

## 3.0SMCJ SERIES

**SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE – 5.0-170 Volts    Peak Pulse Power-3000 Watts**

### FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Low inductance
- Repetition Rate (duty cycle): 0.5%
- Fast response time: typically less than 1.0ps from 0 volts to BV for bidirectional types
- Typical  $I_o$  less than  $1\mu A$  above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0

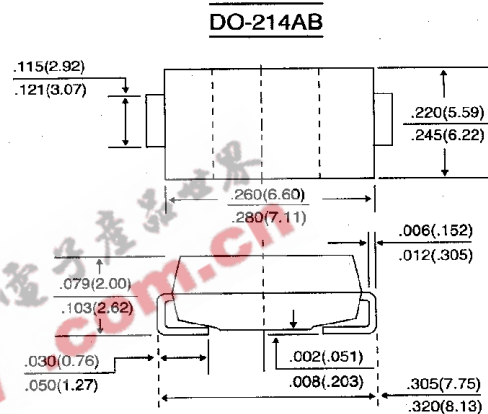
### MECHANICAL DATA

Case: JEDEC DO214AB molded plastic over passivated junction

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Standard Packaging: 16mm tape (EIA-481)

Weight: .007 ounces, 0.21 gram



Dimensions in inches and (millimeters)  
\*Typical Range

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|  | SYMBOLS        | VALUE        | UNITS |
|--|----------------|--------------|-------|
| Peak Pulse Power Dissipation on 10/1000 $\mu s$ waveform (Notes 1, 2, Fig. 1)                                | $P_{PPM}$      | Minimum 3000 | Watts |
| Peak Pulse Current on 10/1000 $\mu s$ waveform (Note 1, Fig. 3)  | $I_{PPM}$      | See Table 1  | Amps  |
| Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (NOTES 2,3) | $I_{FSM}$      | 200.0        | Amps  |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$ | -55 to +150  | °C    |

**NOTES:**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ C$  per Fig. 2.
2. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

