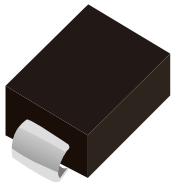
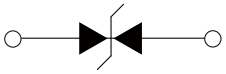
# FEATURES

- Low profile package
- Ideal for automated placement
- 1500 Watt peak pulse power capability with a 10/1000µs waveform
- For surface mounted applicatons to optimize board space
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance



DO-214AA(SMB)



Schematic Symbol

# APPLICATIONS

- Power supply protection
- Automotive application
- Industrial application
- Power management

# APPROVALS

| | |
|---|---|
| **RoHS** | Compliance with 2011/65/EU |
| **HF** | Compliance with IEC61249-2-21:2003 |

# MAXIMUM RATINGS ($T_A$=25°C )

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power Dissipation on 10/1000µs waveform (Note1, Note2). | $P_{PPM}$ | 1500 | Watts |
| Steady State Power Dissipation at $T_A$=50°C(Note2). | $P_D$ | 6.5 | Watts |

**Notes :** 1.Non-repetitive current pulse,$T_A$=25°C.
2.Mounted on 8.0mm*8.0mm Copper Pads to each terminal.

# THERMAL CONSIDERATIONS

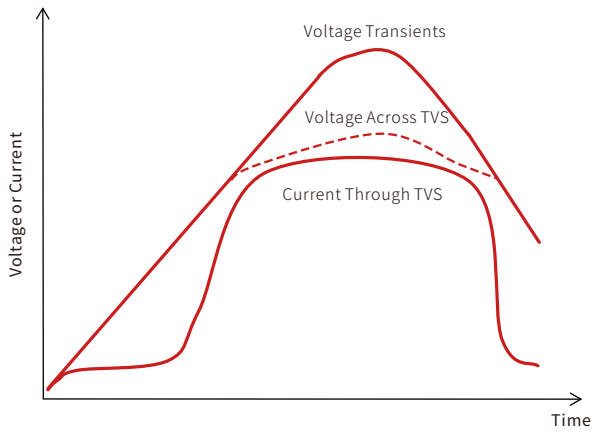
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Operating Junction Temperature | $T_J$ | -55 to +125 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | °C |
| Junction to Ambient on printed circuit | $R_{\theta JA}$ | 90 | °C/W |

# ELECTRICAL CHARACTERISTICS ($T_A$=25°C)

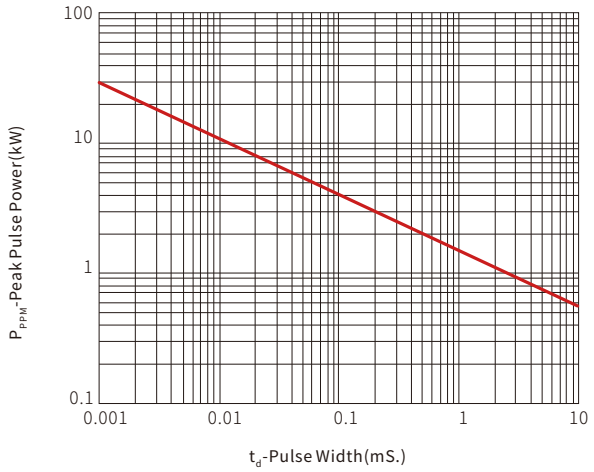
| Part Number | Device Marking Code | Reverse Stand-off Voltage | Breakdown Voltage Min.@$I_T$ | Breakdown Voltage Max.@$I_T$ | Test Current | Maximum Clamping Voltage @$I_{PP}$ | Peak Pulse Current | Reverse Leakage @$V_{RWM}$ |
|---|---|---|---|---|---|---|---|---|
| | | $V_{RWM}$(V) | $V_{BR}$(V) | $V_{BR}$(V) | $I_T$(mA) | $V_C$(V) | $I_{PP}$(A) | $I_R$(uA) |
| SVB150B24 | BEZ | 24.0 | 26.7 | 29.5 | 1.0 | 38.9 | 38.6 | 1.0 |

