




**SPECIFICATION SHEET**

|   |   |  |
|---|---|--|
| <b>SPECIFICATION SHEET NO.</b>          | Q1022-SMDJ70CA00SDGP  |  |
| <b>DATE</b>                             | Oct. 22, 2023   |  |
| <b>REVISION</b>                         | A0  | Updated With Most Recent Data - Official First Release |
| <b>DESCRIPTION AND MAIN PARAMETRICS</b> | <p>SMD Transient Voltage Suppressor (TVS) Diodes, SMDJ series,<br/> <a href="#">SMDJ70CA</a> Type, 2 Pads, Bidirectional ,<br/> <a href="#">Reverse Stand-off Voltage (V R) 70V Peak Pulse Power: 3000 Watts.</a><br/>           Operating Temp. Range -65°C ~+150°C<br/>           Package in Tape/Reel, 3000pcs/Reel<br/>           RoHS/RoHS III and REACH Compliant</p> |  |
| <b>CUSTOMER</b>                         |   |  |
| <b>CUSTOMER PART NO.</b>                |   |  |
| <b>CROSS REF. PART NO.</b>              |   |  |
| <b>ORIGINAL MFG/PART NO.</b>            | MDD/SMDJ70CA  |  |
| <b>PART CODE</b>                        | SMDJ70CA00SDGP  |  |

|                         |   |  |
|-------------------------|---|--|
| <b>VENDOR APPROVE</b>   |   |  |
| Issued/Checked/Approved |    |  |
| DATE: Oct. 22, 2023     |  |  |

|                         |  |
|-------------------------|--|
| <b>CUSTOMER APPROVE</b> |  |
|                         |  |
| DATE:                   |  |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**MAIN FEATURE**

- Space Low Profile Package
- Built-in Strain Relief
- Glass Passivated Junction
- Low Inductance
- Excellent Clamping Capability
- 3000W Peak Pulse Power Capability At 10/1000µs Waveform,
- Repetition Rate (Duty Cycle): 0.01%
- Fast Response Time
- Typical Ir Less Than 1µa Above 10v
- High Temperature Soldering: 260°C/10 Seconds At Terminals
- Plastic Package Has Underwriters Laboratory Flammability 94V-0
- RoHS III Complaint
- Cross Main Competitor Parts in Market



**APPLICATION**

- I/O Interface
- AC/DC Power Supply
- Low Frequency Signal Transmission Line (RS232, RS485, etc.)

**RFQ**  
[Request For Quotation](#)

**PART CODE GUIDE**

| SMDJ | 70CA00 | S | DGP |
|------|--------|---|-----|
| 1    | 2      | 3 | 4   |

1. SMDJ: SMD Transient Voltage Suppressor (TVs) Diodes, SMDJ series
2. 70CA00: Specification code for Bidirectional, Reverse Stand-off Voltage (V R) 70V
3. S: Package code, Tape/Reel
4. DGP: Marking code for “DGP” on the case surface, Different Marking for different specification

**ELECTRICAL CHARACTERISTICS**

See Page 5 ~ Page 10 For Different Part Code

**HOW TO ORDER**

Please indicate pat code and send us your RFQ by E-mail, [sales@nextgencomponent.com](mailto:sales@nextgencomponent.com)

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**DIMENSION** - Unit: Inch/mm

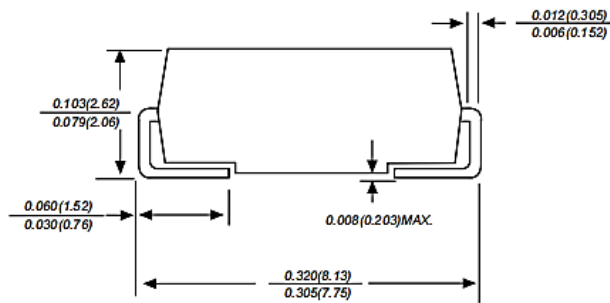
Image for reference



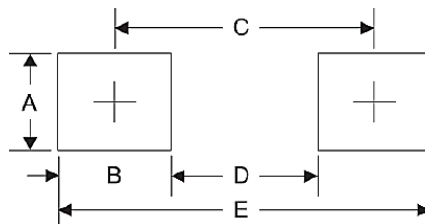
Marking: standard

\* See Marking Code List page 5~10

Case Dimension:  
SMC/DO-214AB



Recommend  
Pad Layout



| Symbol | Unit (Inch) | Unit (mm) |
|--------|-------------|-----------|
| A      | 0.170       | 4.3       |
| B      | 0.160       | 4.1       |
| C      | 0.311       | 7.9       |
| D      | 0.150       | 3.8       |
| E      | 0.472       | 12        |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**MECHANICAL DATA**

| Case                                   | Terminals                               | Polarity                        | Mounting Position | Marking               | Weight per piece        |
|--|---|---------------------------------|-------------------|-----------------------|-------------------------|
| JEDEC SMC/DO-214AB molded plastic body | Solderable per MIL-STD-750, Method 2026 | Polarity symbol marking on body | ANY               | See Marking Code List | 0.003 ounce, 0.095grams |

