

Thyristor Surge Suppressors

Description

Package: DO-214AC / SMA



Pxxx0TA Series are micro capacitance Thyristor Surge Suppressor designed to protect telecommunications equipment such as ADSL Modems, Router, Telephone, CCTV Camera, Digital Video Record, Video Capture Card, Twisted-pair video transmitter, CATV Splitter....Etc.

Pxxx0TA Series Thyristor Surge Suppressor are used to enable equipment to meet various regulatory requirements including GR 1089, ITU K.20/21, IEC 61000-4-5, YD/T 1082, YD/T 993, YD/T 950, TIA-968-A, TIA-968-B



Features

Compared to surge suppression using other technologies, **Pxxx0TA Series** devices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt). **Pxxx0TA Series** devices:

- 100% Lead-Free (RoHS Compliant)
- Can not be damaged by voltage
- Eliminate hysteresis and heat dissipation typically found with clamping devices
- Eliminate voltage overshoot caused by fast-rising transients
- Are non-degenerative
- Have low capacitance, making them ideal for high-speed transmission equipment

Electrical Characteristics

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

Electrical Characteristics



| Part Number | Marking | V _{DRM} | V _S | I _H | I _S | I _T | V _{T@I_T=} | Capacitance | Delivery Time | |
|------------------|--------------|--------------------------|------------------|----------------|----------------|----------------|-------------------------------|---------------|---------------|---------|
| | | @I _{DRM} =5 μ A | @100V/μs | Min | Max | Max | 2.2Amps | @1MHz,2V bias | in stock | Produce |
| | | V _{min} | V _{max} | mA | mA | A | V _{max} | pF | | |
| P0080TA | P008A | 6 | 25 | 50 | 800 | 2.2 | 4 | 35pF | 4 days | 4days |
| P0080TAMC | P008A | 6 | 25 | 50 | 800 | 2.2 | 4 | 12pF | 4 days | 7days |
| P0300TA | P03A | 25 | 40 | 50 | 800 | 2.2 | 4 | 40pF | 4 days | 12days |
| P0640TA | P06A | 58 | 77 | 150 | 800 | 2.2 | 4 | 35pF | 4 days | 12days |
| P2300TA | P23A | 190 | 260 | 150 | 800 | 2.2 | 4 | 40pF | 4 days | 7days |
| P2600TA | P26A | 220 | 300 | 150 | 800 | 2.2 | 4 | 35pF | 4 days | 12days |
| P3100TA | P31A | 275 | 350 | 150 | 800 | 2.2 | 4 | 35pF | 4 days | 7days |
| P3500TA | P35A | 320 | 400 | 150 | 800 | 2.2 | 4 | 30pF | 4 days | 12days |

Notes:

-All measurements are made at an ambient temperature of 25°C .Ipp applies to -40°C through +85°C temperature range .


-Off-state capacitance(Co) is typical value.

*For surge ratings,see next page.

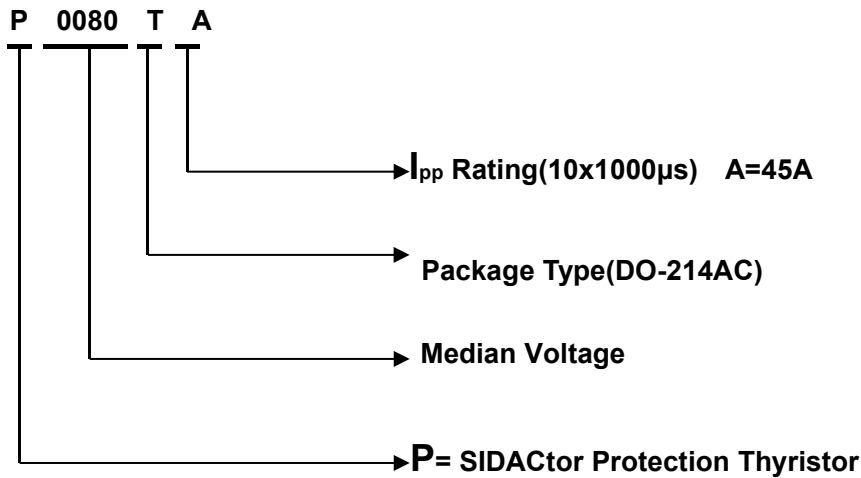
Surge Ratings

| Series | I_{pp} 2x10 μ s | I_{pp} 8x20 μ s | I_{pp} 10x160 μ s | I_{pp} 10x560 μ s | I_{pp} 10x1000 μ s | I_{pp} 5x320 μ s | I_{pp} 5x310 μ s | I_{pp} 10x360 μ s | I_{TSM} 50/60Hz | |
|--------|--------------------------|--------------------------|----------------------------|----------------------------|-----------------------------|---------------------------|---------------------------|----------------------------|----------------------|--|
| | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | |
| A | 150 | 150 | 90 | 50 | 45 | 75 | 75 | 75 | 20 | |