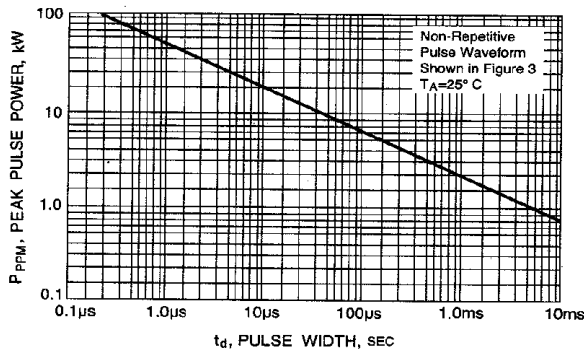


FIGURE 1 PEAK PULSE POWER VS PULSE TIME

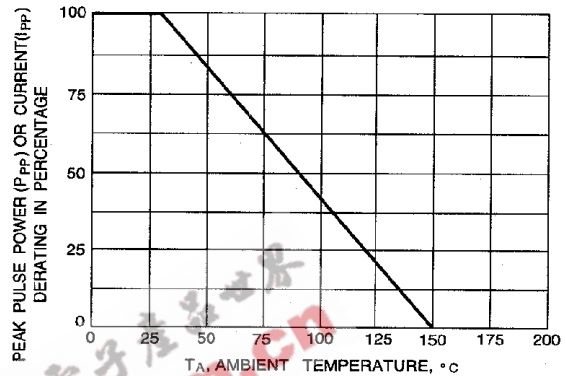


FIGURE 2 DERATING CURVE

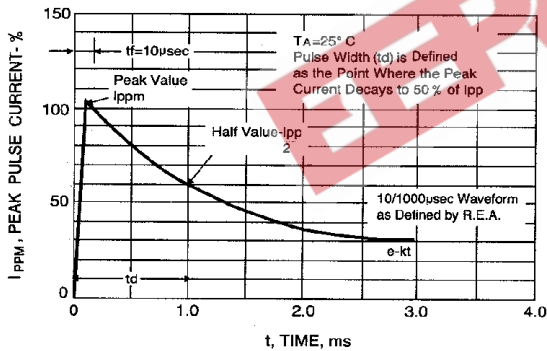


FIGURE 3 PULSE WAVEFORM

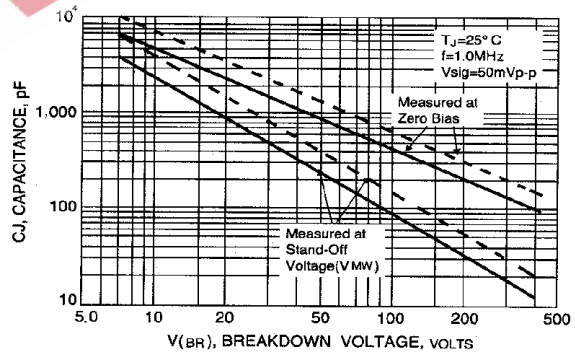


FIGURE 4 TYPICAL CAPACITANCE VS STAND-OFF VOLTAGE

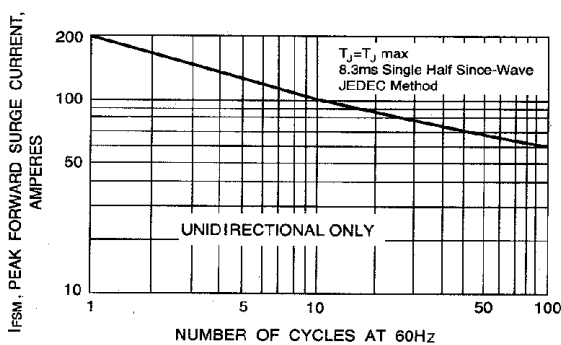


FIGURE 5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



### 3000 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 @ Ipp Vc (V) | PEAK PULSE CURRENT Ipp (A) | REVERSE LEAKAGE @ VRWM IR (uA) |
|-----------------------------|---------------------|------------------------------------|-------------------------------------|-------------------------------------|----------------------|---------------------------------------|----------------------------|--------------------------------|
| 3.0SMCJ5.0                  | HDD                 | 5.0                                | 6.40                                | 7.55                                | 10                   | 9.6                                   | 312.5                      | 1000                           |
| 3.0SMCJ5.0A                 | HDE                 | 5.0                                | 6.40                                | 7.25                                | 10                   | 9.2                                   | 326.0                      | 1000                           |
| 3.0SMCJ6.0                  | HDF                 | 6.0                                | 6.67                                | 8.45                                | 10                   | 11.4                                  | 263.2                      | 1000                           |
| 3.0SMCJ6.0A                 | HDG                 | 6.0                                | 6.67                                | 7.67                                | 10                   | 10.3                                  | 291.3                      | 1000                           |
| 3.0SMCJ6.5                  | HDH                 | 6.5                                | 7.22                                | 9.14                                | 10                   | 12.3                                  | 243.9                      | 500                            |
| 3.0SMCJ6.5A                 | HDK                 | 6.5                                | 7.22                                | 8.30                                | 10                   | 11.2                                  | 267.9                      | 500                            |
| 3.0SMCJ7.0                  | HDL                 | 7.0                                | 7.78                                | 9.86                                | 10                   | 13.3                                  | 225.6                      | 200                            |
| 3.0SMCJ7.0A                 | HDM                 | 7.0                                | 7.78                                | 8.95                                | 10                   | 12.0                                  | 250.0                      | 200                            |
| 3.0SMCJ7.5                  | HDN                 | 7.5                                | 8.33                                | 10.67                               | 1                    | 14.3                                  | 209.8                      | 100                            |
| 3.0SMCJ7.5A                 | HDP                 | 7.5                                | 8.33                                | 9.58                                | 1                    | 12.9                                  | 232.6                      | 100                            |
| 3.0SMCJ8.0                  | HDQ                 | 8.0                                | 8.89                                | 11.30                               | 1                    | 15.0                                  | 200.0                      | 50                             |
| 3.0SMCJ8.0A                 | HDR                 | 8.0                                | 8.89                                | 10.23                               | 1                    | 13.6                                  | 220.6                      | 50                             |
| 3.0SMCJ8.5                  | HDS                 | 8.5                                | 9.44                                | 11.92                               | 1                    | 15.9                                  | 188.8                      | 25                             |
| 3.0SMCJ8.5A                 | HDT                 | 8.5                                | 9.44                                | 10.62                               | 1                    | 14.4                                  | 208.4                      | 25                             |
| 3.0SMCJ9.0                  | HDU                 | 9.0                                | 10.00                               | 12.60                               | 1                    | 16.9                                  | 177.4                      | 10                             |
| 3.0SMCJ9.0A                 | HDV                 | 9.0                                | 10.00                               | 11.50                               | 1                    | 15.4                                  | 194.8                      | 10                             |
| 3.0SMCJ10                   | HDW                 | 10.0                               | 11.10                               | 14.10                               | 1                    | 18.8                                  | 159.6                      | 5                              |
| 3.0SMCJ10A                  | HDX                 | 10.0                               | 11.10                               | 12.80                               | 1                    | 17.0                                  | 176.4                      | 5                              |
| 3.0SMCJ11                   | HDY                 | 11.0                               | 12.20                               | 15.40                               | 1                    | 20.1                                  | 149.2                      | 5                              |
| 3.0SMCJ11A                  | HDZ                 | 11.0                               | 12.20                               | 14.00                               | 1                    | 18.2                                  | 164.8                      | 5                              |
| 3.0SMCJ12                   | HED                 | 12.0                               | 13.30                               | 16.90                               | 1                    | 22.0                                  | 136.4                      | 5                              |