**MAX. RATING & CHARACTERISTICS** - Ratings at 25°C Ambient Temperature Unless Otherwise Specified.

| Parameter  | SYMBOLS | VALUE      | UNITS |
|--|---------|------------|-------|
| Peak pulse power dissipation at 10/1000µs waveform (Note 1, Note 2)                                | P ppm   | 3000       | W     |
| Maximum Instantaneous Forward Voltage at 100A for Unidirectional only                              | V F     | 3.5        | V     |
| Steady state power dissipation at TA=50°C  | P M(AV) | 6.5        | W     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) | I FSM   | 300        | A     |
| Typical thermal resistance junction to lead  | R θJL   | 15         | °C/W  |
| Typical thermal resistance junction to ambient   | R θJA   | 75         | °C/W  |
| Operating junction temperature range   | T J     | -65 ~ +150 | °C    |
| Storage temperature range  | T stg   | -65 ~ +150 | °C    |

**Notes**

1. Non-repetitive current pulse, per Fig 3 and derated above TA=25 °C per Fig 2
2. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**ELECTRICAL CHARACTERISTICS UNIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |       | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|----------------|--|--|-------|----------------------------------|---|--|--|--------------|
|                |  | Min.   | Max.  |                                  |   |  |  |              |
| SMDJ050A00SRDE | 5.0  | 6.40   | 7.00  | 10                               | 9.2   | 326.1                                  | 800  | RDE          |
| SMDJ060A00SRDG | 6.0  | 6.67   | 7.37  | 10                               | 10.3  | 291.3                                  | 800  | RDG          |
| SMDJ065A00SRDK | 6.5  | 7.22   | 7.98  | 10                               | 11.2  | 267.9                                  | 500  | RDK          |
| SMDJ070A00SPDM | 7.0  | 7.78   | 8.60  | 10                               | 12.0  | 250.0                                  | 200  | PDM          |
| SMDJ075A00SPDP | 7.5  | 8.33   | 9.21  | 1                                | 12.9  | 232.6                                  | 100  | PDP          |
| SMDJ080A00SPDR | 8.0  | 8.89   | 9.83  | 1                                | 13.6  | 220.6                                  | 50   | PDR          |
| SMDJ085A00SPDT | 8.5  | 9.44   | 10.40 | 1                                | 14.4  | 208.3                                  | 20   | PDT          |
| SMDJ090A00SPDV | 9.0  | 10.00  | 11.10 | 1                                | 15.4  | 194.8                                  | 10   | PDV          |
| SMDJ10A000SPDX | 10.0   | 11.10  | 12.30 | 1                                | 17.0  | 176.5                                  | 5  | PDX          |
| SMDJ11A000SPDZ | 11.0   | 12.20  | 13.50 | 1                                | 18.2  | 164.8                                  | 2  | PDZ          |
| SMDJ12A000SPEE | 12.0   | 13.30  | 14.70 | 1                                | 19.9  | 150.8                                  | 2  | PEE          |
| SMDJ13A000SPEG | 13.0   | 14.40  | 15.90 | 1                                | 21.5  | 139.5                                  | 2  | PEG          |
| SMDJ14A000SPEK | 14.0   | 15.60  | 17.20 | 1                                | 23.2  | 129.3                                  | 2  | PEK          |
| SMDJ15A000SPEM | 15.0   | 16.70  | 18.50 | 1                                | 24.4  | 123.0                                  | 2  | PEM          |
| SMDJ16A000SPEP | 16.0   | 17.80  | 19.70 | 1                                | 26.0  | 115.4                                  | 2  | PEP          |
| SMDJ17A000SPER | 17.0   | 18.90  | 20.90 | 1                                | 27.6  | 108.7                                  | 2  | PER          |
| SMDJ18A000SPET | 18.0   | 20.00  | 22.10 | 1                                | 29.2  | 102.7                                  | 2  | PET          |
| SMDJ20A000SPEV | 20.0   | 22.20  | 24.50 | 1                                | 32.4  | 92.6                                   | 2  | PEV          |
| SMDJ22A000SPEX | 22.0   | 24.40  | 26.90 | 1                                | 35.5  | 84.5                                   | 2  | PEX          |
| SMDJ24A000SPEZ | 24.0   | 26.70  | 29.50 | 1                                | 38.9  | 77.1                                   | 2  | PEZ          |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**ELECTRICAL CHARACTERISTICS UNIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |        | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|----------------|--|--|--------|----------------------------------|---|--|--|--------------|
