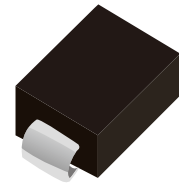
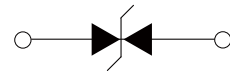


FEATURES

- | Low profile package
- | Ideal for automated placement
- | 600 Watt peak pulse power capability with a 10/1000 μ s waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



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 ($T_A=25^\circ\text{C}$)

| Parameter | Symbo | Value | Unit |
|--|-----------|-------|-------|
| Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1, Note2). | P_{PPM} | 600 | Watts |
| Steady State Power Dissipation at $T_A=50^\circ\text{C}$ (Note2). | P_D | 5.0 | Watts |

- Notes :** 1.Non-repetitive current pulse, $T_A=25^\circ\text{C}$.
 2.Mounted on 5.0mm*5.0mm (0.03mm thick) Copper Pads to each terminal.

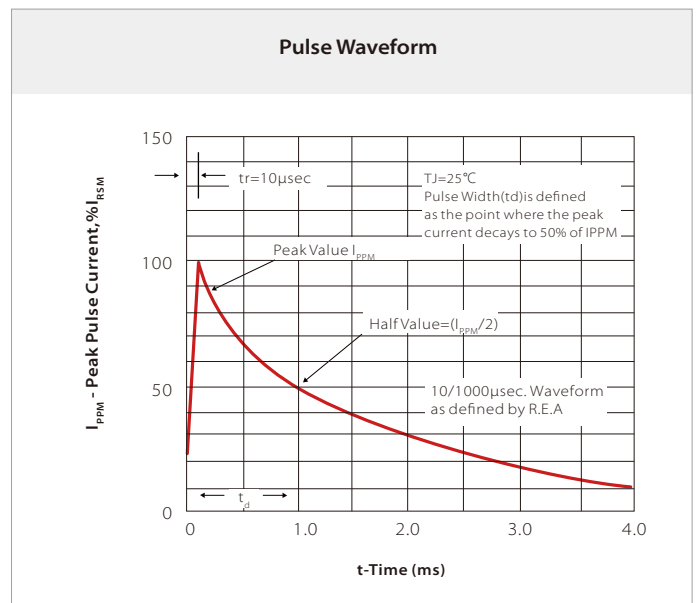
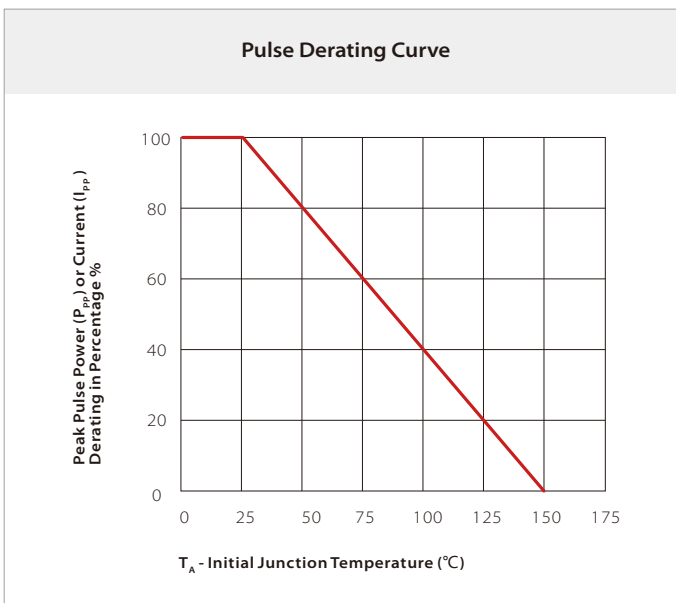
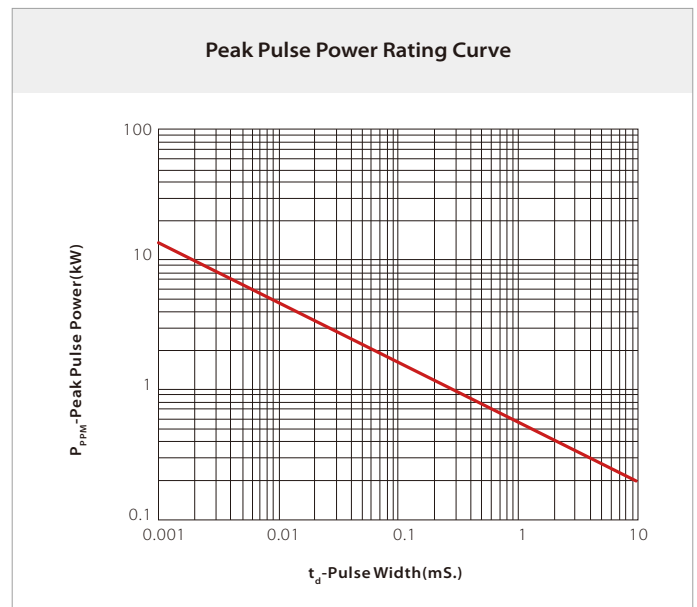
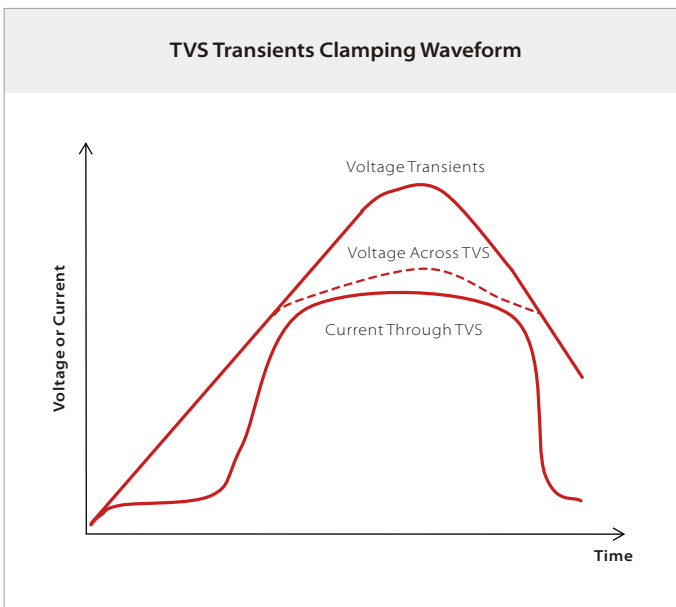
THERMAL CONSIDERATIONS