| 3.0SMCJ12A                  | HEE                 | 12.0                               | 13.30                               | 15.30                               | 1                    | 19.9                                  | 150.6                      | 5                              |
| 3.0SMCJ13                   | HEF                 | 13.0                               | 14.40                               | 18.20                               | 1                    | 23.8                                  | 126.0                      | 5                              |
| 3.0SMCJ13A                  | HEG                 | 13.0                               | 14.40                               | 16.50                               | 1                    | 21.5                                  | 139.4                      | 5                              |
| 3.0SMCJ14                   | HEH                 | 14.0                               | 15.60                               | 19.80                               | 1                    | 25.8                                  | 116.2                      | 5                              |
| 3.0SMCJ14A                  | HEK                 | 14.0                               | 15.60                               | 17.90                               | 1                    | 23.2                                  | 129.4                      | 5                              |
| 3.0SMCJ15                   | HEL                 | 15.0                               | 16.70                               | 21.10                               | 1                    | 28.9                                  | 111.6                      | 5                              |
| 3.0SMCJ15A                  | HEM                 | 15.0                               | 16.70                               | 19.20                               | 1                    | 24.4                                  | 123.0                      | 5                              |
| 3.0SMCJ16                   | HEN                 | 16.0                               | 17.80                               | 22.60                               | 1                    | 28.8                                  | 104.2                      | 5                              |
| 3.0SMCJ16A                  | HEP                 | 16.0                               | 17.80                               | 20.50                               | 1                    | 26.1                                  | 115.4                      | 5                              |
| 3.0SMCJ17                   | HEQ                 | 17.0                               | 18.90                               | 23.90                               | 1                    | 30.5                                  | 98.4                       | 5                              |
| 3.0SMCJ17A                  | HER                 | 17.0                               | 18.90                               | 21.70                               | 1                    | 27.6                                  | 106.6                      | 5                              |
| 3.0SMCJ18                   | HES                 | 18.0                               | 20.00                               | 25.30                               | 1                    | 32.2                                  | 93.2                       | 5                              |
| 3.0SMCJ18A                  | HET                 | 18.0                               | 20.00                               | 23.30                               | 1                    | 29.2                                  | 102.8                      | 5                              |
| 3.0SMCJ20                   | HEU                 | 20.0                               | 22.20                               | 28.10                               | 1                    | 35.8                                  | 83.8                       | 5                              |
| 3.0SMCJ20A                  | HEV                 | 20.0                               | 22.20                               | 25.50                               | 1                    | 32.4                                  | 92.6                       | 5                              |
| 3.0SMCJ22                   | HEW                 | 22.0                               | 24.40                               | 30.90                               | 1                    | 39.4                                  | 76.2                       | 5                              |
| 3.0SMCJ22A                  | HEX                 | 22.0                               | 24.40                               | 28.00                               | 1                    | 35.5                                  | 84.4                       | 5                              |
| 3.0SMCJ24                   | HEY                 | 24.0                               | 26.70                               | 33.80                               | 1                    | 43.0                                  | 69.8                       | 5                              |
| 3.0SMCJ24A                  | HEZ                 | 24.0                               | 26.70                               | 30.70                               | 1                    | 38.9                                  | 77.2                       | 5                              |
| 3.0SMCJ26                   | HFD                 | 26.0                               | 28.90                               | 36.60                               | 1                    | 46.6                                  | 64.4                       | 5                              |
| 3.0SMCJ26A                  | HFE                 | 26.0                               | 28.90                               | 33.20                               | 1                    | 42.1                                  | 71.2                       | 5                              |
| 3.0SMCJ28                   | HFF                 | 28.0                               | 31.10                               | 39.40                               | 1                    | 50.0                                  | 60.0                       | 5                              |
| 3.0SMCJ28A                  | HFG                 | 28.0                               | 31.10                               | 35.80                               | 1                    | 45.4                                  | 66.0                       | 5                              |
| 3.0SMCJ30                   | HFH                 | 30.0                               | 33.30                               | 42.20                               | 1                    | 53.5                                  | 56.0                       | 5                              |
