

## FEATURES

- Excellent capability of absorbing transient surge
- Quick response to surge voltage
- Eliminates over voltage caused by fast rising transients
- Solid-state silicon technology, non degenerative



SMA(DO-214AC)



Schematic Symbol

## APPLICATIONS

- Audio/Video line
- Network and telecom
- Data lines and security systems
- Serial ports

## APPROVALS

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

## ELECTRICAL CHARACTERISTICS

| Part Number | Marking | $V_{DRM}$ | $V_S$    | $V_T$    | $I_{DRM}$       | $I_S$ | $I_T$    | $I_H$     | $C_o$    |
|-------------|---------|-----------|----------|----------|-----------------|-------|----------|-----------|----------|
|             |         | Min. (V)  | Max. (V) | Max. (V) | Max. ( $\mu$ A) | mA    | Max. (A) | Min. (mA) | Typ.(pF) |
| P0060TB     | P006B   | 6         | 15       | 4        | 5               | 800   | 2.2      | 40        | 80       |
| P0080TB     | P008B   | 6         | 25       | 4        | 5               | 800   | 2.2      | 40        | 80       |
| P0150TB     | P015B   | 15        | 25       | 4        | 5               | 800   | 2.2      | 40        | 80       |
| P0220TB     | P022B   | 15        | 30       | 4        | 5               | 800   | 2.2      | 40        | 80       |
| P0300TB     | P03B    | 25        | 40       | 4        | 5               | 800   | 2.2      | 40        | 80       |
| P0640TB     | P06B    | 58        | 77       | 4        | 5               | 800   | 2.2      | 120       | 60       |
| P0720TB     | P07B    | 65        | 88       | 4        | 5               | 800   | 2.2      | 120       | 60       |
| P0900TB     | P09B    | 75        | 98       | 4        | 5               | 800   | 2.2      | 120       | 55       |
| P1100TB     | P11B    | 90        | 130      | 4        | 5               | 800   | 2.2      | 120       | 55       |
| P1300TB     | P13B    | 120       | 160      | 4        | 5               | 800   | 2.2      | 120       | 55       |
| P1500TB     | P15B    | 140       | 180      | 4        | 5               | 800   | 2.2      | 120       | 60       |
| P1800TB     | P18B    | 170       | 220      | 4        | 5               | 800   | 2.2      | 120       | 60       |
| P2300TB     | P23B    | 190       | 260      | 4        | 5               | 800   | 2.2      | 120       | 55       |
| P2600TB     | P26B    | 220       | 300      | 4        | 5               | 800   | 2.2      | 120       | 50       |
| P3100TB     | P31B    | 275       | 350      | 4        | 5               | 800   | 2.2      | 120       | 45       |
| P3500TB     | P35B    | 320       | 400      | 4        | 5               | 800   | 2.2      | 120       | 40       |
| P4200TB     | P42B    | 400       | 520      | 4        | 5               | 800   | 2.2      | $\leq$ 50 | 40       |

## SURGE RATINGS

| Part Number          | $I_{PP}$<br>2x10us | $I_{PP}$<br>8x20us | $I_{PP}$<br>10x560us | $I_{PP}$<br>10x1000us | $V_{PP}$<br>10x700us | $I_{TSM}$<br>60Hz | $d_i/d_t$ |
|----------------------|--------------------|--------------------|----------------------|-----------------------|----------------------|-------------------|-----------|
|                      | (A)                | (A)                | (A)                  | (A)                   | (V)                  | (A)               | (A/us)    |
| P0060TB Thru P4200TB | 250                | 250                | 100                  | 80                    | 4000                 | 25                | 500       |

## THERMAL CONSIDERATIONS

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

## RATINGS AND CHARACTERISTIC CURVES ( $T_A=25^\circ\text{C}$ )



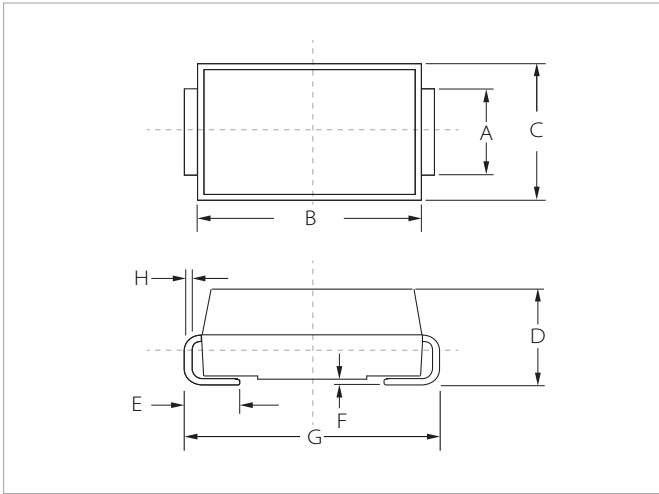


## SOLDERING PARAMETERS

| 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) ( $t_r$ )      | 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              |

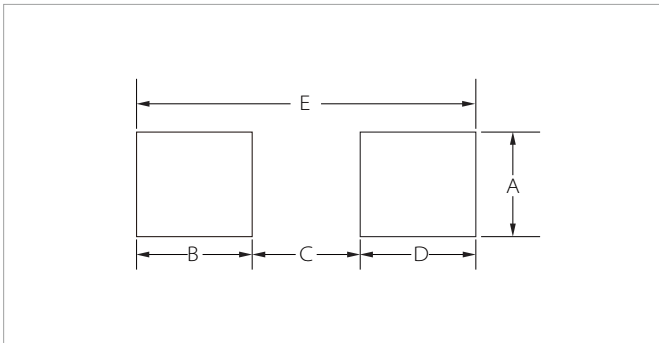


## DO-214AC(SMA) PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 1.20        | 1.60 | 0.047  | 0.063 |
| B    | 4.20        | 4.60 | 0.165  | 0.181 |
| C    | 2.60        | 2.80 | 0.102  | 0.110 |
| D    | 2.10        | 2.40 | 0.083  | 0.094 |
| E    | 0.76        | 1.52 | 0.030  | 0.060 |
| F    | 0.02        | 0.20 | 0.001  | 0.008 |
| G    | 4.85        | 5.25 | 0.191  | 0.207 |
| H    | 0.15        | 0.30 | 0.006  | 0.012 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 1.63        | -    | 0.064    | -     |
| B    | 1.45        | -    | 0.057    | -     |
| C    | -           | 2.80 | -        | 0.090 |
| D    | 1.45        | -    | 0.057    | -     |
| E    | 5.28REF     |      | 0.208REF |       |

## ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| PxxxxTB     | DO-214AC(SMA)     | 5000PCS  | 13"       |

**Headquarters**

No.3387 Shendu Road Pujiang  
I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

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