

## FEATURES

- | For Surface Mounted Applications

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- | Built-in Strain Relief, ideal For Automated Placement

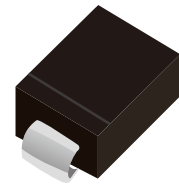
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- | Low Reverse Leakage

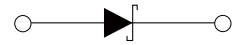
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- | High Forward Surge Current Capability

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DO-214AA(SMB)



Schematic Symbol

## MECHANICAL DATA

- | Case : Molded Plastic Body

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- | Polarity : Polarity Symbol Marking On Body

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- | Mounting Position : Any

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## APPROVALS

|             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

| Parameter  | Symbol            | SS52B                 | SS54B | SS545B | SS56B | SS58B | SS510B | SS515B | SS520B | Unit |
|--|-------------------|-----------------------|-------|--------|-------|-------|--------|--------|--------|------|
| Marking  |                   | SS52                  | SS54  | SS545  | SS56  | SS58  | SS510  | SS515  | SS520  |      |
| Maximum Repetitive Peak Reverse Voltage  | V <sub>RRM</sub>  | 20                    | 40    | 45     | 60    | 80    | 100    | 150    | 200    | V    |
| Maximum RMS Voltage  | V <sub>RMS</sub>  | 14                    | 28    | 31.5   | 42    | 56    | 70     | 105    | 140    | V    |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>   | 20                    | 40    | 45     | 60    | 80    | 100    | 150    | 200    | V    |
| Maximum Average Forward Rectified Current at T <sub>L</sub> =100°C                 | I <sub>(AV)</sub> | 5.0                   |       |        |       |       |        |        |        | A    |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load | I <sub>FSM</sub>  | 120.0                 |       |        |       |       |        |        |        | A    |
| Maximum Instantaneous Forward Voltage at 5.0A                                      | V <sub>F</sub>    | 0.55                  |       | 0.70   |       | 0.85  |        | 0.95   |        | V    |
| Maximum DC Reverse Current   | I <sub>R</sub>    | T <sub>A</sub> =25°C  |       | 0.2    |       | 0.05  |        |        |        | mA   |
|  |                   | T <sub>A</sub> =100°C |       | 10     |       | 5     |        |        |        | mA   |
| Typical Thermal Resistance   | R <sub>θJA</sub>  | 60.0                  |       |        |       |       |        |        |        | °C/W |
| Operating Junction Temperature Range   | T <sub>J</sub>    | -55 to +150           |       |        |       |       |        |        |        | °C   |
| Storage Temperature Range  | T <sub>STG</sub>  | -55 to +150           |       |        |       |       |        |        |        | °C   |

