

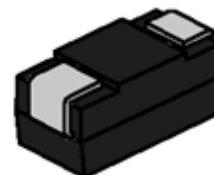


## P4200TB TSS

Rev. 1.2

### DESCRIPTION:

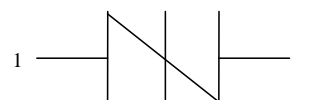
P4200TB is a type of semiconductor component. It is designed to protect baseband equipment from damaging overvoltage transients.



SMA

### FEATURES:

- ✧ Low profile package.
- ✧ Low on-state voltage.
- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Moisture sensitivity level: Level 1.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).
- ✧ Non degenerative.



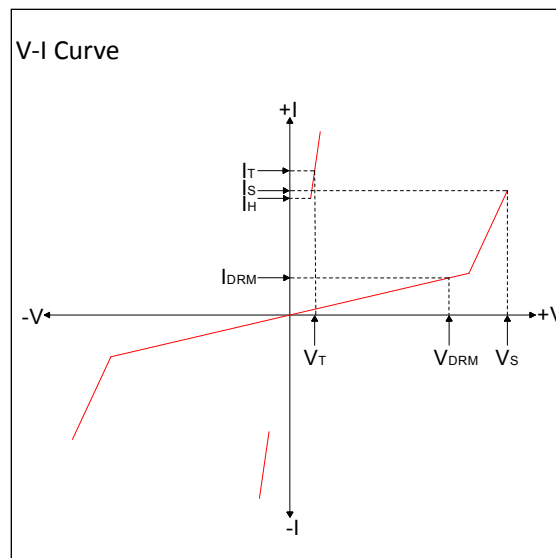
Symbol

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

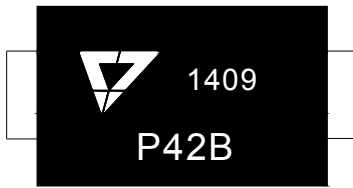
| Parameter                               | Symbol           | Value       | Unit |
|---|------------------|-------------|------|
| Storage temperature range               | T <sub>STG</sub> | -60 to +150 | °C   |
| Operating junction temperature range    | T <sub>J</sub>   | -40 to +125 | °C   |
| Repetitive peak pulse current@10/1000µs | I <sub>PP</sub>  | 80          | A    |

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

| Symbol           | Parameter              |
|------------------|------------------------|
| V <sub>DRM</sub> | Peak off-state voltage |
| I <sub>DRM</sub> | Off-state current      |
| V <sub>S</sub>   | Switching voltage      |
| I <sub>S</sub>   | Switching current      |
| V <sub>T</sub>   | On-state voltage       |
| I <sub>T</sub>   | On-state current       |
| I <sub>H</sub>   | Holding current        |
| C <sub>O</sub>   | Off-state capacitance  |



**MARKING**



P42B : Device Marking Code  
1409: In ninth week, 2014

**ELECTRICAL CHARACTERISTICS** (T<sub>A</sub>=25°C, continued)

| Part Number | I <sub>DRM</sub> @V <sub>DRM</sub> |     | V <sub>S</sub> <sup>①</sup> @I <sub>S</sub> |     | V <sub>T</sub> @I <sub>T</sub> |     | I <sub>H</sub> | Co <sup>②</sup> | Marking |
|-------------|------------------------------------|-----|---|-----|--------------------------------|-----|----------------|-----------------|---------|
|             | μA                                 | V   | V   | mA  | V                              | A   | mA             | pF              |         |
|             | max                                |     | max   | max | max                            | max | max            | max             |         |
| P4200TB     | 5                                  | 400 | 520   | 800 | 4                              | 2.2 | 100            | 35              | P42B    |

① V<sub>S</sub> is measured at 100kV/s

② Off-state capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz

**SURGE RATINGS**

| Series | I <sub>PP</sub> (A) min |        |          |           |
|--------|-------------------------|--------|----------|-----------|
|        | 2/10μs                  | 8/20μs | 10/360μs | 10/1000μs |
| B      | 250                     | 250    | 125      | 80        |