| 3.0SMCJ30A                  | HFK                 | 30.0                               | 33.30                               | 38.30                               | 1                    | 48.4                                  | 62.0                       | 5                              |
| 3.0SMCJ33                   | HFL                 | 33.0                               | 36.70                               | 46.50                               | 1                    | 59.0                                  | 50.4                       | 5                              |
| 3.0SMCJ33A                  | HFM                 | 33.0                               | 36.70                               | 42.20                               | 1                    | 53.3                                  | 56.2                       | 5                              |
| 3.0SMCJ36                   | HFN                 | 36.0                               | 40.00                               | 50.70                               | 1                    | 64.3                                  | 45.6                       | 5                              |
| 3.0SMCJ36A                  | HFP                 | 36.0                               | 40.00                               | 46.00                               | 1                    | 58.1                                  | 51.6                       | 5                              |
| 3.0SMCJ40                   | HFQ                 | 40.0                               | 44.40                               | 56.30                               | 1                    | 71.4                                  | 42.0                       | 5                              |
| 3.0SMCJ40A                  | HFR                 | 40.0                               | 44.40                               | 51.10                               | 1                    | 64.5                                  | 46.4                       | 5                              |
| 3.0SMCJ43                   | HFS                 | 43.0                               | 47.80                               | 60.50                               | 1                    | 76.7                                  | 39.2                       | 5                              |
| 3.0SMCJ43A                  | HFT                 | 43.0                               | 47.80                               | 54.90                               | 1                    | 69.4                                  | 43.2                       | 5                              |
| 3.0SMCJ45                   | HFU                 | 45.0                               | 50.00                               | 63.30                               | 1                    | 80.3                                  | 37.4                       | 5                              |
| 3.0SMCJ45A                  | HFV                 | 45.0                               | 50.00                               | 57.50                               | 1                    | 72.7                                  | 41.2                       | 5                              |
| 3.0SMCJ48                   | HFW                 | 48.0                               | 53.30                               | 67.50                               | 1                    | 85.5                                  | 35.0                       | 5                              |
| 3.0SMCJ48A                  | HFX                 | 48.0                               | 53.30                               | 61.30                               | 1                    | 77.4                                  | 38.8                       | 5                              |
| 3.0SMCJ51                   | HFY                 | 51.0                               | 56.70                               | 71.80                               | 1                    | 91.1                                  | 37.0                       | 5                              |
| 3.0SMCJ51A                  | HFZ                 | 51.0                               | 56.70                               | 65.20                               | 1                    | 82.4                                  | 36.4                       | 5                              |
| 3.0SMCJ54                   | HGD                 | 54.0                               | 60.00                               | 76.00                               | 1                    | 96.3                                  | 31.2                       | 5                              |
| 3.0SMCJ54A                  | HGE                 | 54.0                               | 60.00                               | 69.00                               | 1                    | 87.1                                  | 34.4                       | 5                              |
| 3.0SMCJ58                   | HGF                 | 58.0                               | 64.40                               | 81.60                               | 1                    | 103.0                                 | 39.2                       | 5                              |
| 3.0SMCJ58A                  | HGG                 | 58.0                               | 64.40                               | 74.10                               | 1                    | 93.6                                  | 32.0                       | 5                              |
| 3.0SMCJ60                   | HGH                 | 60.0                               | 66.70                               | 84.50                               | 1                    | 107.0                                 | 28.0                       | 5                              |
| 3.0SMCJ60A                  | HGK                 | 60.0                               | 66.70                               | 76.70                               | 1                    | 96.8                                  | 31.0                       | 5                              |
| 3.0SMCJ64                   | HGL                 | 64.0                               | 71.10                               | 90.10                               | 1                    | 114.0                                 | 26.4                       | 5                              |
| 3.0SMCJ64A                  | HGM                 | 64.0                               | 71.10                               | 81.80                               | 1                    | 103.0                                 | 29.2                       | 5                              |