|                |  | Min.   | Max.   |                                  |   |  |  |              |
| SMDJ26A000SPFE | 26.0   | 28.90  | 31.90  | 1                                | 42.1  | 71.3                                   | 2  | PFE          |
| SMDJ28A000SPFG | 28.0   | 31.10  | 34.40  | 1                                | 45.4  | 66.1                                   | 2  | PFG          |
| SMDJ30A000SPFK | 30.0   | 33.30  | 36.80  | 1                                | 48.4  | 62.0                                   | 2  | PFK          |
| SMDJ33A000SPFM | 33.0   | 36.70  | 40.60  | 1                                | 53.3  | 56.3                                   | 2  | PFM          |
| SMDJ36A000SPFP | 36.0   | 40.00  | 44.20  | 1                                | 58.1  | 51.6                                   | 2  | PFP          |
| SMDJ40A000SPFR | 40.0   | 44.40  | 49.10  | 1                                | 64.5  | 46.5                                   | 2  | PFR          |
| SMDJ43A000SPFT | 43.0   | 47.80  | 52.80  | 1                                | 69.4  | 43.2                                   | 2  | PFT          |
| SMDJ45A000SPFV | 45.0   | 50.00  | 55.30  | 1                                | 72.7  | 41.3                                   | 2  | PFV          |
| SMDJ48A000SPFX | 48.0   | 53.30  | 58.90  | 1                                | 77.4  | 38.8                                   | 2  | PFX          |
| SMDJ51A000SPFZ | 51.0   | 56.70  | 62.70  | 1                                | 82.4  | 36.4                                   | 2  | PFZ          |
| SMDJ54A000SRGE | 54.0   | 60.00  | 66.30  | 1                                | 87.1  | 34.4                                   | 2  | RGE          |
| SMDJ58A000SPGG | 58.0   | 64.40  | 71.20  | 1                                | 93.6  | 32.1                                   | 2  | PGG          |
| SMDJ60A000SPGK | 60.0   | 66.70  | 73.70  | 1                                | 96.8  | 31.0                                   | 2  | PGK          |
| SMDJ64A000SPGM | 64.0   | 71.10  | 78.60  | 1                                | 103.0   | 29.1                                   | 2  | PGM          |
| SMDJ70A000SPGP | 70.0   | 77.80  | 86.00  | 1                                | 113.0   | 26.5                                   | 2  | PGP          |
| SMDJ75A000SPGR | 75.0   | 83.30  | 92.10  | 1                                | 121.0   | 24.8                                   | 2  | PGR          |
| SMDJ78A000SPGT | 78.0   | 86.70  | 95.80  | 1                                | 126.0   | 23.8                                   | 2  | PGT          |
| SMDJ85A000SPGV | 85.0   | 94.40  | 104.00 | 1                                | 137.0   | 21.9                                   | 2  | PGV          |
| SMDJ90A000SPGX | 90.0   | 100.00   | 111.00 | 1                                | 146.0   | 20.5                                   | 2  | PGX          |
| SMDJ100A00SPGZ | 100.0  | 111.00   | 123.00 | 1                                | 162.0   | 18.5                                   | 2  | PGZ          |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**ELECTRICAL CHARACTERISTICS UNIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |        | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|----------------|--|--|--------|----------------------------------|---|--|--|--------------|
|                |  | Min.   | Max.   |                                  |   |  |  |              |
| SMDJ110A00SPHE | 110.0  | 122.00   | 135.00 | 1                                | 177.0   | 16.9                                   | 2  | PHE          |
| SMDJ120A00SPHG | 120.0  | 133.00   | 147.00 | 1                                | 193.0   | 15.5                                   | 2  | PHG          |
| SMDJ130A00SPHK | 130.0  | 144.00   | 159.00 | 1                                | 209.0   | 14.4                                   | 2  | PHK          |
| SMDJ150A00SPHM | 150.0  | 167.00   | 185.00 | 1                                | 243.0   | 12.3                                   | 2  | PHM          |
| SMDJ160A00SPHP | 160.0  | 178.00   | 197.00 | 1                                | 259.0   | 11.6                                   | 2  | PHP          |
| SMDJ170A00SPHR | 170.0  | 189.00   | 209.00 | 1                                | 275.0   | 10.9                                   | 2  | PHR          |

