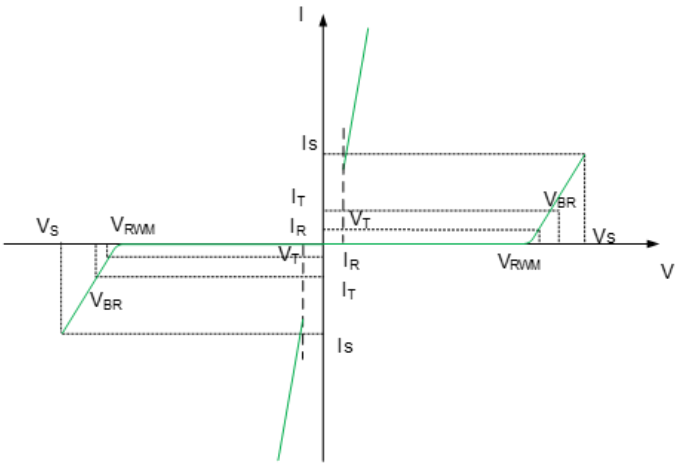
**TSS** components are solid state crowbar devices designed to protect telecom equipment during transient conditions， as follows:

- 1.Excellent transient voltage suppression
- 2. Wide range of voltage ratings
- 3. Symmetrical V-1 characteristics (Non Polarity)
- 4. Fast response
- 5. Steady operation for repeating surge
- 6.Low temperature coefficient
- 7.High reliability

## CHARACTERISTICS




| Parameter | Definition |
|---|---|
| $C_o$ | **Off-state Capacitance** — typical capacitance measured in off state |
| di/dt | **Rate of Rise of Current** — maximum rated value of the acceptable rate of rise in current over time |
| $I_S$ | **Switching Current** — maximum current required to switch to on state |
| $I_{DRM}$ | **Leakage Current** — maximum peak off-state current measured at $V_{DRM}$ |
| $I_H$ | **Holding Current** — minimum current required to maintain on state |
| $I_{PP}$ | **Peak Pulse Current** — maximum rated peak impulse current |
| $I_T$ | **On-state Current** — maximum rated continuous on-state current |
| $V_S$ | **Switching Voltage** — maximum voltage prior to switching to on state |
| $V_{DRM}$ | **Peak Off-state Voltage** — maximum voltage that can be applied while maintaining off state |
| $V_T$ | **On-state Voltage** — maximum voltage measured at rated on-state current |

## Electrical Characteristics

| Part Number | $V_{DRM}$ | $V_S$ | $V_T@I_T$ | $I_{DRM}@V_{DRM}$ | $I_S$ | $I_T$ | $I_H$ | $C_O$ |
|---|---|---|---|---|---|---|---|---|
| | Volts | Volts | Volts | μAmps | μAmps | Amps | mAmps | pF |
| **P0080TA** | 6 | 25 | 4 | 5 | 800 | 2.2 | 50 | 60 |
| **P0300TA** | 25 | 40 | 4 | 5 | 800 | 2.2 | 50 | 65 |
| **P0640TA** | 58 | 77 | 4 | 5 | 800 | 2.2 | 150 | 45 |
| **P0720TA** | 65 | 88 | 4 | 5 | 800 | 2.2 | 150 | 45 |
| **P1100TA** | 90 | 130 | 4 | 5 | 800 | 2.2 | 150 | 45 |
| **P2300TA** | 190 | 260 | 4 | 5 | 800 | 2.2 | 150 | 45 |
| **P2600TA** | 220 | 300 | 4 | 5 | 800 | 2.2 | 150 | 45 |
| **P3100TA** | 275 | 350 | 4 | 5 | 800 | 2.2 | 150 | 40 |
| **P3500TA** | 320 | 400 | 4 | 5 | 800 | 2.2 | 150 | 40 |

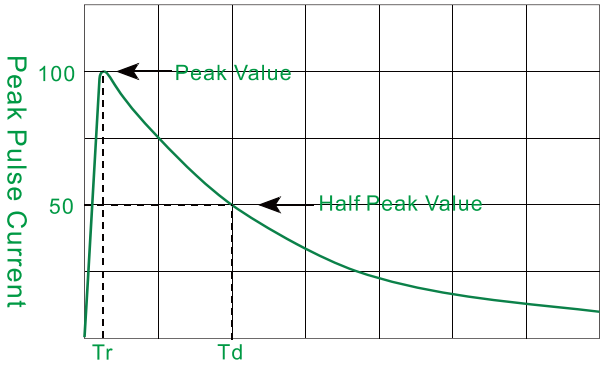
Notes:

- All measurements are made at an ambient temperature of 25℃. IPP applies to -40℃ through +85℃ temperature range.
- Off-state capacitance ($C_O$) is measured at 1 MHz with a 2 V bias and is typical value.

