              | 1                    | 17.0   | 23.5                                   | 5                             |
| P4SMAJ11C                  | TY                  | 11.0                               | 12.20                              | 15.40                              | 1                    | 20.1   | 20.0                                   | 5                             |
| P4SMAJ11CA                 | TZ                  | 11.0                               | 12.20                              | 14.00                              | 1                    | 18.2   | 22.0                                   | 5                             |
| P4SMAJ12C                  | UD                  | 12.0                               | 13.30                              | 16.90                              | 1                    | 22.0   | 18.1                                   | 5                             |
| P4SMAJ12CA                 | UE                  | 12.0                               | 13.30                              | 15.30                              | 1                    | 19.9   | 20.1                                   | 5                             |

|            |    |      |       |       |   |       |      |   |
|------------|----|------|-------|-------|---|-------|------|---|
| P4SMAJ13C  | UF | 13.0 | 14.40 | 18.20 | 1 | 23.8  | 16.8 | 5 |
| P4SMAJ13CA | UG | 13.0 | 14.40 | 16.50 | 1 | 21.5  | 18.6 | 5 |
| P4SMAJ14C  | UH | 14.0 | 15.60 | 19.80 | 1 | 25.8  | 15.5 | 5 |
| P4SMAJ14CA | UK | 14.0 | 15.60 | 17.90 | 1 | 23.2  | 17.2 | 5 |
| P4SMAJ15C  | UL | 15.0 | 16.70 | 21.10 | 1 | 26.9  | 14.8 | 5 |
| P4SMAJ15CA | UM | 15.0 | 16.70 | 19.20 | 1 | 24.4  | 16.4 | 5 |
| P4SMAJ16C  | UN | 16.0 | 17.80 | 22.60 | 1 | 28.8  | 13.8 | 5 |
| P4SMAJ16CA | UP | 16.0 | 17.80 | 20.50 | 1 | 26.0  | 15.3 | 5 |
| P4SMAJ17C  | UQ | 17.0 | 18.90 | 23.90 | 1 | 30.5  | 13.1 | 5 |
| P4SMAJ17CA | UR | 17.0 | 18.90 | 21.70 | 1 | 27.6  | 14.5 | 5 |
| P4SMAJ18C  | US | 18.0 | 20.00 | 25.30 | 1 | 32.2  | 12.4 | 5 |
| P4SMAJ18CA | UT | 18.0 | 20.00 | 23.30 | 1 | 29.2  | 13.7 | 5 |
| P4SMAJ20C  | UU | 20.0 | 22.20 | 28.10 | 1 | 35.8  | 11.1 | 5 |
| P4SMAJ20CA | UV | 20.0 | 22.20 | 25.50 | 1 | 32.4  | 12.3 | 5 |
| P4SMAJ22C  | UW | 22.0 | 24.40 | 30.90 | 1 | 39.4  | 10.1 | 5 |
| P4SMAJ22CA | UX | 22.0 | 24.40 | 28.00 | 1 | 35.5  | 11.2 | 5 |
| P4SMAJ24C  | UY | 24.0 | 26.70 | 33.80 | 1 | 43.0  | 9.3  | 5 |
| P4SMAJ24CA | UZ | 24.0 | 26.70 | 30.70 | 1 | 38.9  | 10.3 | 5 |
| P4SMAJ26C  | VD | 26.0 | 28.90 | 36.60 | 1 | 46.6  | 8.6  | 5 |
| P4SMAJ26CA | VE | 26.0 | 28.90 | 33.20 | 1 | 42.1  | 9.5  | 5 |
| P4SMAJ28C  | VF | 28.0 | 31.10 | 39.40 | 1 | 50.0  | 8.0  | 5 |
| P4SMAJ28CA | VG | 28.0 | 31.10 | 35.80 | 1 | 45.4  | 8.8  | 5 |
| P4SMAJ30C  | VH | 30.0 | 33.30 | 42.20 | 1 | 53.5  | 7.5  | 5 |
| P4SMAJ30CA | VK | 30.0 | 33.30 | 38.30 | 1 | 48.4  | 8.3  | 5 |
| P4SMAJ33C  | VL | 33.0 | 36.70 | 46.50 | 1 | 59.0  | 6.8  | 5 |
| P4SMAJ33CA | VM | 33.0 | 36.70 | 42.20 | 1 | 53.3  | 7.5  | 5 |
| P4SMAJ36C  | VN | 36.0 | 40.00 | 50.70 | 1 | 64.3  | 6.2  | 5 |
| P4SMAJ36CA | VP | 36.0 | 40.00 | 46.00 | 1 | 58.1  | 6.9  | 5 |
| P4SMAJ40C  | VQ | 40.0 | 44.40 | 56.30 | 1 | 71.4  | 5.6  | 5 |
| P4SMAJ40CA | VR | 40.0 | 44.40 | 51.10 | 1 | 64.5  | 6.2  | 5 |
| P4SMAJ43C  | VS | 43.0 | 47.80 | 60.50 | 1 | 76.7  | 5.2  | 5 |
| P4SMAJ43CA | VT | 43.0 | 47.80 | 54.90 | 1 | 69.4  | 5.7  | 5 |
| P4SMAJ45C  | VU | 45.0 | 50.00 | 63.30 | 1 | 80.3  | 5.0  | 5 |
| P4SMAJ45CA | VV | 45.0 | 50.00 | 57.50 | 1 | 72.7  | 5.5  | 5 |
| P4SMAJ48C  | VW | 48.0 | 53.30 | 67.50 | 1 | 85.5  | 4.7  | 5 |
| P4SMAJ48CA | VX | 48.0 | 53.30 | 61.30 | 1 | 77.4  | 5.2  | 5 |
| P4SMAJ51C  | VY | 51.0 | 56.70 | 71.80 | 1 | 91.1  | 4.4  | 5 |
| P4SMAJ51CA | VZ | 51.0 | 56.70 | 65.20 | 1 | 82.4  | 4.9  | 5 |
| P4SMAJ54C  | WD | 54.0 | 60.00 | 76.00 | 1 | 96.3  | 4.2  | 5 |
| P4SMAJ54CA | WE | 54.0 | 60.00 | 69.00 | 1 | 87.1  | 4.6  | 5 |
| P4SMAJ58C  | WF | 58.0 | 64.40 | 81.60 | 1 | 103.0 | 3.9  | 5 |
| P4SMAJ58CA | WG | 58.0 | 64.40 | 74.10 | 1 | 93.6  | 4.3  | 5 |
| P4SMAJ60C  | WH | 60.0 | 66.70 | 84.50 | 1 | 107.0 | 3.7  | 5 |
| P4SMAJ60CA | WK | 60.0 | 66.70 | 76.70 | 1 | 96.8  | 4.1  | 5 |
| P4SMAJ64C  | WL | 64.0 | 71.10 | 90.10 | 1 | 114.0 | 3.5  | 5 |
| P4SMAJ64CA | WM | 64.0 | 71.10 | 81.80 | 1 | 103.0 | 3.9  | 5 |