**Note:**

1. For parts without A, the V<sub>BR</sub> is ± 10%, and V<sub>C</sub> is 5% higher than A parts.
2. For bidirectional type having V<sub>R</sub> of 10 volts and less, the I<sub>R</sub> limit is double.

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**ELECTRICAL CHARACTERISTICS BIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |       | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|----------------|--|--|-------|----------------------------------|---|--|--|--------------|
|                |  | Min.   | Max.  |                                  |   |  |  |              |
| SMDJ050CA0SDDE | 5.0  | 6.40   | 7.00  | 10                               | 9.2   | 326.1                                  | 800  | DDE          |
| SMDJ060CA0SDDG | 6.0  | 6.67   | 7.37  | 10                               | 10.3  | 291.3                                  | 800  | DDG          |
| SMDJ065CA0SDDK | 6.5  | 7.22   | 7.98  | 10                               | 11.2  | 267.9                                  | 500  | DDK          |
| SMDJ070CA0SDDM | 7.0  | 7.78   | 8.60  | 10                               | 12.0  | 250.0                                  | 200  | DDM          |
| SMDJ075CA0SDDP | 7.5  | 8.33   | 9.21  | 1                                | 12.9  | 232.6                                  | 100  | DDP          |
| SMDJ080CA0SDDR | 8.0  | 8.89   | 9.83  | 1                                | 13.6  | 220.6                                  | 50   | DDR          |
| SMDJ085CA0SDDT | 8.5  | 9.44   | 10.40 | 1                                | 14.4  | 208.3                                  | 20   | DDT          |
| SMDJ090CA0SDDV | 9.0  | 10.00  | 11.10 | 1                                | 15.4  | 194.8                                  | 10   | DDV          |
| SMDJ10CA00SDDX | 10.0   | 11.10  | 12.30 | 1                                | 17.0  | 176.5                                  | 5  | DDX          |
| SMDJ11CA00SDDZ | 11.0   | 12.20  | 13.50 | 1                                | 18.2  | 164.8                                  | 2  | DDZ          |
| SMDJ12CA00SDEE | 12.0   | 13.30  | 14.70 | 1                                | 19.9  | 150.8                                  | 2  | DEE          |
| SMDJ13CA00SDEG | 13.0   | 14.40  | 15.90 | 1                                | 21.5  | 139.5                                  | 2  | DEG          |
| SMDJ14CA00SDEK | 14.0   | 15.60  | 17.20 | 1                                | 23.2  | 129.3                                  | 2  | DEK          |
| SMDJ15CA00SDEM | 15.0   | 16.70  | 18.50 | 1                                | 24.4  | 123.0                                  | 2  | DEM          |
| SMDJ16CA00SDEP | 16.0   | 17.80  | 19.70 | 1                                | 26.0  | 115.4                                  | 2  | DEP          |
| SMDJ17CA00SDER | 17.0   | 18.90  | 20.90 | 1                                | 27.6  | 108.7                                  | 2  | DER          |
| SMDJ18CA00SDET | 18.0   | 20.00  | 22.10 | 1                                | 29.2  | 102.7                                  | 2  | DET          |
| SMDJ20CA00SDEV | 20.0   | 22.20  | 24.50 | 1                                | 32.4  | 92.6                                   | 2  | DEV          |
| SMDJ22CA00SDEX | 22.0   | 24.40  | 26.90 | 1                                | 35.5  | 84.5                                   | 2  | DEX          |
| SMDJ24CA00SDEZ | 24.0   | 26.70  | 29.50 | 1                                | 38.9  | 77.1                                   | 2  | DEZ          |



**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**ELECTRICAL CHARACTERISTICS BIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code             | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |              | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|-----------------------|--|--|--------------|----------------------------------|---|--|--|--------------|
|                       |  | Min.   | Max.         |                                  |   |  |  |              |
| SMDJ26CA00SDFE        | 26.0   | 28.90  | 31.90        | 1                                | 42.1  | 71.3                                   | 2  | DFE          |
| SMDJ28CA00SDFG        | 28.0   | 31.10  | 34.40        | 1                                | 45.4  | 66.1                                   | 2  | DFG          |
| SMDJ30CA00SDFK        | 30.0   | 33.30  | 36.80        | 1                                | 48.4  | 62.0                                   | 2  | DFK          |
| SMDJ33CA00SDFM        | 33.0   | 36.70  | 40.60        | 1                                | 53.3  | 56.3                                   | 2  | DFM          |
| SMDJ36CA00SDFP        | 36.0   | 40.00  | 44.20        | 1                                | 58.1  | 51.6                                   | 2  | DFP          |
| SMDJ40CA00SDFR        | 40.0   | 44.40  | 49.10        | 1                                | 64.5  | 46.5                                   | 2  | DFR          |
| SMDJ43CA00SDFT        | 43.0   | 47.80  | 52.80        | 1                                | 69.4  | 43.2                                   | 2  | DFT          |
| SMDJ45CA00SDFV        | 45.0   | 50.00  | 55.30        | 1                                | 72.7  | 41.3                                   | 2  | DFV          |
| SMDJ48CA00SDFX        | 48.0   | 53.30  | 58.90        | 1                                | 77.4  | 38.8                                   | 2  | DFX          |
| SMDJ51CA00SDFZ        | 51.0   | 56.70  | 62.70        | 1                                | 82.4  | 36.4                                   | 2  | DFZ          |
| SMDJ54CA00SDGE        | 54.0   | 60.00  | 66.30        | 1                                | 87.1  | 34.4                                   | 2  | DGE          |
| SMDJ58CA00SDGG        | 58.0   | 64.40  | 71.20        | 1                                | 93.6  | 32.1                                   | 2  | DGG          |
| SMDJ60CA00SDGK        | 60.0   | 66.70  | 73.70        | 1                                | 96.8  | 31.0                                   | 2  | DGK          |
| SMDJ64CA00SDGM        | 64.0   | 71.10  | 78.60        | 1                                | 103.0   | 29.1                                   | 2  | DGM          |
| <b>SMDJ70CA00SDGP</b> | <b>70.0</b>                                  | <b>77.80</b>   | <b>86.00</b> | <b>1</b>                         | <b>113.0</b>  | <b>26.5</b>                            | <b>2</b>   | <b>DGP</b>   |
| SMDJ75CA00SDGR        | 75.0   | 83.30  | 92.10        | 1                                | 121.0   | 24.8                                   | 2  | DGR          |
| SMDJ78CA00SDGT        | 78.0   | 86.70  | 95.80        | 1                                | 126.0   | 23.8                                   | 2  | DGT          |
| SMDJ85CA00SDGV        | 85.0   | 94.40  | 104.00       | 1                                | 137.0   | 21.9                                   | 2  | DGV          |
| SMDJ90CA00SDGX        | 90.0   | 100.00   | 111.00       | 1                                | 146.0   | 20.5                                   | 2  | DGX          |
| SMDJ100CA00SDGZ       | 100.0  | 111.00   | 123.00       | 1                                | 162.0   | 18.5                                   | 2  | DGZ          |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**ELECTRICAL CHARACTERISTICS BIDIRECTIONAL TYPE - Ta = 25°C**