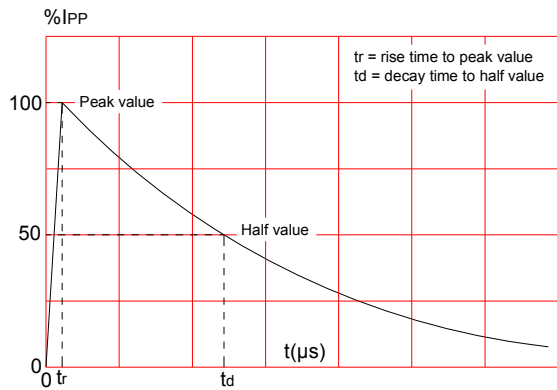
**ORDERING INFORMATION**

|                         |                |                 |                  |                             |
|-------------------------|----------------|-----------------|------------------|-----------------------------|
| <b>P</b>                | <b>420</b>     | <b>0</b>        | <b>T</b>         | <b>B</b>                    |
| Series code<br>P: SIDAC | Median voltage | 0: Bi-direction | Package type:SMA | Surge ratings:4kV(10/700μs) |

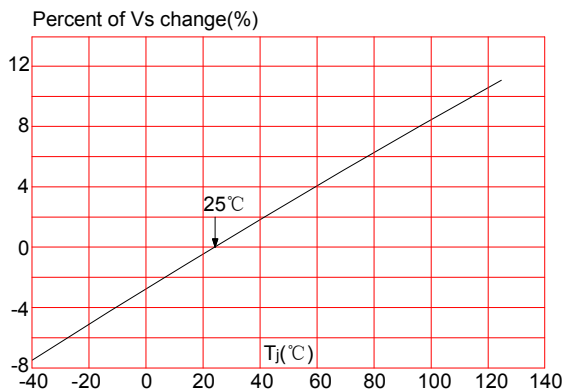
**SOLDERING PARAMETERS**

|  |                                   |                                 |
|--|-----------------------------------|---------------------------------|
| Reflow Condition                                       |                                   | Pb-Free assembly<br>(see FIG.2) |
| Pre Heat   | -Temperature Min ( $T_{s(min)}$ ) | +150°C                          |
|  | -Temperature Max( $T_{s(max)}$ )  | +200°C                          |
|  | -Time (Min to Max) (ts)           | 60-180 secs.                    |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                   | 3°C/sec. Max                    |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                   |                                   | 3°C/sec. Max                    |
| Reflow   | -Temperature( $T_L$ ) (Liquidus)  | +217°C                          |
|  | -Temperature( $t_L$ )             | 60-150 secs.                    |
| Peak Temp ( $T_p$ )                                    |                                   | +260(+0/-5)°C                   |
| Time within 5°C of actual Peak Temp ( $t_p$ )          |                                   | 30secs. Max                     |
| Ramp-down Rate   |                                   | 6°C/sec. Max                    |
| Time 25°C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                      |
| Do not exceed  |                                   | +260°C                          |

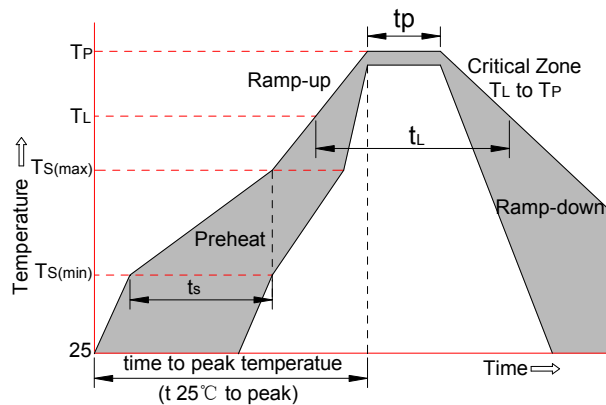
**FIG.1:** tr × td pulse waveform



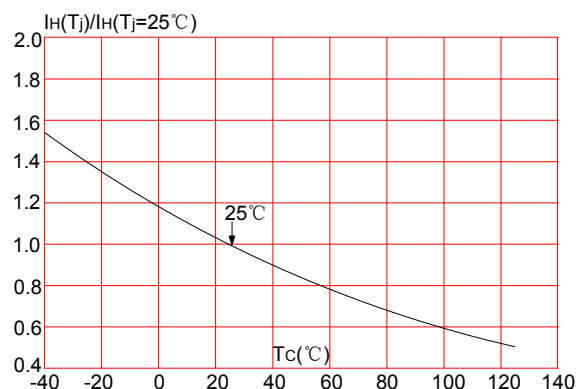
**FIG.3:** Normalized Vs change vs. junction temperature



