



SMA TSS SERIES

Thyristor Surge Suppressors



Features

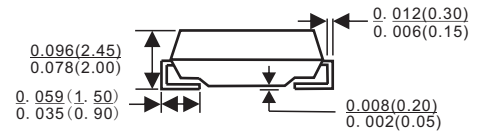
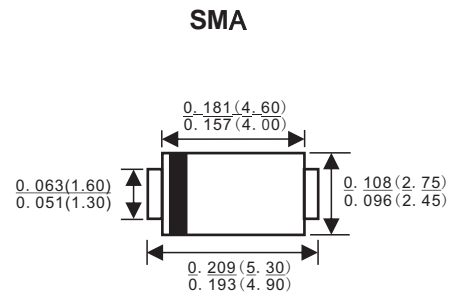
- Low switching voltage
- Low on-state voltage
- Does not degrade surge capability after multiple surge events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance

Typical Applications

- Protect circuit

Mechanical Data

- **Package:** DO-214AC(SMA)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



Dimensions in inches and (millimeters)

Maximum Ratings (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | Max |
|---|------------------|------|----------|
| Storage temperature | T _{stg} | °C | -55~+150 |
| Junction temperature | T _j | °C | -55~+150 |
| Thermal resistance(Junction to Ambient) | R _{θJA} | °C | 120 |
| Thermal resistance(Junction to Lead) | R _{θJL} | °C | 30 |

Electrical Characteristics (T_a=25°C Unless otherwise specified)