| Part Code      | Reverse Stand-off Voltage V <sub>R</sub> (V) | Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V) |        | Test Current I <sub>T</sub> (mA) | Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub> (V) | Peak Pulse Current I <sub>PP</sub> (A) | Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Marking Code |
|----------------|--|--|--------|----------------------------------|---|--|--|--------------|
|                |  | Min.   | Max.   |                                  |   |  |  |              |
| SMDJ110CA0SDHE | 110.0  | 122.00   | 135.00 | 1                                | 177.0   | 16.9                                   | 2  | DHE          |
| SMDJ120CA0SDHG | 120.0  | 133.00   | 147.00 | 1                                | 193.0   | 15.5                                   | 2  | DHG          |
| SMDJ130CA0SDHK | 130.0  | 144.00   | 159.00 | 1                                | 209.0   | 14.4                                   | 2  | DHK          |
| SMDJ150CA0SDHM | 150.0  | 167.00   | 185.00 | 1                                | 243.0   | 12.3                                   | 2  | DHM          |
| SMDJ160CA0SDHP | 160.0  | 178.00   | 197.00 | 1                                | 259.0   | 11.6                                   | 2  | DHP          |
| SMDJ170CA0SDHR | 170.0  | 189.00   | 209.00 | 1                                | 275.0   | 10.9                                   | 2  | DHR          |

**Note:**

1. For parts without A , the VBR is ± 10%, and VC is 5% higher than A parts.
2. For bidirectional type having VR of 10 volts and less, the IR limit is double.

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**
**RELIABILITY**

| Number | Experiment Items                   | Experiment Method And Conditions   | Reference Documents             |
|--------|------------------------------------|--|---------------------------------|
| 1      | Solder Resistance Test             | Test 260°C± 5°C for 10 ± 2 sec.<br>Immerse body into solder 1/16" ± 1/32"                                      | MIL-STD-750D<br>METHOD-2031.2   |
| 2      | Solderability Test                 | 230°C ±5°C for 5 sec.  | MIL-STD-750D<br>METHOD-2026.1 0 |
| 3      | Pull Test                          | 1 kg in axial lead direction for 10 sec.   | MIL-STD-750D<br>METHOD-2036.4   |
| 4      | Bend Test                          | 0.5Kg Weight Applied To Each Lead,<br>Bending Arcs 90 °C ± 5 °C For 3 Times                                    | MIL-STD-750D<br>METHOD-2036.4   |
| 5      | High Temperature Reverse Bias Test | TA=100°C for 1000 Hours at VR=80%<br>Rated VR  | MIL-STD-750D<br>METHOD-1038.4   |
| 6      | Forward Operation Life Test        | TA=25°C Rated Average Rectified<br>Current   | MIL-STD-750D<br>METHOD-1027.3   |
| 7      | Intermittent Operation Life Test   | On state: 5 min with rated IRMS Power<br>Off state: 5 min with Cool Forced Air.<br>On and off for 1000 cycles. | MIL-STD-750D<br>METHOD-1036.3   |
| 8      | Pressure Cooker Test               | 15 PSIG, TA=121°C, 4 hours   | MIL-S-19500<br>APPENOIXC        |
| 9      | Temperature Cycling Test           | -55°C~+125°C; 30 Minutes For Dwelled<br>Time 5 minutes for transferred time.<br>Total: 10 cycles.              | MIL-STD-750D<br>METHOD-1051.7   |
| 10     | Thermal Shock Test                 | 0°C for 5 minutes., 100°C for 5minutes,<br>Total: 10 cycles  | MIL-STD-750D<br>METHOD-1056.7   |
| 11     | Forward Surge Test                 | 8.3ms Single Sale Sine-wave One Surge.   | MIL-STD-750D<br>METHOD-4066.4   |
| 12     | Humidity Test                      | TA=65°C, RH=98% for 1000 hours.  | MIL-STD-750D<br>METHOD-1021.3   |
| 13     | High Temperature Storage life Test | 150°C for 1000 Hours   | MIL-STD-750D<br>METHOD-1031.5   |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**SUGGESTED REFLOW PROFILE - For Reference Only**



