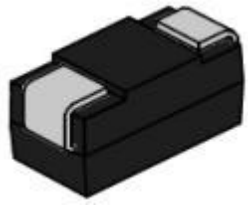
# SMBJ3.3A 600W Transient Voltage Suppressor

## FEATURES:

- Planar technology.
- Halogen-free and ROHS compliant.
- Stand-off voltage:3.3V.
- 600W peak pulse power capability at 10×1000μs waveform.
- Excellent clamping capability.
- Fast response time.



SMB

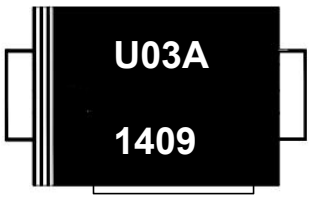



Symbol

## ABSOLUTE MAXIMUM RATINGS (TA=25ºC, RH=45%-75%, unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage operating junction temperature range | $T_{STG}/T_J$ | -55 to +150 | ℃ |
| Steady state power dissipation at $T_L$=75℃ | $P_{M(AV)}$ | 5.0 | W |
| Peak pulse power dissipation on 10/1000μs waveform | $P_{PP}$ | 600 | W |

## MARKING




U03A：Device Marking Code
1409: In ninth week, 2014

## ELECTRICAL CHARACTERISTICS (TA=25℃)

| Part Number | $V_R$ | $I_R@V_R$ | $V_{BR}@I_T$ | $I_T$ | $V_C@I_{PP}$ | $I_{PP}$① | $C_O$② | Marking |
|---|---|---|---|---|---|---|---|---|
| | V | μA | V (min) | mA | V (max) | A (max) | pF(typ.) | |
| SMBJ3.3A | 3.3 | 100 | 4.1 | 1 | 7.3 | 82.5 | 4100 | U03A |

① Surge waveform: 10/1000μs

② $C_O$ is measured at: $V_{bias}$=0V,$V_{RMS}$=1V,f=1MHz

$V_R$: Stand-off voltage -- Maximum voltage that can be applied

$V_{BR}$: Breakdown voltage

$V_C$: Clamping voltage -- Peak voltage measured across the suppressor at a specified $I_{PP}$

$I_R$: Reverse leakage current

## ORDERING INFORMATION

| SMBJ | 3.3 | A |
|---|---|---|
| 600W SMB Series | $V_R$ Voltage | 5% $V_{BR}$ voltage tolerance |