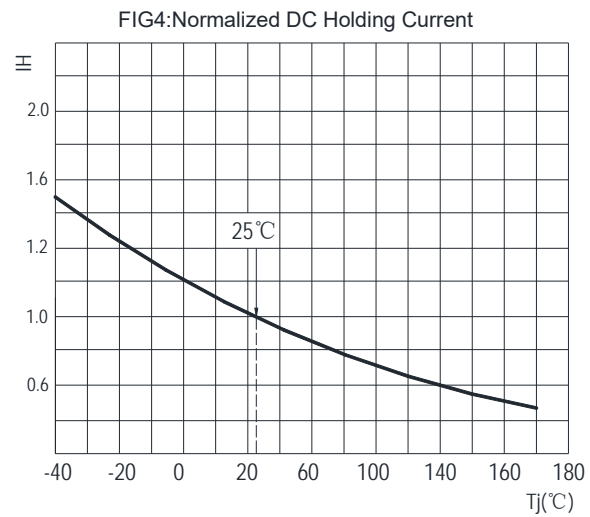
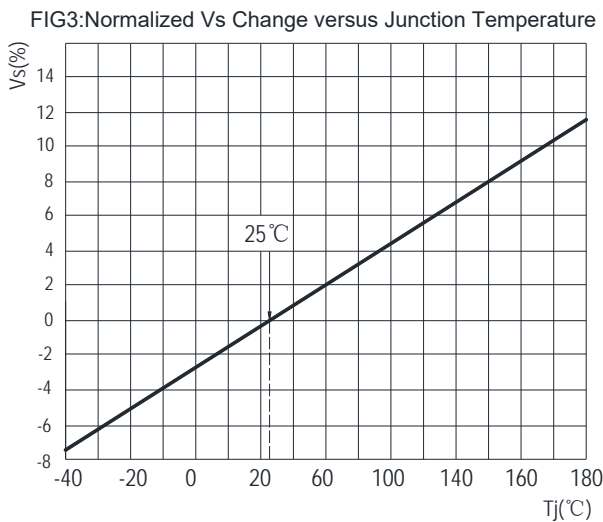
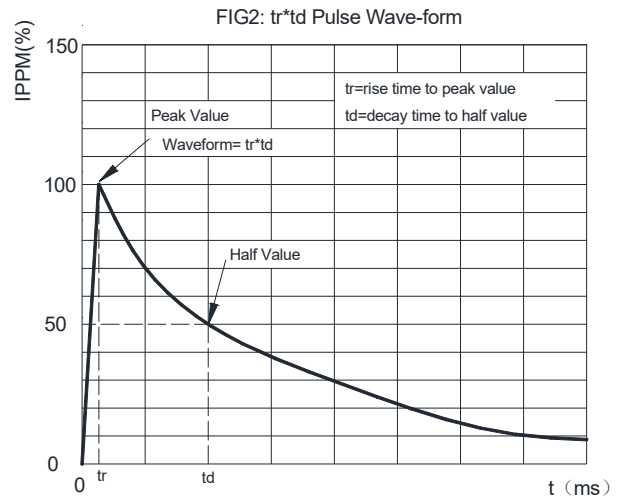
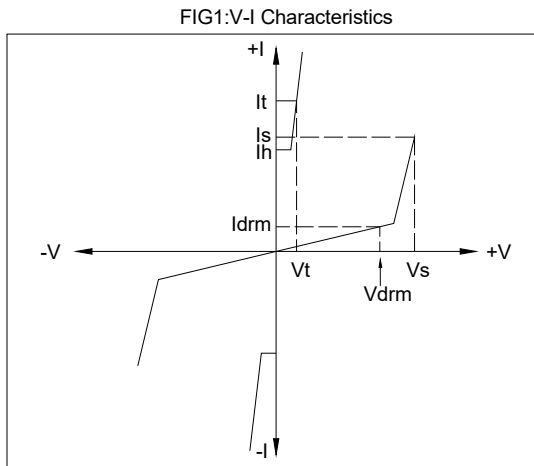
| Part Number | V _{drm} @I _{drm} =5μA (V) | V _s (V) | V _t @I _t =2.2Amps (V) | I _{drm} @V _{drm} (μA) | I _s (mA) | I _t (A) | I _h (mA) | C _o @1MHz,2V bias (pF) | Marking |
|-------------|---|-----------------------|---|--|------------------------|-----------------------|------------------------|---|---------|
| | Min | Max | Max | Max | Max | Max | Min | Typ. | |
| P0080TA | 6 | 25 | 4 | 5 | 800 | 2.2 | 30 | 60 | P008A |
| P0300TA | 25 | 40 | 4 | 5 | 800 | 2.2 | 50 | 65 | P03A |
| P0640TA | 58 | 77 | 4 | 5 | 800 | 2.2 | 150 | 45 | P06A |
| P0720TA | 65 | 88 | 4 | 5 | 800 | 2.2 | 150 | 45 | P07A |
| P0900TA | 75 | 98 | 4 | 5 | 800 | 2.2 | 150 | 40 | P09A |
| P1100TA | 90 | 130 | 4 | 5 | 800 | 2.2 | 150 | 40 | P11A |
| P1300TA | 120 | 160 | 4 | 5 | 800 | 2.2 | 150 | 40 | P13A |
| P1500TA | 140 | 180 | 4 | 5 | 800 | 2.2 | 150 | 35 | P15A |
| P1800TA | 170 | 220 | 4 | 5 | 800 | 2.2 | 150 | 65 | P18A |
| P2000TA | 180 | 220 | 4 | 5 | 800 | 2.2 | 150 | 60 | P20A |
| P2300TA | 190 | 260 | 4 | 5 | 800 | 2.2 | 150 | 60 | P23A |
| P2600TA | 220 | 300 | 4 | 5 | 800 | 2.2 | 150 | 45 | P26A |
| P3100TA | 275 | 350 | 4 | 5 | 800 | 2.2 | 150 | 45 | P31A |
| P3500TA | 320 | 400 | 4 | 5 | 800 | 2.2 | 150 | 40 | P35A |
| P4000TA | 360 | 460 | 4 | 5 | 800 | 2.2 | 150 | 40 | P40A |