|  |                                  |                   |
|--|----------------------------------|-------------------|
| <b>Profile Feature</b>                                 |                                  | Pb-Free Assembly  |
| <b>Average Ramp-up Rate (Ts Max to Tp)</b>             |                                  | 3°C/second Max    |
| <b>Preheat</b>   | <b>Temperature Min (Ts Min.)</b> | 150°C             |
|  | <b>Temperature Max (Ts Max.)</b> | 200°C             |
|  | <b>Time (ts Min. to ts Max.)</b> | 60 ~ 180 seconds  |
| <b>Time maintained above</b>                           | <b>Temperature (Tl)</b>          | 217°C             |
|  | <b>Time (tL)</b>                 | 60 ~ 150 seconds  |
| <b>Peak/Classification Temperature (Tp)</b>            |                                  | 260 °C            |
| <b>Time within 5°C of actual Peak Temperature (tp)</b> |                                  | 20 ~ 40 seconds   |
| <b>Ramp-down rate</b>                                  |                                  | 6 °C /Second Max. |
| <b>Time 25 °C to Peak Temperature</b>                  |                                  | 8 minutes Max.    |
| <b>Suggest reflow times</b>                            |                                  | 3 Times Max.      |

**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**RATINGS AND CHARACTERISTIC CURVES** (For Reference Only) -  $T_a = 25^\circ\text{C}$  Unless Otherwise Specified

Figure 1. Peak Pulse Power Rating Curve

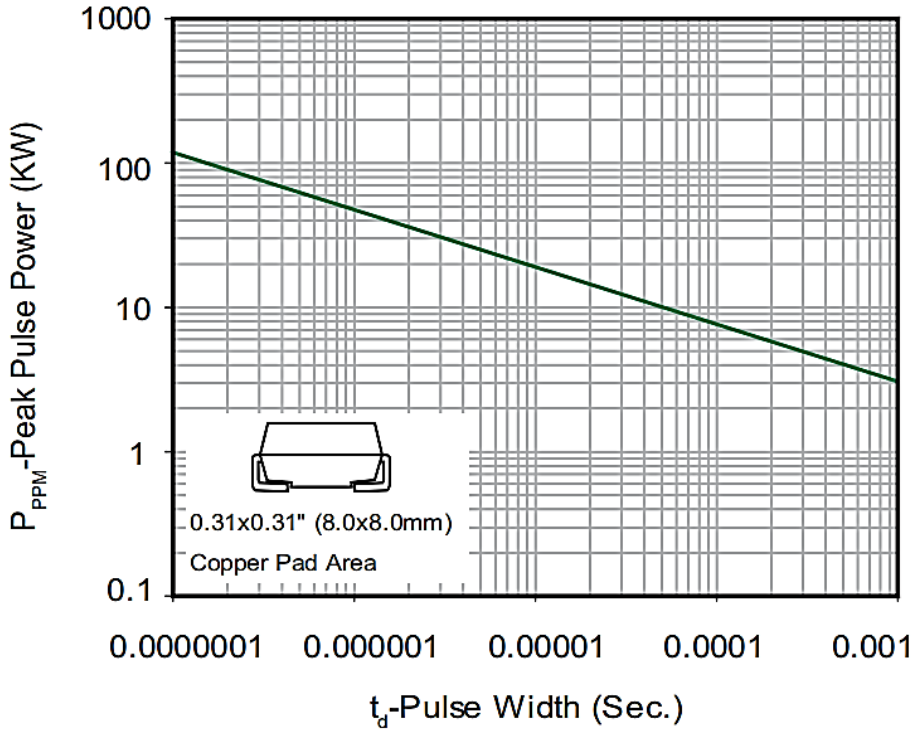
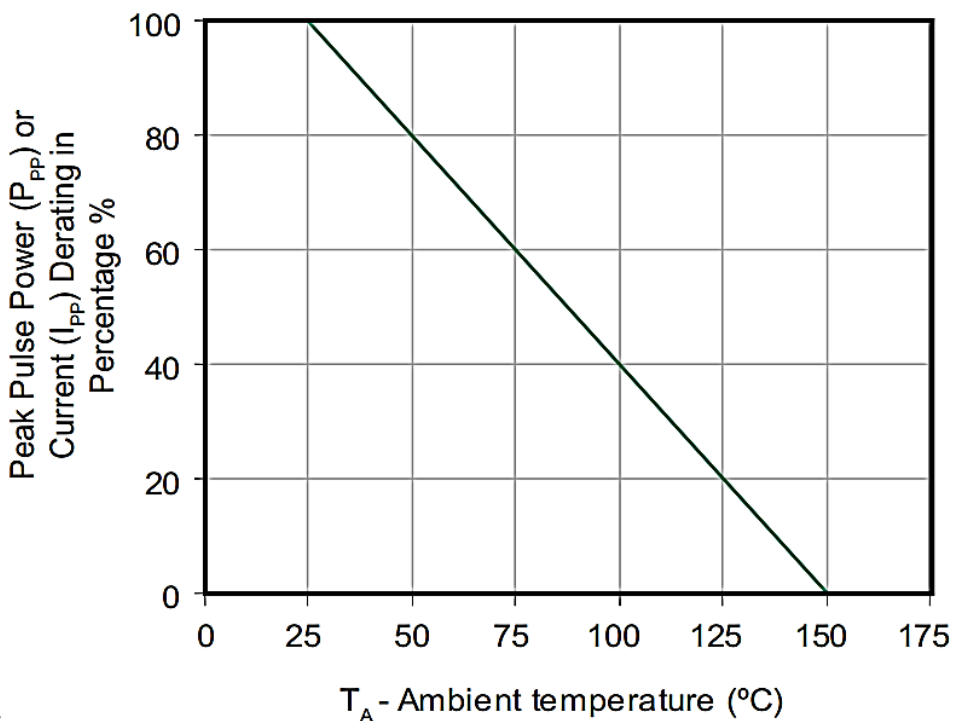