# CHARACTERISTIC CURVES

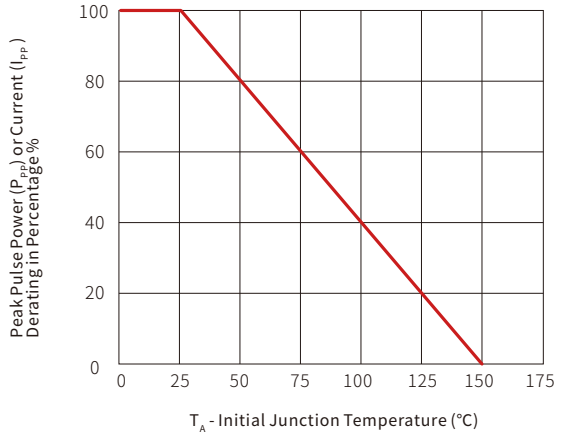
TVS Transients Clamping Waveform



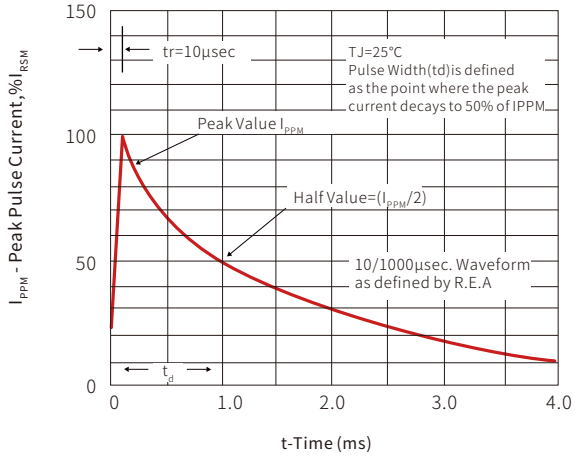

Peak Pulse Power Rating Curve



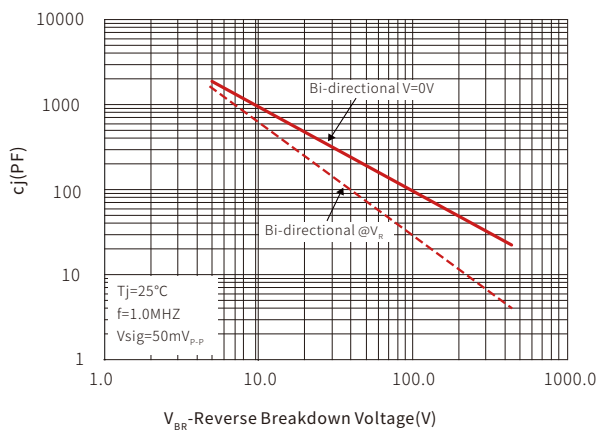

Pulse Derating Curve



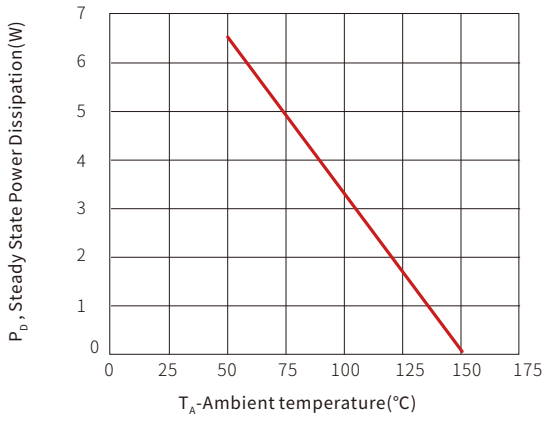

Pulse Waveform



Typical Junction Capacitance

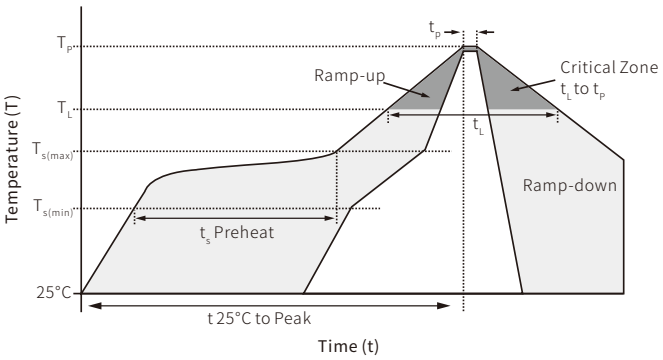



Steady State Power Dissipaton Deraiting Curve

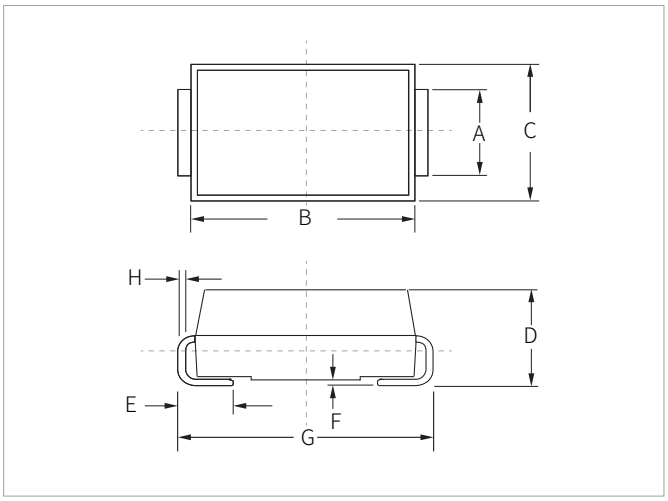



# SOLDERING PARAMETERS

| 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 |

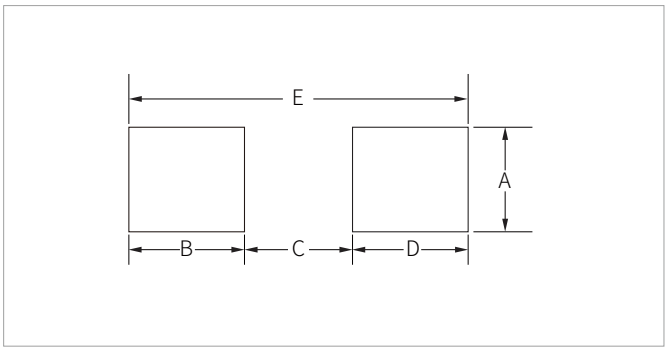


# DO-214AA(SMB) PACKAGE INFORMATION




| 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 |
|---|---|---|---|
| SVB150B24 | DO-214AA(SMB) | 3000PCS | 13" |

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