Surge ratings

| Series | Ipp 2/10us (A) | Ipp 8/20us (A) | Ipp 10/160us (A) | Ipp 10/560us (A) | Ipp 10/1000us (A) | ITSM 60Hz (A) | di/dt (A/μS) |
|--------|----------------------|----------------------|------------------------|------------------------|-------------------------|---------------------|-----------------|
| | Min | Min | Min | Min | Min | Min | Min |
| A | 150 | 150 | 90 | 50 | 45 | 20 | 500 |

■ Characteristics Curves(Typical)



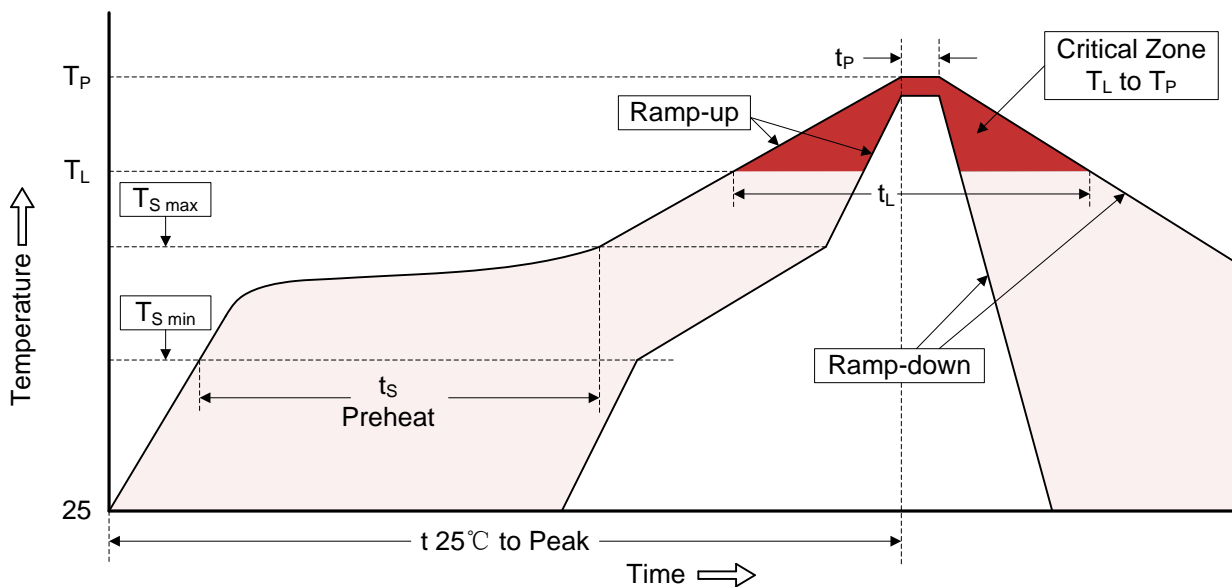
■ Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-----------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| P0080TA-P4000TA | Approximate 0.064 | 5000 | 10000 | 80000 | 11" reel |