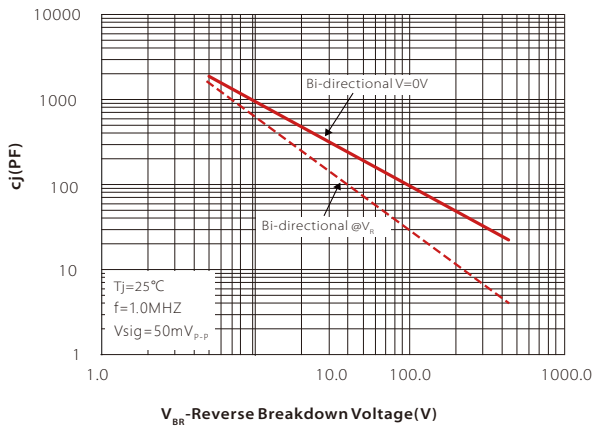
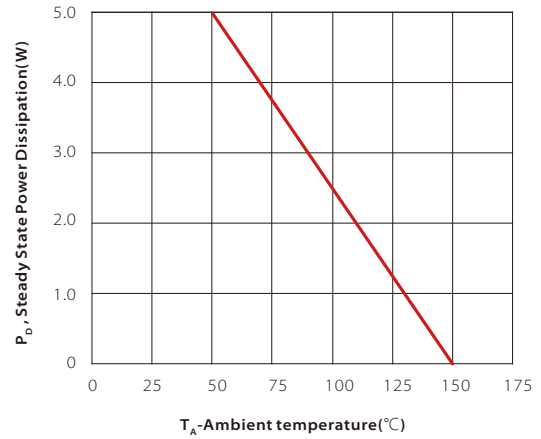
| Parameter | Symbol | Value | Unit |
|--|-----------------|-------------|---------------------------|
| Operating Junction Temperature | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |
| Junction to Ambient on printed circuit | $R_{\theta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