| 3.0SMCJ70                   | HGN                 | 70.0                               | 77.80                               | 98.60                               | 1                    | 125.0                                 | 24.0                       | 5                              |
| 3.0SMCJ70A                  | HGP                 | 70.0                               | 77.80                               | 89.50                               | 1                    | 113.0                                 | 26.6                       | 5                              |
| 3.0SMCJ75                   | HGQ                 | 75.0                               | 83.30                               | 105.70                              | 1                    | 134.0                                 | 22.4                       | 5                              |
| 3.0SMCJ75A                  | HGR                 | 75.0                               | 83.30                               | 95.80                               | 1                    | 121.0                                 | 24.8                       | 5                              |
| 3.0SMCJ78                   | HGS                 | 78.0                               | 86.70                               | 109.80                              | 1                    | 139.0                                 | 21.6                       | 5                              |
| 3.0SMCJ78A                  | HGT                 | 78.0                               | 86.70                               | 99.70                               | 1                    | 126.0                                 | 22.8                       | 5                              |
| 3.0SMCJ85                   | HGU                 | 85.0                               | 94.40                               | 119.20                              | 1                    | 151.0                                 | 19.8                       | 5                              |
| 3.0SMCJ85A                  | HGV                 | 85.0                               | 94.40                               | 108.20                              | 1                    | 137.0                                 | 20.8                       | 5                              |
| 3.0SMCJ90                   | HGW                 | 90.0                               | 100.00                              | 126.50                              | 1                    | 160.0                                 | 18.8                       | 5                              |
| 3.0SMCJ90A                  | HGX                 | 90.0                               | 100.00                              | 115.50                              | 1                    | 146.0                                 | 20.6                       | 5                              |
| 3.0SMCJ100                  | HGY                 | 100.0                              | 111.00                              | 141.00                              | 1                    | 179.0                                 | 16.8                       | 5                              |
| 3.0SMCJ100A                 | HGZ                 | 100.0                              | 111.00                              | 128.00                              | 1                    | 162.0                                 | 18.6                       | 5                              |
| 3.0SMCJ110                  | HHD                 | 110.0                              | 122.00                              | 154.50                              | 1                    | 196.0                                 | 15.4                       | 5                              |
| 3.0SMCJ110A                 | HHE                 | 110.0                              | 122.00                              | 140.50                              | 1                    | 177.0                                 | 16.8                       | 5                              |
| 3.0SMCJ120                  | HHF                 | 120.0                              | 133.00                              | 169.00                              | 1                    | 214.0                                 | 14.0                       | 5                              |
| 3.0SMCJ120A                 | HHG                 | 120.0                              | 133.00                              | 153.00                              | 1                    | 193.0                                 | 15.6                       | 5                              |
| 3.0SMCJ130                  | HHH                 | 130.0                              | 144.00                              | 182.50                              | 1                    | 231.0                                 | 13.0                       | 5                              |
| 3.0SMCJ130A                 | HHK                 | 130.0                              | 144.00                              | 165.50                              | 1                    | 209.0                                 | 14.4                       | 5                              |
| 3.0SMCJ150                  | HHL                 | 150.0                              | 167.00                              | 211.50                              | 1                    | 268.0                                 | 11.2                       | 5                              |
| 3.0SMCJ150A                 | HHM                 | 150.0                              | 167.00                              | 192.50                              | 1                    | 243.0                                 | 12.4                       | 5                              |
| 3.0SMCJ160                  | HHN                 | 160.0                              | 178.00                              | 226.00                              | 1                    | 287.0                                 | 10.4                       | 5                              |
| 3.0SMCJ160A                 | HHP                 | 160.0                              | 178.00                              | 205.00                              | 1                    | 259.0                                 | 11.6                       | 5                              |
| 3.0SMCJ170                  | HHQ                 | 170.0                              | 189.00                              | 239.50                              | 1                    | 304.0                                 | 9.8                        | 5                              |
| 3.0SMCJ170A                 | HHR                 | 170.0                              | 189.00                              | 217.50                              | 1                    | 275.0                                 | 11.0                       | 5                              |