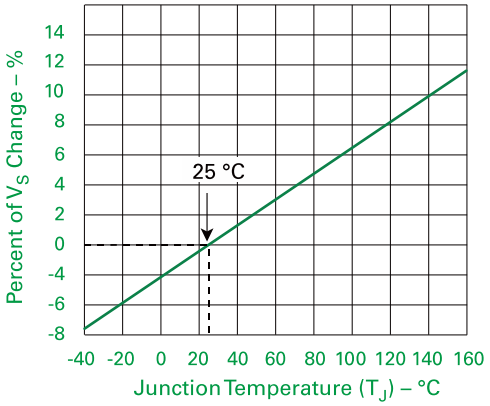
## Surge Ratings

| Series | 2/10μs | 8/20μs | 10/160μs | 10/560μs | 10/1000μs | 60HZ | di/dt |
|---|---|---|---|---|---|---|---|
| A | 150Amps | 150Amps | 90Amps | 50Amps | 45Amps | 10Amps | 500 Amps/μs |
| B | 250Amps | 250Amps | 150Amps | 100Amps | 80Amps | 30Amps | |
| C | 400Amps | 400Amps | 200Amps | 150Amps | 100Amps | 50Amps | |

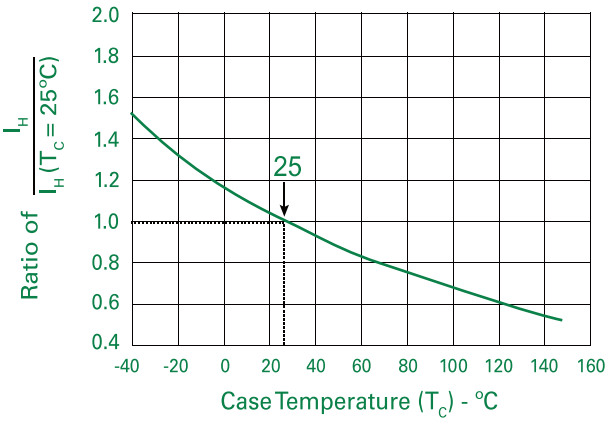
## $t_r$ x $t_d$ Pulse Waveform




## Normalized $V_S$ Change vs. Junction Temperature

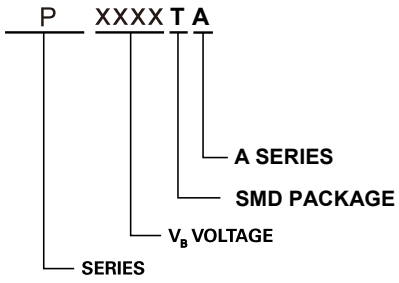



## Normalized DC Holding Current vs. Case Temperature

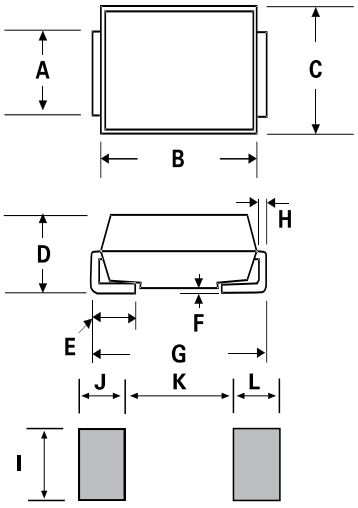



| Reflow Parameter | Lead-Free Requirement |
|---|---|
| Preheat (depending on flux only)<br>Temperature Min<br>Temperature Max<br>Time (Min to Max) | <br>150°C<br>200°C<br>60–180 seconds |
| Solder Pot Temperature | 245–265°C (Max) |
| Solder Dwell Time | 2–3.5 seconds |
| Cooling | -6°C/second (Max) |

## Part Numbering




## Package DO214AC/SMA




| Dimensions | Inches | | Millimeters | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.049 | 0.065 | 1.250 | 1.650 |
| B | 0.157 | 0.177 | 3.990 | 4.500 |
| C | 0.100 | 0.110 | 2.540 | 2.790 |
| D | 0.078 | 0.090 | 1.980 | 2.290 |
| E | 0.030 | 0.060 | 0.780 | 1.520 |
| F | - | 0.008 | - | 0.203 |
| G | 0.194 | 0.208 | 4.930 | 5.280 |
| H | 0.006 | 0.012 | 0.152 | 0.305 |
| I | 0.070 | - | 1.800 | - |
| J | 0.082 | - | 2.100 | - |
| K | - | 0.090 | - | 2.300 |
| L | 0.082 | - | 2.100 | - |

## Packing Options

| Package Type | Description | Quantity |
|---|---|---|
| SMA | PXXXXTA | 5000pcs |