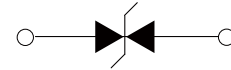


## FEATURES

- | Low profile package
- | Ideal for automated placement
- | 3000 Watt peak pulse power capability with a 10/1000 $\mu$ s waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance



DO-214AB(SMC)



Schematic Symbol

## APPLICATIONS

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

## 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   | Symbo            | Value | Unit  |
|---|------------------|-------|-------|
| Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (Note1, Note2).                  | P <sub>PPM</sub> | 3000  | Watts |
| Steady State Power Dissipation at T <sub>L</sub> =50°C, Lead lengths.375"(9.5mm) ( Note2) | P <sub>D</sub>   | 6.5   | Watts |

- Notes :** 1.Non-repetitive current pulse,T<sub>A</sub>=25°C.  
 2.Mounted on 5.0mm\*5.0mm (0.03mm thick) Copper Pads to each terminal.

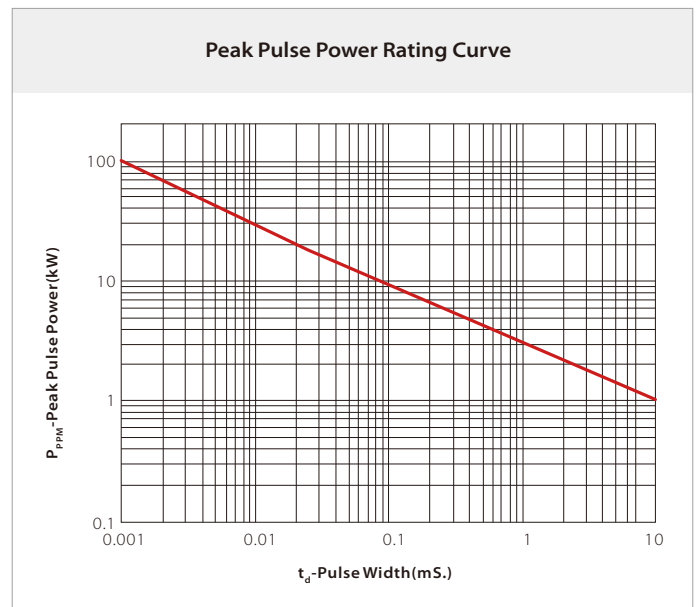
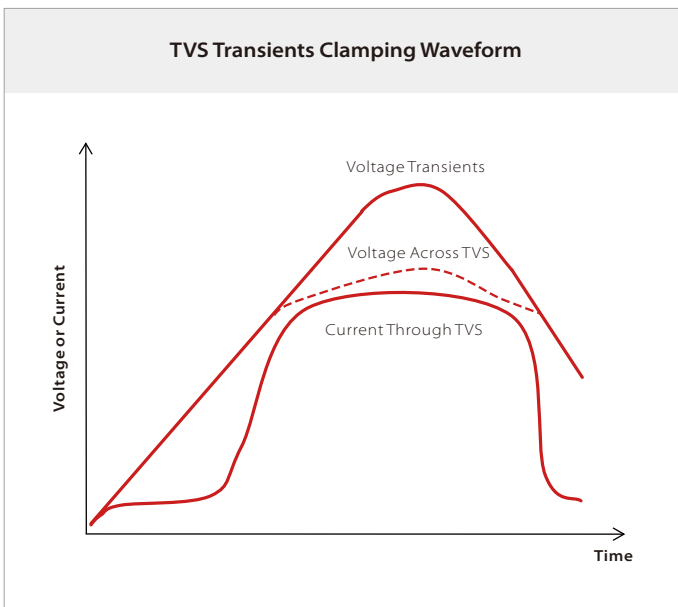
## THERMAL CONSIDERATIONS