### 3000 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 @1pp Vc (V) | PEAK PULSE CURRENT Ipp (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|----------------------------|---------------------|------------------------------------|-------------------------------------|-------------------------------------|----------------------|--------------------------------------|----------------------------|-------------------------------|
| 3.0SMCJ5.0C                | IDD                 | 5.0                                | 6.40                                | 7.55                                | 10                   | 9.6                                  | 312.5                      | 2000                          |
| 3.0SMCJ5.0CA               | IDE                 | 5.0                                | 6.40                                | 7.25                                | 10                   | 9.2                                  | 326.0                      | 2000                          |
| 3.0SMCJ6.0C                | IDF                 | 6.0                                | 6.67                                | 8.45                                | 10                   | 11.4                                 | 263.2                      | 2000                          |
| 3.0SMCJ6.0CA               | IDG                 | 6.0                                | 6.67                                | 7.67                                | 10                   | 10.3                                 | 291.3                      | 2000                          |
| 3.0SMCJ6.5C                | IDH                 | 6.5                                | 7.22                                | 9.14                                | 10                   | 12.3                                 | 243.9                      | 1000                          |
| 3.0SMCJ6.5CA               | IDK                 | 6.5                                | 7.22                                | 8.30                                | 10                   | 11.2                                 | 267.9                      | 1000                          |
| 3.0SMCJ7.0C                | IDL                 | 7.0                                | 7.78                                | 9.86                                | 10                   | 13.3                                 | 225.6                      | 400                           |
| 3.0SMCJ7.0CA               | IDM                 | 7.0                                | 7.78                                | 8.95                                | 10                   | 12.0                                 | 250.0                      | 400                           |
| 3.0SMCJ7.5C                | IDN                 | 7.5                                | 8.33                                | 10.67                               | 1                    | 14.3                                 | 209.8                      | 200                           |
| 3.0SMCJ7.5CA               | IDP                 | 7.5                                | 8.33                                | 9.58                                | 1                    | 12.9                                 | 232.6                      | 200                           |
| 3.0SMCJ8.0C                | IDQ                 | 8.0                                | 8.89                                | 11.30                               | 1                    | 15.0                                 | 200.0                      | 100                           |
| 3.0SMCJ8.0CA               | IDR                 | 8.0                                | 8.89                                | 10.23                               | 1                    | 13.6                                 | 220.6                      | 100                           |
| 3.0SMCJ8.5C                | IDS                 | 8.5                                | 9.44                                | 11.92                               | 1                    | 15.9                                 | 188.8                      | 50                            |
| 3.0SMCJ8.5CA               | IDT                 | 8.5                                | 9.44                                | 10.82                               | 1                    | 14.4                                 | 208.4                      | 50                            |
| 3.0SMCJ9.0C                | IDU                 | 9.0                                | 10.00                               | 12.80                               | 1                    | 16.9                                 | 177.4                      | 20                            |
| 3.0SMCJ9.0CA               | IDV                 | 9.0                                | 10.00                               | 11.50                               | 1                    | 15.4                                 | 194.8                      | 20                            |
| 3.0SMCJ10C                 | IDW                 | 10.0                               | 11.10                               | 14.10                               | 1                    | 18.8                                 | 159.6                      | 5                             |
| 3.0SMCJ10CA                | IDX                 | 10.0                               | 11.10                               | 12.80                               | 1                    | 17.0                                 | 176.4                      | 5                             |
| 3.0SMCJ11C                 | IDY                 | 11.0                               | 12.20                               | 15.40                               | 1                    | 20.1                                 | 149.2                      | 5                             |
| 3.0SMCJ11CA                | IDZ                 | 11.0                               | 12.20                               | 14.00                               | 1                    | 18.2                                 | 164.8                      | 5                             |
| 3.0SMCJ12C                 | IED                 | 12.0                               | 13.30                               | 16.90                               | 1                    | 22.0                                 | 136.4                      | 5                             |
| 3.0SMCJ12CA                | IEE                 | 12.0                               | 13.30                               | 15.30                               | 1                    | 19.9                                 | 150.6                      | 5                             |
| 3.0SMCJ13C                 | IEF                 | 13.0                               | 14.40                               | 18.20                               | 1                    | 23.8                                 | 126.0                      | 5                             |
| 3.0SMCJ13CA                | IEG                 | 13.0                               | 14.40                               | 16.50                               | 1                    | 21.5                                 | 139.4                      | 5                             |
| 3.0SMCJ14C                 | IEH                 | 14.0                               | 15.60                               | 19.80                               | 1                    | 25.8                                 | 116.2                      | 5                             |
| 3.0SMCJ14CA                | IEK                 | 14.0                               | 15.60                               | 17.90                               | 1                    | 23.2                                 | 129.4                      | 5                             |
| 3.0SMCJ15C                 | IEL                 | 15.0                               | 16.70                               | 21.10                               | 1                    | 26.9                                 | 111.6                      | 5                             |
| 3.0SMCJ15CA                | IEM                 | 15.0                               | 16.70                               | 19.20                               | 1                    | 24.4                                 | 123.0                      | 5                             |
| 3.0SMCJ16C                 | IEN                 | 16.0                               | 17.80                               | 22.60                               | 1                    | 28.8                                 | 104.2                      | 5                             |
| 3.0SMCJ16CA                | IEP                 | 16.0                               | 17.80                               | 20.50                               | 1                    | 26.0                                 | 115.4                      | 5                             |