Figure 2. Pulse Derating Curve



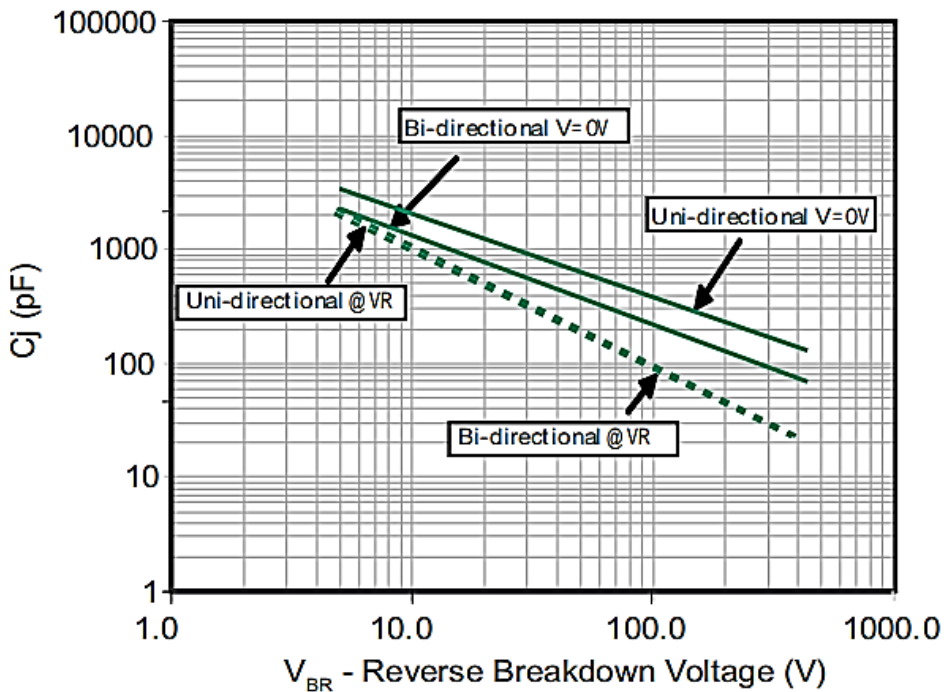
**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**RATINGS AND CHARACTERISTIC CURVES** (For Reference Only) -  $T_a = 25^\circ\text{C}$  Unless Otherwise Specified

Figure 3. Pulse Waveform



Figure 4 - Typical Junction Capacitance



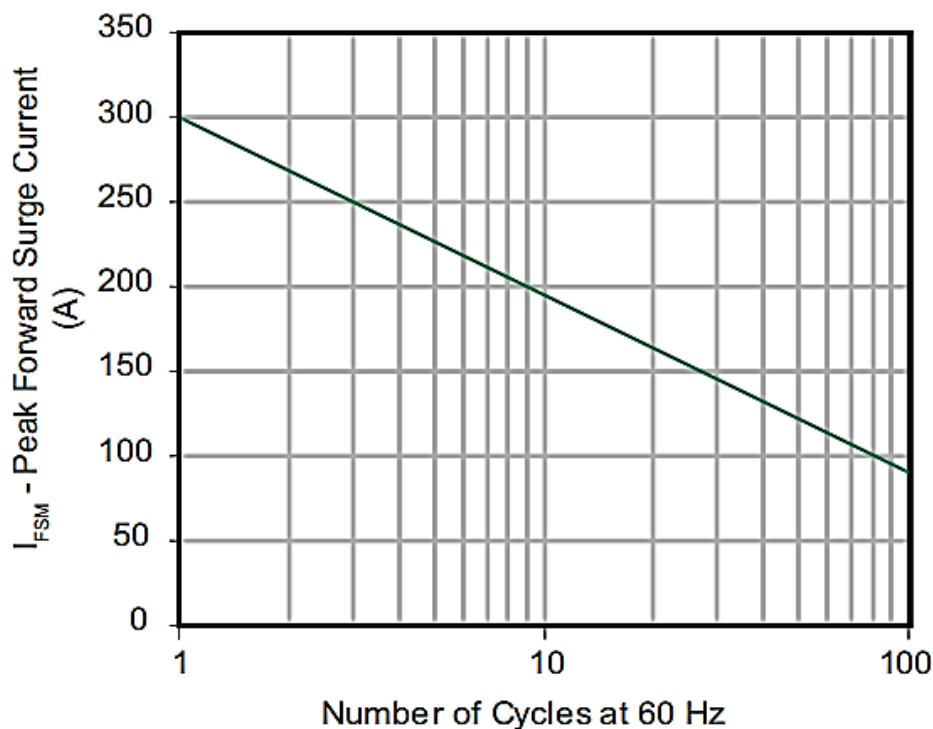
**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**RATINGS AND CHARACTERISTIC CURVES** (For Reference Only) -  $T_a = 25^\circ\text{C}$  Unless Otherwise Specified