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 (μA) |
| TPSVB60B18 | BTA | 18.0 | 20.0 | 22.1 | 1.0 | 29.2 | 20.6 | 1.0 |

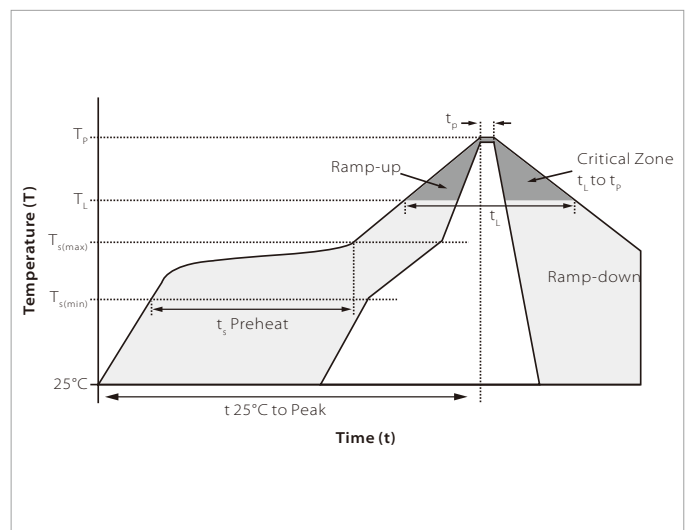
CHARACTERISTIC CURVES



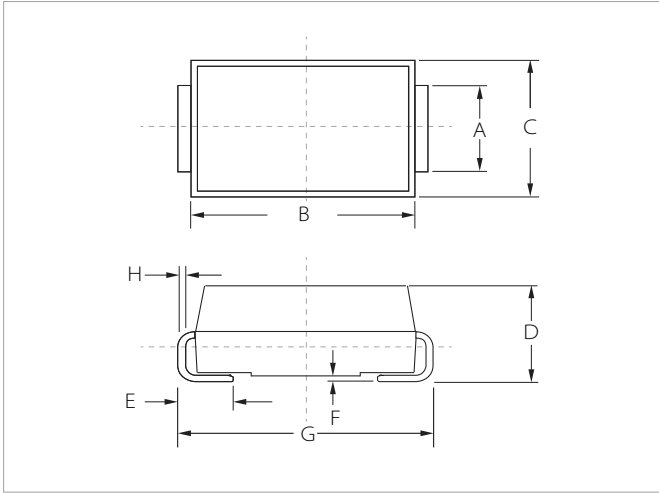
Typical Junction Capacitance

Steady State Power Dissipation Derating 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_2) | 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_1) | 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 |

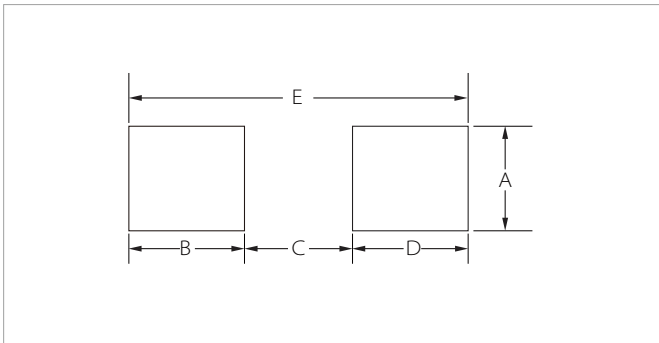


DO-214AA(SMB) PACKAGE INFORMATION



| 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 | 2.55 | 0.085 | 0.100 |
| 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 |
|-------------|-------------------|----------|-----------|
| TPSVB60B18 | DO-214AA(SMB) | 3000PCS | 13" |

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