| 3.0SMCJ17C                 | IEQ                 | 17.0                               | 18.90                               | 23.90                               | 1                    | 30.5                                 | 98.4                       | 5                             |
| 3.0SMCJ17CA                | IER                 | 17.0                               | 18.90                               | 21.70                               | 1                    | 27.6                                 | 108.6                      | 5                             |
| 3.0SMCJ18C                 | IES                 | 18.0                               | 20.00                               | 25.30                               | 1                    | 32.2                                 | 93.2                       | 5                             |
| 3.0SMCJ18CA                | IET                 | 18.0                               | 20.00                               | 23.30                               | 1                    | 29.2                                 | 102.8                      | 5                             |
| 3.0SMCJ19C                 | IEU                 | 20.0                               | 22.20                               | 28.20                               | 1                    | 35.8                                 | 83.8                       | 5                             |
| 3.0SMCJ20CA                | IEV                 | 20.0                               | 22.20                               | 25.50                               | 1                    | 32.4                                 | 92.6                       | 5                             |
| 3.0SMCJ22C                 | IEW                 | 22.0                               | 24.40                               | 30.90                               | 1                    | 39.4                                 | 76.2                       | 5                             |
| 3.0SMCJ22CA                | IEY                 | 22.0                               | 24.40                               | 28.00                               | 1                    | 35.5                                 | 84.4                       | 5                             |
| 3.0SMCJ24C                 | IEZ                 | 24.0                               | 26.70                               | 33.80                               | 1                    | 43.0                                 | 69.8                       | 5                             |
| 3.0SMCJ24CA                | IEZ                 | 24.0                               | 26.70                               | 30.70                               | 1                    | 38.9                                 | 77.2                       | 5                             |
| 3.0SMCJ26C                 | IFD                 | 26.0                               | 28.90                               | 36.60                               | 1                    | 46.6                                 | 64.4                       | 5                             |
| 3.0SMCJ26CA                | IFE                 | 26.0                               | 28.90                               | 33.20                               | 1                    | 42.1                                 | 71.2                       | 5                             |
| 3.0SMCJ28C                 | IFF                 | 28.0                               | 31.10                               | 39.40                               | 1                    | 50.0                                 | 60.0                       | 5                             |
| 3.0SMCJ28CA                | IFG                 | 28.0                               | 31.10                               | 35.80                               | 1                    | 45.4                                 | 66.0                       | 5                             |
| 3.0SMCJ30C                 | IFH                 | 30.0                               | 33.30                               | 42.20                               | 1                    | 53.5                                 | 56.0                       | 5                             |
| 3.0SMCJ30CA                | IFK                 | 30.0                               | 33.30                               | 38.30                               | 1                    | 48.4                                 | 62.0                       | 5                             |
| 3.0SMCJ33C                 | IFL                 | 33.0                               | 36.70                               | 46.50                               | 1                    | 59.0                                 | 50.4                       | 5                             |
| 3.0SMCJ33CA                | IFM                 | 33.0                               | 36.70                               | 42.20                               | 1                    | 53.3                                 | 56.2                       | 5                             |
| 3.0SMCJ36C                 | IFN                 | 36.0                               | 40.00                               | 50.70                               | 1                    | 64.3                                 | 46.6                       | 5                             |
| 3.0SMCJ36CA                | IFP                 | 36.0                               | 40.00                               | 46.00                               | 1                    | 58.1                                 | 51.6                       | 5                             |
| 3.0SMCJ40C                 | IFQ                 | 40.0                               | 44.40                               | 56.30                               | 1                    | 71.4                                 | 42.0                       | 5                             |
| 3.0SMCJ40CA                | IFR                 | 40.0                               | 44.40                               | 51.10                               | 1                    | 64.5                                 | 46.4                       | 5                             |
| 3.0SMCJ43C                 | IFS                 | 43.0                               | 47.80                               | 60.50                               | 1                    | 76.7                                 | 39.2                       | 5                             |
| 3.0SMCJ43CA                | IFT                 | 43.0                               | 47.80                               | 54.90                               | 1                    | 69.4                                 | 43.2                       | 5                             |
| 3.0SMCJ45C                 | IFU                 | 45.0                               | 50.00                               | 63.30                               | 1                    | 80.3                                 | 37.4                       | 5                             |
| 3.0SMCJ45CA                | IFV                 | 45.0                               | 50.00                               | 57.50                               | 1                    | 72.7                                 | 41.2                       | 5                             |
| 3.0SMCJ48C                 | IFW                 | 48.0                               | 53.30                               | 67.50                               | 1                    | 85.5                                 | 35.0                       | 5                             |
| 3.0SMCJ48CA                | IFX                 | 48.0                               | 53.30                               | 61.30                               | 1                    | 77.4                                 | 38.8                       | 5                             |
| 3.0SMCJ51C                 | IFY                 | 51.0                               | 56.70                               | 71.80                               | 1                    | 91.1                                 | 37.0                       | 5                             |
| 3.0SMCJ51CA                | IFZ                 | 51.0                               | 56.70                               | 65.20                               | 1                    | 82.4                                 | 36.4                       | 5                             |
| 3.0SMCJ54C                 | IGD                 | 54.0                               | 60.00                               | 76.00                               | 1                    | 96.3                                 | 31.2                       | 5                             |