Figure 5 - Steady State Power Derating Curve



Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional only



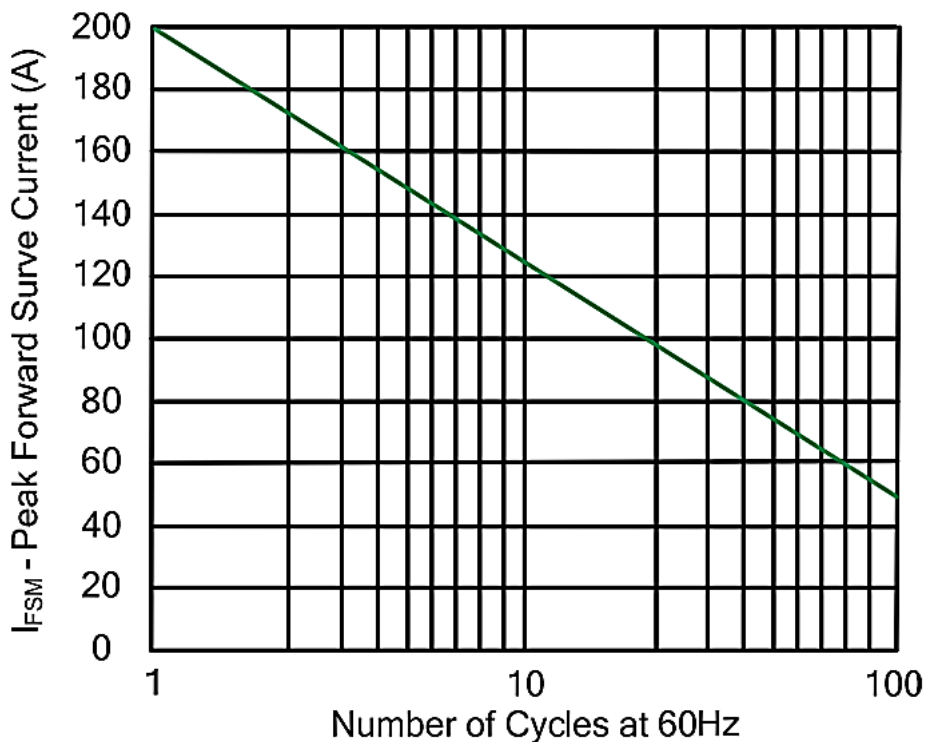
**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**RATINGS AND CHARACTERISTIC CURVES** (For Reference Only) -  $T_a = 25^\circ\text{C}$  Unless Otherwise Specified

Figure 7 - Steady State Power Derating  
Dissipation Derating Curve



Figure 8 - Maximum Non-Repetitive Forward  
Surge Current Uni-Directional only





**SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES**

**TAPE/REEL** (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.



| Item                     | Symbol                     | Tolerance | SMC/DO-214AB |
|--------------------------|----------------------------|-----------|--------------|
| Carrier width            | A                          | 0.1       | 6.15         |
| Carrier Length           | B                          | 0.1       | 8.41         |
| Carrier Depth            | C                          | 0.1       | 2.42         |
| Sprocket hole            | d                          | 0.05      | 1.50         |
| 13"Reel outside diameter | D                          | 2.0       | 330.0        |
| 13"Reel inner diameter   | D1                         | -         | 50.0Min.     |
| 7"Reel outside diameter  | D                          | -         | -            |
| 7"Reel inner diameter    | D1                         | -         | -            |
| Feed hole diameter       | D2                         | 0.5       | 13.00        |
| Sprocket hole position   | E                          | 0.1       | 1.75         |
| Punch hole position      | F                          | 0.1       | 7.50         |
| Punch hole pitch         | P                          | 0.1       | 8.00         |
| Sprocket hole pitch      | P0                         | 0.1       | 4.00         |
| Embossment center        | P1                         | 0.1       | 2.00         |
| Overall tape thickness   | T                          | 0.1       | 0.25         |
| Tape width               | W                          | 0.3       | 16.00        |
| Reel width               | W1                         | 1.0       | 16.50        |
| Package                  | 3000pcs/Reel, 2 Reels/ Box |           |              |

## SMD TRANSIENT VOLTAGE SUPPRESSORS DIODES SMDJ SERIES

### ROHS COMPLIANCE

- The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). [RoHS Test Report](#) for this product can be obtained after clicked.

### REACH COMPLIANCE

- REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, [REACH Test Report](#) for this product can be obtained after clicked.

### IMPORTANT NOTES AND DISCLAIMER

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