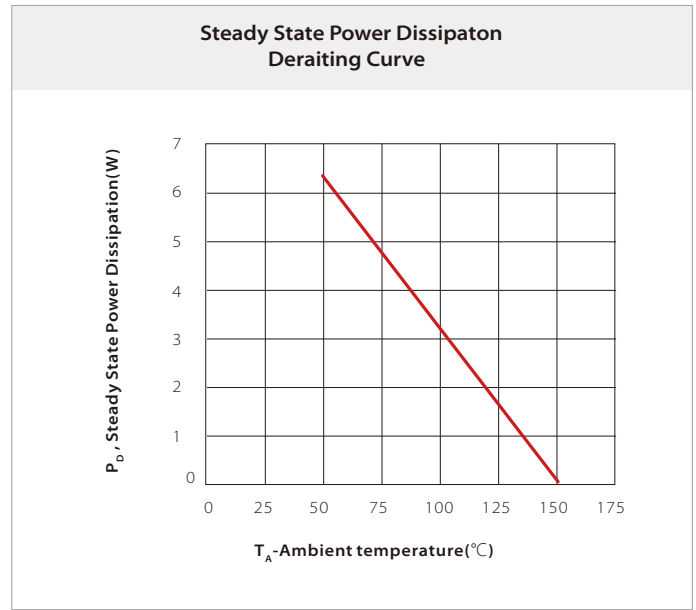
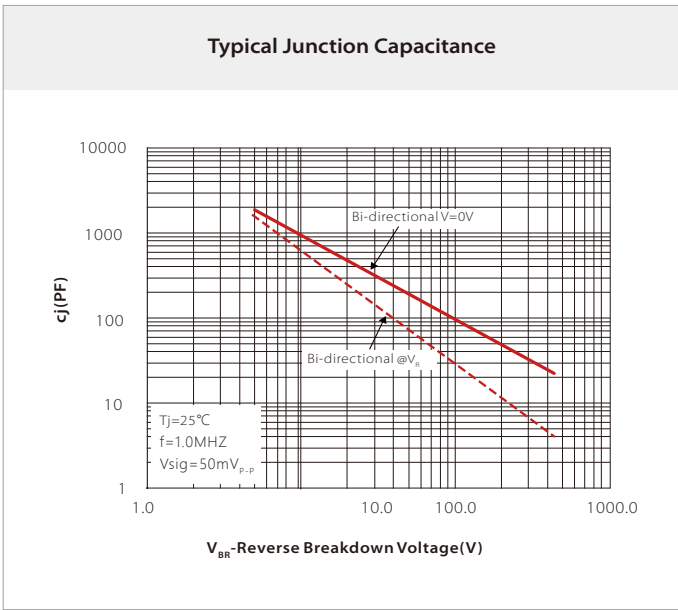
| Parameter                              | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Operating Junction Temperature         | T <sub>J</sub>   | -55 to +150 | °C   |
| Storage Temperature Range              | T <sub>STG</sub> | -55 to +150 | °C   |
| Junction to Ambient on printed circuit | R <sub>θJA</sub> | 75          | °C/W |

# ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

| Part Number | Device Marking Code | Reverse Stand-off Voltage | Breakdown Voltage Min.@I <sub>T</sub> | Breakdown Voltage Max.@I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>pp</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RWM</sub> |
|-------------|---------------------|---------------------------|---------------------------------------|---------------------------------------|---------------------|---|---------------------|-----------------------------------|
|             |                     | V <sub>RWM</sub> (V)      | V <sub>BR</sub> (V)                   | V <sub>BR</sub> (V)                   | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>pp</sub> (A) | I <sub>R</sub> (uA)               |
| SVC300B48   | DFX                 | 48.0                      | 53.3                                  | 58.9                                  | 1.0                 | 77.4                                      | 38.8                | 2.0                               |