| 3.0SMCJ54CA                | IGE                 | 54.0                               | 60.00                               | 69.00                               | 1                    | 87.1                                 | 34.4                       | 5                             |
| 3.0SMCJ58C                 | IGF                 | 58.0                               | 64.40                               | 81.60                               | 1                    | 103.0                                | 39.2                       | 5                             |
| 3.0SMCJ58CA                | IGG                 | 58.0                               | 64.40                               | 74.10                               | 1                    | 93.6                                 | 32.0                       | 5                             |
| 3.0SMCJ60C                 | IGH                 | 60.0                               | 66.70                               | 84.50                               | 1                    | 107.0                                | 28.0                       | 5                             |
| 3.0SMCJ60CA                | IGK                 | 60.0                               | 66.70                               | 76.70                               | 1                    | 96.8                                 | 31.0                       | 5                             |
| 3.0SMCJ64C                 | IGL                 | 64.0                               | 71.10                               | 90.10                               | 1                    | 114.0                                | 26.4                       | 5                             |
| 3.0SMCJ64CA                | IGM                 | 64.0                               | 71.10                               | 81.80                               | 1                    | 103.0                                | 29.2                       | 5                             |
| 3.0SMCJ70C                 | IGN                 | 70.0                               | 77.80                               | 98.60                               | 1                    | 125.0                                | 24.0                       | 5                             |
| 3.0SMCJ70CA                | IGP                 | 70.0                               | 77.80                               | 89.50                               | 1                    | 113.0                                | 26.6                       | 5                             |
| 3.0SMCJ75C                 | IGQ                 | 75.0                               | 83.30                               | 105.70                              | 1                    | 134.0                                | 22.4                       | 5                             |
| 3.0SMCJ75CA                | IGR                 | 75.0                               | 83.30                               | 95.80                               | 1                    | 121.0                                | 24.8                       | 5                             |
| 3.0SMCJ78C                 | IGS                 | 78.0                               | 86.70                               | 109.80                              | 1                    | 139.0                                | 21.6                       | 5                             |
| 3.0SMCJ78CA                | IGT                 | 78.0                               | 86.70                               | 99.70                               | 1                    | 126.0                                | 23.8                       | 5                             |
| 3.0SMCJ85C                 | IGU                 | 85.0                               | 94.40                               | 119.20                              | 1                    | 151.0                                | 19.8                       | 5                             |
| 3.0SMCJ85CA                | IGV                 | 85.0                               | 94.40                               | 108.20                              | 1                    | 137.0                                | 20.8                       | 5                             |
| 3.0SMCJ90C                 | IGW                 | 90.0                               | 100.00                              | 126.50                              | 1                    | 160.0                                | 18.8                       | 5                             |
| 3.0SMCJ90CA                | IGX                 | 90.0                               | 100.00                              | 115.50                              | 1                    | 146.0                                | 20.6                       | 5                             |
| 3.0SMCJ100C                | IGY                 | 100.0                              | 111.00                              | 141.00                              | 1                    | 179.0                                | 16.6                       | 5                             |
| 3.0SMCJ100CA               | IGZ                 | 100.0                              | 111.00                              | 128.00                              | 1                    | 162.0                                | 18.6                       | 5                             |
| 3.0SMCJ110C                | IHD                 | 110.0                              | 122.00                              | 154.50                              | 1                    | 195.0                                | 15.4                       | 5                             |
| 3.0SMCJ110CA               | IHE                 | 110.0                              | 122.00                              | 140.50                              | 1                    | 177.0                                | 16.8                       | 5                             |
| 3.0SMCJ120C                | IHF                 | 120.0                              | 133.00                              | 169.00                              | 1                    | 214.0                                | 14.0                       | 5                             |
| 3.0SMCJ120CA               | IHG                 | 120.0                              | 133.00                              | 153.00                              | 1                    | 193.0                                | 15.6                       | 5                             |
| 3.0SMCJ130C                | IHH                 | 130.0                              | 144.00                              | 182.50                              | 1                    | 231.0                                | 13.0                       | 5                             |
| 3.0SMCJ130CA               | IHK                 | 130.0                              | 144.00                              | 165.50                              | 1                    | 209.0                                | 14.4                       | 5                             |
| 3.0SMCJ150C                | IHL                 | 150.0                              | 167.00                              | 211.50                              | 1                    | 268.0                                | 11.2                       | 5                             |
| 3.0SMCJ150CA               | IHM                 | 150.0                              | 167.00                              | 192.50                              | 1                    | 243.0                                | 12.4                       | 5                             |
| 3.0SMCJ160C                | IHN                 | 160.0                              | 178.00                              | 226.00                              | 1                    | 287.0                                | 10.4                       | 5                             |
| 3.0SMCJ160CA               | IHP                 | 160.0                              | 178.00                              | 205.00                              | 1                    | 259.0                                | 11.6                       | 5                             |
| 3.0SMCJ170C                | IHC                 | 170.0                              | 189.00                              | 239.50                              | 1                    | 304.0                                | 9.8                        | 5                             |
| 3.0SMCJ170CA               | IHR                 | 170.0                              | 189.00                              | 217.50                              | 1                    | 275.0                                | 11.0                       | 5                             |