Recommended Soldering Conditions

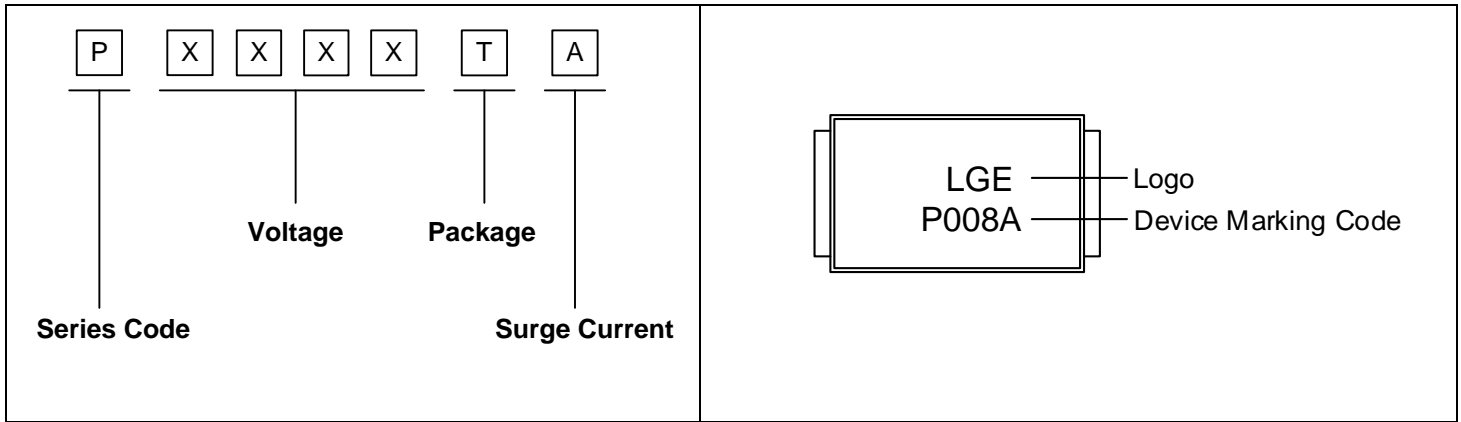
Reflow Soldering



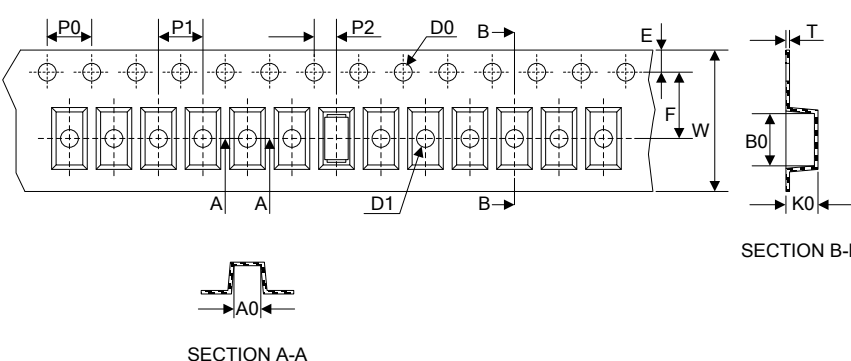
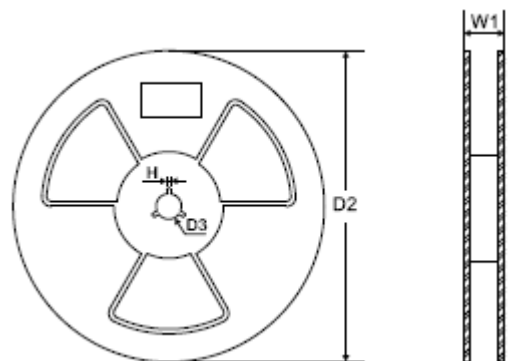
Recommended Conditions

| Profile Feature | Pb-Free Assembly |
|---|----------------------------------|
| Average ramp-up rate (T_L to T_P) | 3°C/second max. |
| Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s) | 150°C 200°C 60-180 seconds |
| $T_{S\ max}$ to T_L -Ramp-up Rate | 3°C/second max. |
| Time maintained above: -Temperature (T_L) -Time (t_L) | 217°C 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 | 8 minutes max. |

Part Number Code and Marking



Packaging

| Tape | | Symbol | Dimension (mm) |
|---|--|-------------------|----------------|
|  | | W | 12.00±0.20 |
| | | P0 | 4.00±0.10 |
| | | P1 | 4.00±0.10 |
| | | P2 | 2.00±0.10 |
| | | D0 | Φ1.50±0.10 |
| | | D1 | Φ1.50±0.10 |
| | | E | 1.75±0.10 |
| | | F | 5.50±0.10 |
| | | A0 | 2.79±0.10 |
| | | B0 | 5.33±0.10 |
| | | K0 | 2.55±0.10 |
| | | T | 0.25±0.05 |
| | | Reel | |
|  | | D3 | Φ13.5±0.5 |
| | | H | 2.5±0.5 |
| | | W1 | 16.0±1.0 |
| | | Quantity: 5000PCS | |