### BI-DIRECTIONAL 400 Watt Surface Mount TVS

| BI-DIRECTIONAL PART NUMBER | DEVICE MARKING CODE | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @IPP VC (V) | PEAK PULSE CURRENT IPP (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|----------------------------|---------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--------------------------------------|----------------------------|-------------------------------|
| P4SMAJ70C                  | WN                  | 70.0                               | 77.80                              | 98.60                              | 1                    | 125.0                                | 3.2                        | 5                             |
| P4SMAJ70CA                 | WP                  | 70.0                               | 77.80                              | 89.50                              | 1                    | 113.0                                | 3.5                        | 5                             |
| P4SMAJ75C                  | WQ                  | 75.0                               | 83.30                              | 105.70                             | 1                    | 134.0                                | 3.0                        | 5                             |
| P4SMAJ75CA                 | WR                  | 75.0                               | 83.30                              | 95.80                              | 1                    | 121.0                                | 3.3                        | 5                             |
| P4SMAJ78C                  | WS                  | 78.0                               | 86.70                              | 109.80                             | 1                    | 139.0                                | 2.9                        | 5                             |
| P4SMAJ78CA                 | WT                  | 78.0                               | 86.70                              | 99.70                              | 1                    | 126.0                                | 2.2                        | 5                             |
| P4SMAJ85C                  | WU                  | 85.0                               | 94.40                              | 119.20                             | 1                    | 151.0                                | 2.6                        | 5                             |
| P4SMAJ85CA                 | WV                  | 85.0                               | 94.40                              | 108.20                             | 1                    | 137.0                                | 2.9                        | 5                             |
| P4SMAJ90C                  | WW                  | 90.0                               | 100.00                             | 126.50                             | 1                    | 160.0                                | 2.5                        | 5                             |
| P4SMAJ90CA                 | WX                  | 90.0                               | 100.00                             | 115.50                             | 1                    | 146.0                                | 2.7                        | 5                             |
| P4SMAJ100C                 | WY                  | 100.0                              | 111.00                             | 141.00                             | 1                    | 179.0                                | 2.2                        | 5                             |
| P4SMAJ100CA                | WZ                  | 100.0                              | 111.00                             | 128.00                             | 1                    | 162.0                                | 2.5                        | 5                             |
| P4SMAJ110C                 | XD                  | 110.0                              | 122.00                             | 154.50                             | 1                    | 196.0                                | 2.0                        | 5                             |
| P4SMAJ110CA                | XE                  | 110.0                              | 122.00                             | 140.50                             | 1                    | 177.0                                | 2.3                        | 5                             |
| P4SMAJ120C                 | XF                  | 120.0                              | 133.00                             | 169.00                             | 1                    | 214.0                                | 1.9                        | 5                             |
| P4SMAJ120CA                | XG                  | 120.0                              | 133.00                             | 153.00                             | 1                    | 193.0                                | 2.0                        | 5                             |
| P4SMAJ130C                 | XH                  | 130.0                              | 144.00                             | 182.50                             | 1                    | 231.0                                | 1.7                        | 5                             |
| P4SMAJ130CA                | XK                  | 130.0                              | 144.00                             | 165.50                             | 1                    | 209.0                                | 1.9                        | 5                             |
| P4SMAJ150C                 | XL                  | 150.0                              | 167.00                             | 211.50                             | 1                    | 268.0                                | 1.5                        | 5                             |
| P4SMAJ150CA                | XM                  | 150.0                              | 167.00                             | 192.50                             | 1                    | 243.0                                | 1.6                        | 5                             |
| P4SMAJ160C                 | XN                  | 160.0                              | 178.00                             | 226.00                             | 1                    | 287.0                                | 1.4                        | 5                             |
| P4SMAJ160CA                | XP                  | 160.0                              | 178.00                             | 205.00                             | 1                    | 259.0                                | 1.5                        | 5                             |
| P4SMAJ170C                 | XQ                  | 170.0                              | 189.00                             | 239.50                             | 1                    | 304.0                                | 1.3                        | 5                             |
| P4SMAJ170CA                | XR                  | 170.0                              | 189.00                             | 217.50                             | 1                    | 275.0                                | 1.4                        | 5                             |