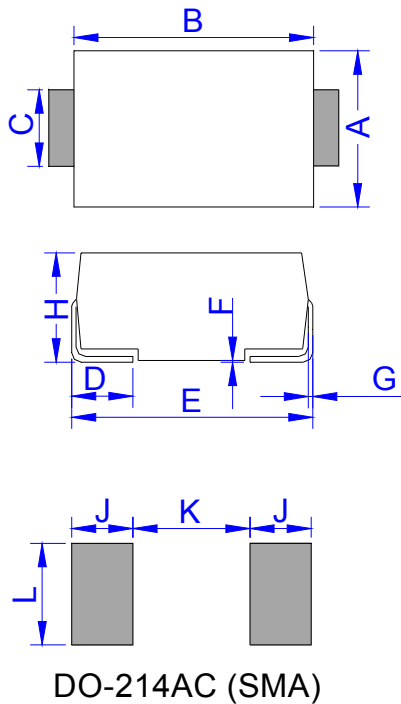
**FIG.2:** Reflow condition



**FIG.4:** Normalized DC holding current vs. case temperature

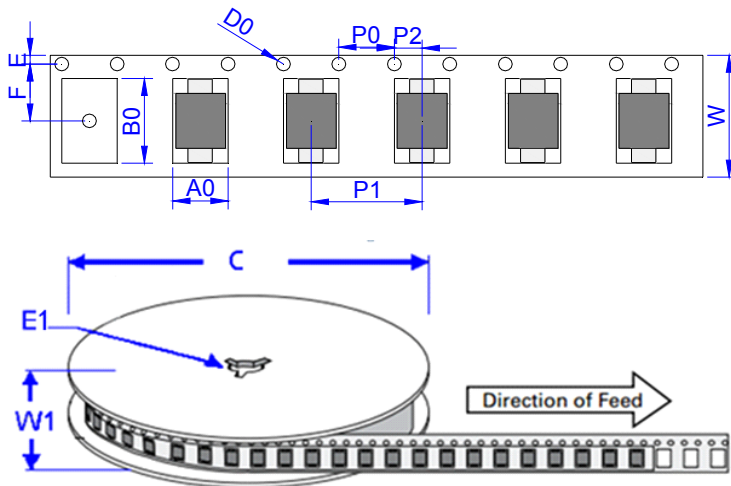


**PACKAGE MECHANICAL DATA**



| Ref. | Dimensions  |       |        |       |
|------|-------------|-------|--------|-------|
|      | Millimeters |       | Inches |       |
|      | Min.        | Max.  | Min.   | Max.  |
| A    | 2.60        | 3.00  | 0.102  | 0.118 |
| B    | 4.15        | 4.65  | 0.163  | 0.183 |
| C    | 1.25        | 1.65  | 0.049  | 0.065 |
| D    | 0.95        | 1.52  | 0.037  | 0.060 |
| E    | 4.90        | 5.30  | 0.193  | 0.209 |
| F    | 0.051       | 0.203 | 0.002  | 0.008 |
| G    | 0.15        | 0.31  | 0.006  | 0.012 |
| H    | 2.00        | 2.44  | 0.079  | 0.096 |
| J    | 2.00        |       | 0.079  |       |
| K    |             | 2.30  |        | 0.091 |
| L    | 1.80        |       | 0.071  |       |


**TAPE AND REEL SPECIFICATION-SMA**



| Ref. | Dimensions  |               |
|------|-------------|---------------|
|      | Millimeters | Inches        |
| A0   | 2.79 ± 0.3  | 0.110 ± 0.012 |
| B0   | 5.33 ± 0.3  | 0.210 ± 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   | 4.00 ± 0.2  | 0.157 ± 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 |

| PART No. | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | PER CARTON (PCS) | DESCRIPTION       |
|----------|--------------------------|------------|------------------|-------------------|
| P4200TB  | 0.069                    | 7,500      | 120,000          | 13 inch reel pack |

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