## RATINGS AND V-I CHARACTERISTICS CURVES (TA=25ºC, unless otherwise noted)

**FIG.1:V- I curve characteristics (Uni-directional)**

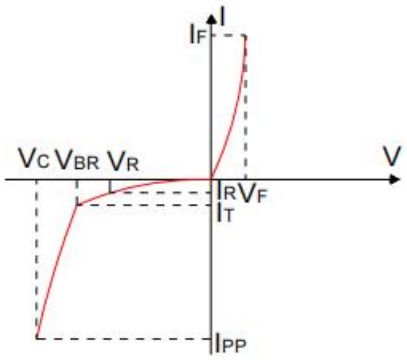



**FIG.2: Pulse waveform**

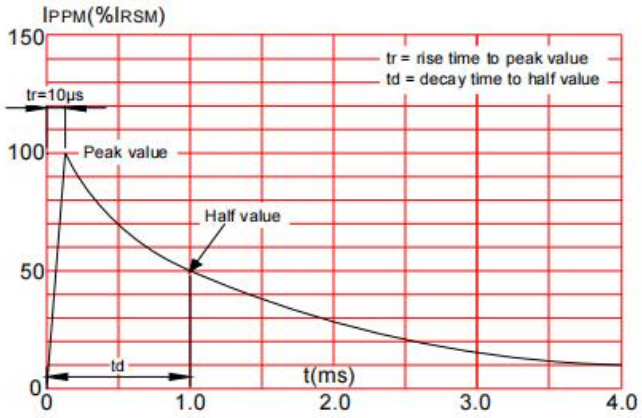
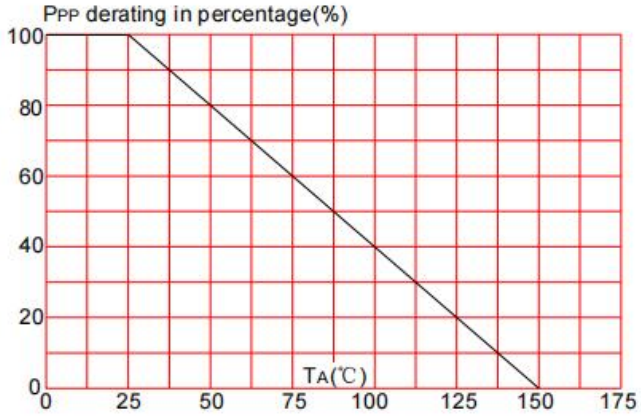
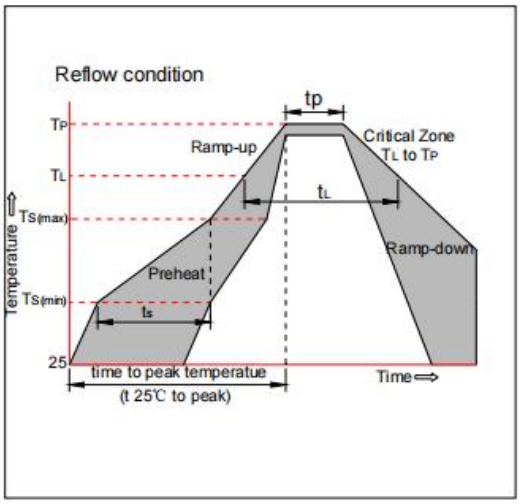



**FIG.3: Pulse derating curve**

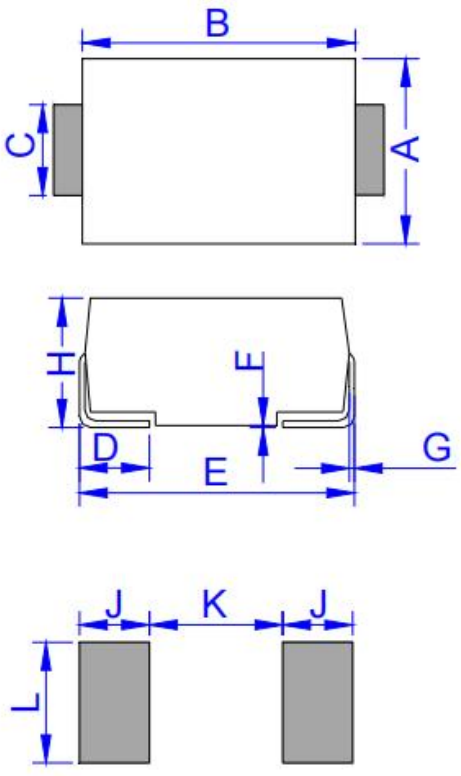


## SOLDERING PARAMETERS

| Reflow Condition | | Pb-Free assembly (see figure at right) |
|---|---|---|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150℃ |
| | -Temperature Max($T_{s(max)}$) | +200℃ |
| | -Time (Min to Max) (ts) | 60-180 secs. |
| Average ramp up rate (Liquidus Temp ($T_L$)to peak) | | 3℃/sec. Max |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate | | 3℃/sec. Max |
| Reflow | -Temperature($T_L$)(Liquidus) | +217℃ |
| | -Temperature($t_L$) | 60-150 secs. |
| Peak Temp ($T_P$) | | +260(+0/-5)℃ |
| Time within 5℃of actual Peak Temp ($t_p$) | | 20-40secs. |
| Ramp-down Rate | | 6℃/sec. Max |
| Time 25℃ to Peak Temp ($T_P$) | | 8 min. Max |
| Do not exceed | | +260℃ |