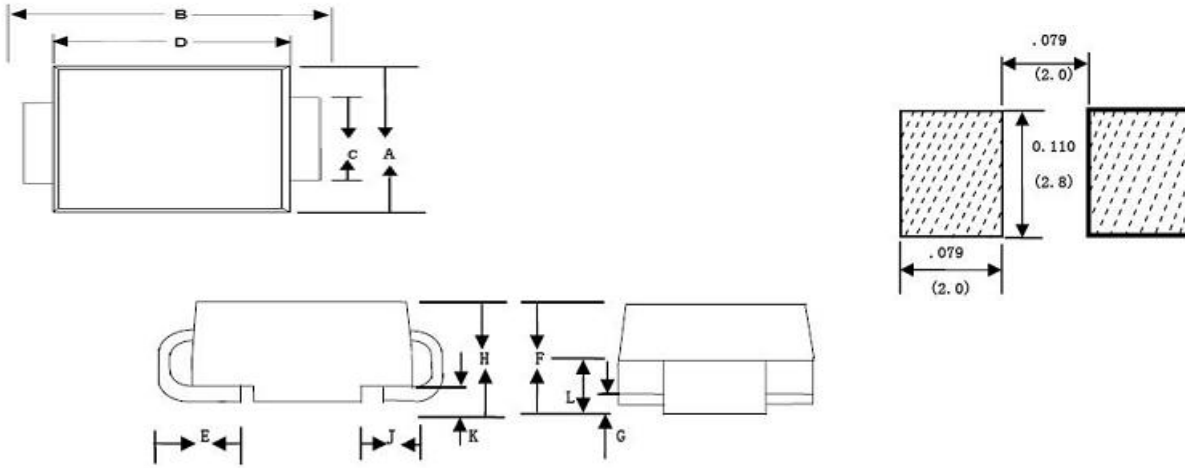
Thermal Considerations

| Package: DO-214AC/SMA | Symbol | Parameter | Value | Unit |
|---|-----------------|--|-------------|---------------|
|  | T_J | Operating Junction Temperature Range | -40 to +150 | $^{\circ}C$ |
| | T_S | Storage Temperature Range | -65 to +150 | $^{\circ}C$ |
| | $R_{\theta JA}$ | Junction to Ambient on printed circuit | 90 | $^{\circ}C/W$ |

Description of Part Number



Dimensions - DO-214AC



| Dimension | Inches | | Millimeters | |
|-----------|--------|-------|-------------|------|
| | Min | Max | Min | Max |
| A | 0.098 | 0.114 | 2.50 | 2.90 |
| B | 0.188 | 0.208 | 4.80 | 5.28 |
| C | 0.055 | 0.062 | 1.40 | 1.60 |
| D | 0.157 | 0.181 | 4.00 | 4.60 |
| E | 0.030 | 0.060 | 0.76 | 1.52 |
| F | 0.078 | 0.096 | 2.00 | 2.44 |
| H | 0.080 | 0.104 | 2.05 | 2.64 |

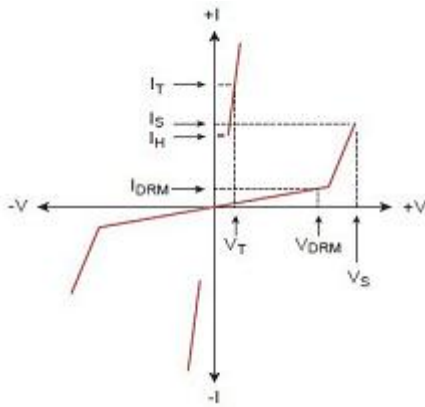
Packing Options



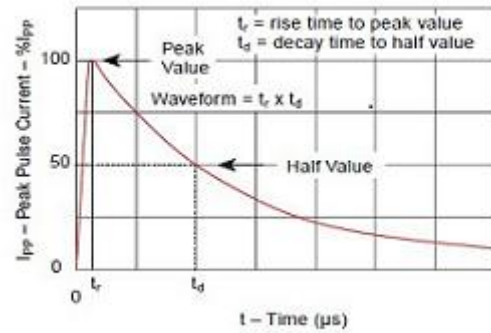
| Package Type | Description | Packing Quantity | Industry Standard |
|--------------|--------------------|------------------|-------------------|
| A | DO-214AC Reel Pack | 5000 PCS | EIA-481-D |

Characteristics Curve

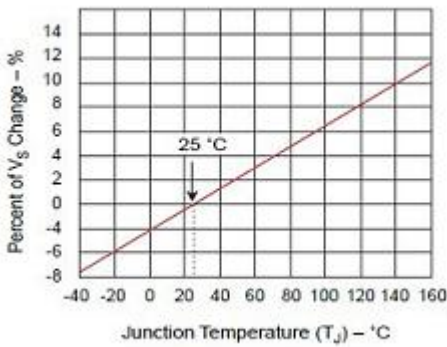
V-I Characteristics



Tr x Td Pulse Waveform



Normalized Vs Change Versus Junction Temperature



Normalized DC Holding Current Versus Case Temperature