# CHARACTERISTIC CURVES

Fig. 1- Derating Curve Output Rectified Current

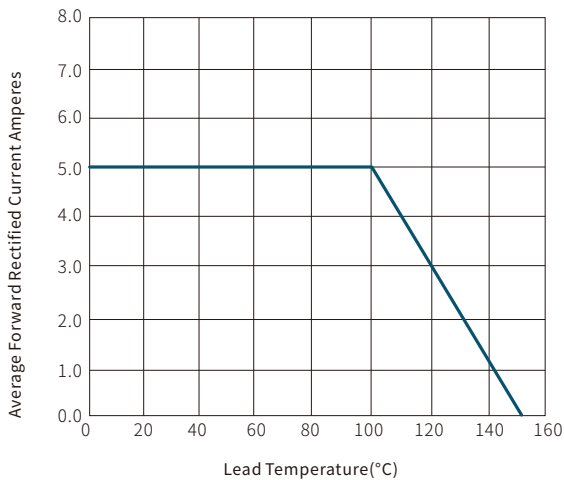


Fig. 2-Maximum Non-repetitive Peak Forward Surge Current Perleg

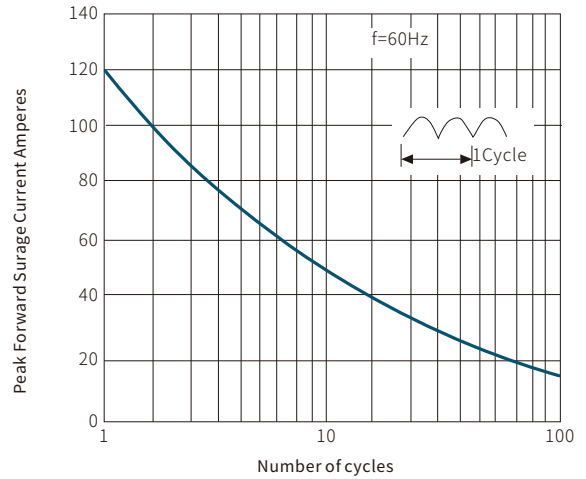


Fig. 3-Typical Forward Voltage Characteristics

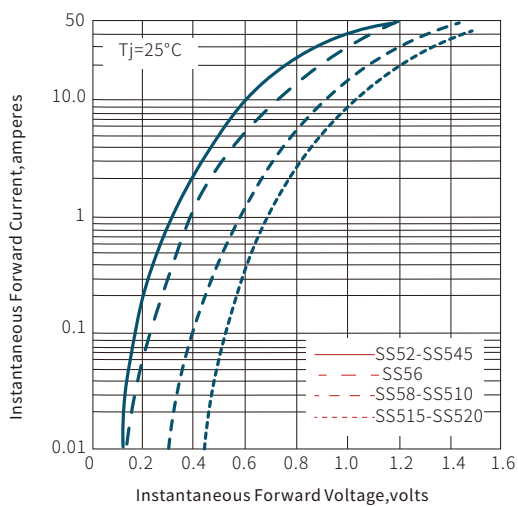
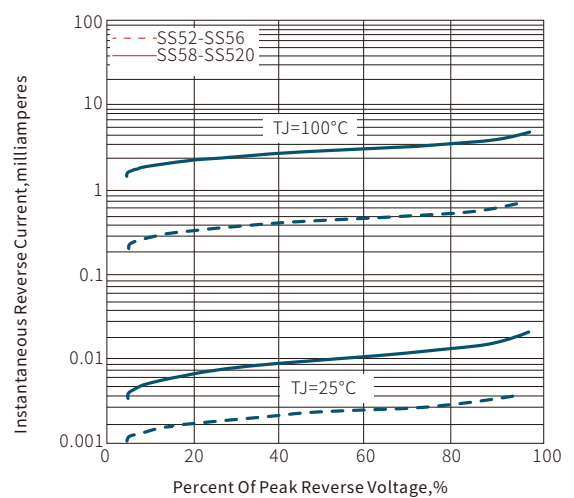
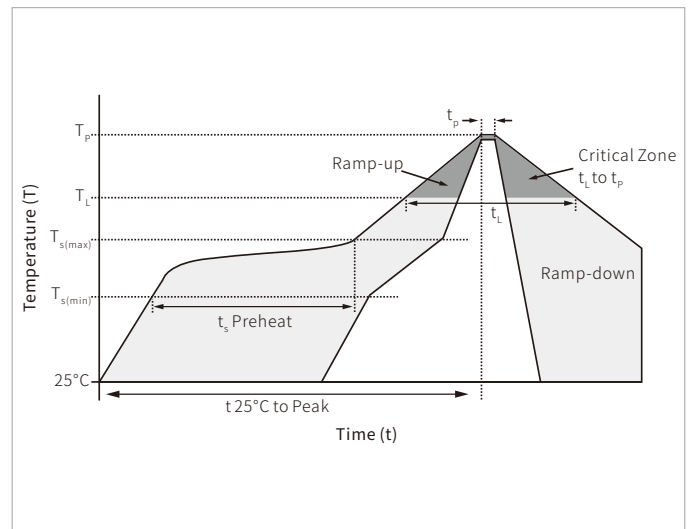


Fig. 4-Typical Reverse Leakage Characteristics

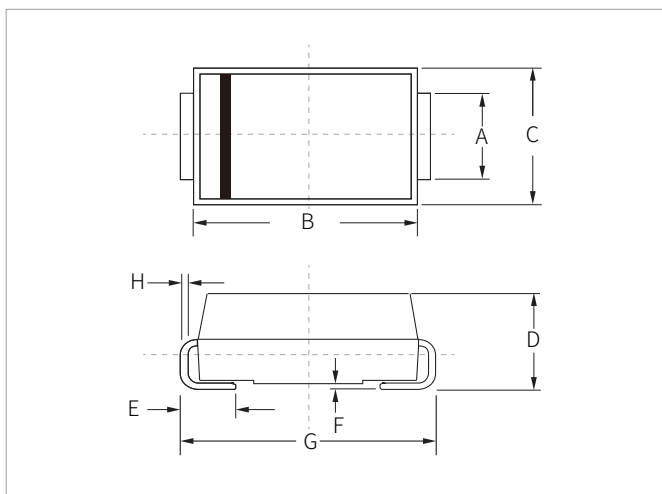


## SOLDERING PARAMETERS

| Reflow Condition                                       |                                  | Lead-free assembly |
|--|----------------------------------|--------------------|
| Pre Heat   | Temperature Max ( $T_{s(min)}$ ) | 150°C              |
|  | Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|  | Time (min to max) ( $t_s$ )      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                  | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                  | 3°C/second max     |
| Reflow   | Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|  | Time (min to max) ( $t_l$ )      | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                             |                                  | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )   |                                  | 20 – 40 seconds    |
| Ramp-down Rate   |                                  | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )                |                                  | 8 minutes max.     |
| Do not exceed  |                                  | 260°C              |

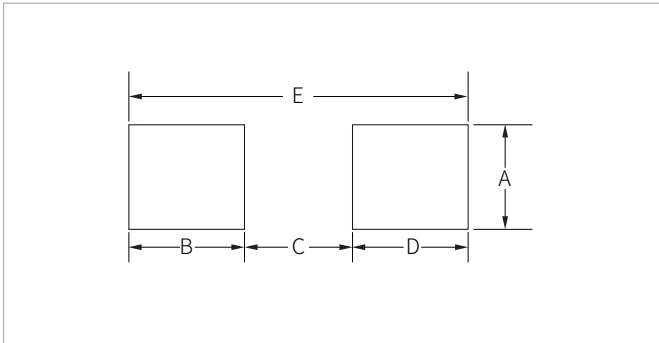


## DO-214AA(SMB) PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 1.80        | 2.20 | 0.071  | 0.087 |
| B    | 4.30        | 4.70 | 0.170  | 0.185 |
| C    | 3.40        | 3.90 | 0.134  | 0.153 |
| D    | 2.15        | 2.75 | 0.085  | 0.108 |
| E    | 1.00        | 1.50 | 0.039  | 0.059 |
| F    | 0.02        | 0.20 | 0.001  | 0.008 |
| G    | 5.10        | 5.50 | 0.200  | 0.216 |
| H    | 0.15        | 0.30 | 0.006  | 0.012 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 2.20        | -    | 0.087    | -     |
| B    | 1.45        | -    | 0.057    | -     |
| C    | -           | 2.55 | -        | 0.010 |
| D    | 1.45        | -    | 0.057    | -     |
| E    | 5.60REF     |      | 0.220REF |       |

## ORDERING INFORMATION

| Part Number  | Component Package | QTY/Reel | Reel Size |
|--------------|-------------------|----------|-----------|
| SS52B-SS520B | DO-214AA(SMB)     | 3000PCS  | 13"       |

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