## CHARACTERISTIC CURVES



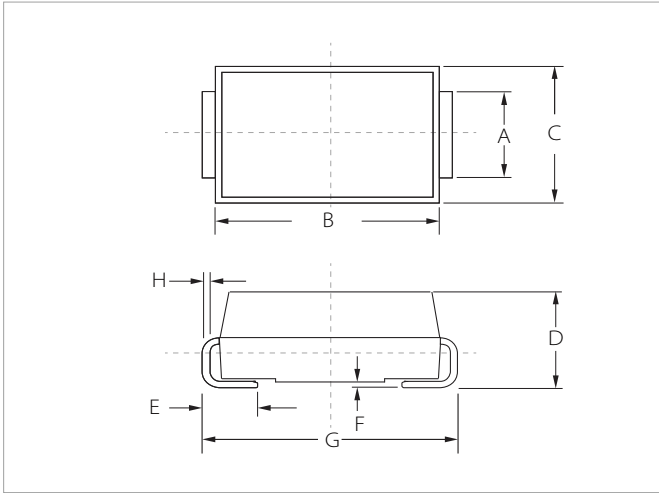


## SOLDERING PARAMETERS

| Reflow Condition  |                                  | Lead-free assembly                   |
|---|----------------------------------|--------------------------------------|
| Pre Heat  | Temperature Max ( $T_{s(min)}$ ) | 150 $^\circ\text{C}$                 |
|   | Temperature Max ( $T_{s(max)}$ ) | 200 $^\circ\text{C}$                 |
|   | Time (min to max) ( $t_2$ )      | 60 – 180 secs                        |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)              |                                  | 3 $^\circ\text{C}/\text{second}$ max |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                                |                                  | 3 $^\circ\text{C}/\text{second}$ max |
| Reflow  | Temperature ( $T_L$ ) (Liquidus) | 217 $^\circ\text{C}$                 |
|   | Time (min to max) ( $t_1$ )      | 60 – 150 seconds                     |
| Peak Temperature ( $T_p$ )  |                                  | 260 $^\circ\text{C}$                 |
| Time within 5 $^\circ\text{C}$ of actual peak Temperature ( $t_p$ ) |                                  | 20 – 40 seconds                      |
| Ramp-down Rate  |                                  | 6 $^\circ\text{C}/\text{second}$ max |
| Time 25 $^\circ\text{C}$ to peak Temperature ( $T_p$ )              |                                  | 8 minutes max.                       |
| Do not exceed   |                                  | 260 $^\circ\text{C}$                 |

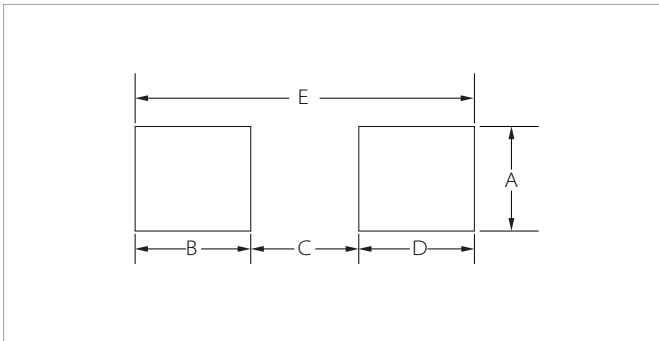


## DO-214AB(SMC) PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 2.80        | 3.20 | 0.110  | 0.126 |
| B    | 6.60        | 7.20 | 0.260  | 0.283 |
| C    | 5.70        | 6.10 | 0.224  | 0.240 |
| D    | 2.15        | 2.75 | 0.085  | 0.108 |
| E    | 1.00        | 1.60 | 0.039  | 0.063 |
| F    | 0.02        | 0.20 | 0.000  | 0.008 |
| G    | 7.60        | 8.00 | 0.299  | 0.315 |
| H    | 0.15        | 0.30 | 0.006  | 0.012 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 3.30        | -    | 0.129    | -     |
| B    | 2.40        | -    | 0.094    | -     |
| C    | -           | 4.20 | -        | 0.165 |
| D    | 2.40        | -    | 0.094    | -     |
| E    | 8.20REF     |      | 0.323REF |       |

## ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| SVC300B48   | DO-214AB(SMC)     | 3000PCS  | 13"       |

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