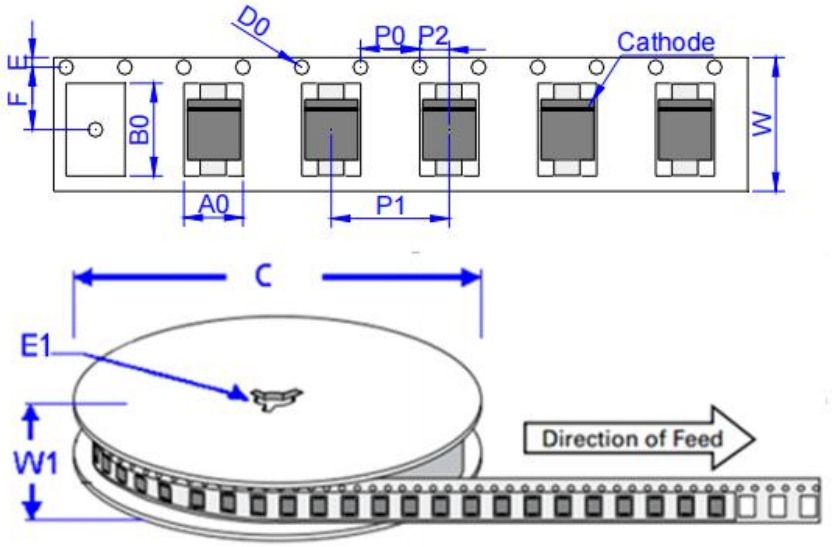

## PACKAGE MECHANICAL DATA




DO-214AA (SMB)

| Ref. | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.94 | 0.130 | 0.155 |
| B | 4.30 | 4.80 | 0.169 | 0.189 |
| C | 1.90 | 2.20 | 0.075 | 0.087 |
| D | 0.95 | 1.52 | 0.037 | 0.060 |
| E | 5.20 | 5.60 | 0.205 | 0.220 |
| F | 0.051 | 0.203 | 0.002 | 0.008 |
| G | 0.15 | 0.31 | 0.006 | 0.012 |
| H | 2.10 | 2.40 | 0.083 | 0.094 |
| J | 2.20 | | 0.087 | |
| K | | 2.60 | | 0.102 |
| L | 2.30 | | 0.091 | |

## TAPE AND REEL SPECIFICATION-SMB




| Ref. | Dimensions | |
|---|---|---|
| | Millimeters | Inches |
| A0 | 3.76 ± 0.3 | 0.148 ± 0.012 |
| B0 | 5.69± 0.3 | 0.224 ± 0.012 |
| C | 330.0 | 13.0 |
| D0 | 1.55 ± 0.1 | 0.061 ± 0.004 |
| E | 1.75 ± 0.2 | 0.069 ± 0.008 |
| E1 | 13.3 ± 0.3 | 0.524± 0.012 |
| F | 5.5 ± 0.2 | 0.217 ± 0.008 |
| P0 | 4.00 ± 0.2 | 0.157 ± 0.008 |
| P1 | 8.00 ± 0.2 | 0.3145 ± 0.008 |
| P2 | 2.00 ± 0.2 | 0.079 ± 0.008 |
| W | 12.0± 0.2 | 0.472 ± 0.008 |
| W1 | 15.7 ± 2.0 | 0.618 ± 0.079 |

| OUTLINE | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | PER CARTON (PCS) | REEL DIAMETERS (mm) |
|---|---|---|---|---|
| SMBJ3.3A | 0.098 | 3,000 | 48,000 | 330 |

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## Document Record

| No. | Date | Modified Content | Page | Edition | Prepared by | Checked by | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2019.8.1 | Draft | 8 | A/0 | hope | Stephen Huang | |
| 2 | 2020.6.2 | Packaging | 8 | A/1 | hope | Stephen Huang | |
| 3 | 2022.10.9 | Tape Specifications | 8 | A/2 | hope | Stephen Huang | |
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