



WP61065x

High Property Device for Surge & ESD Protection

This device has been especially designed to protect 1 low voltage or signal line, as well as classical RS-485 interface, against transient over-voltages.

ESD-voltages are clamped by 2 TVS diodes. Surges are suppressed by 2 thyristors, their breakdown voltage close to 8V, then their leakage current as low as 1uA.

This devices are not subject to ageing and provide a fail safe mode in short circuit for a better protection. WPM are used to help equipment to meet various standards such as UL1950, IEC950 / CSA C22.2, UL1459 and FCC part68.

Features

- Integrated the two TVS diodes and two thyristor
- Accurate voltage of protection
- Low switching voltages: V_{BR}
- Low leakage current: $I_R = 5 \text{ uA max}$
- High Peak pulse current
- Solid-state silicon technology
- Meets MSL 1 Requirements
- ROHS compliant
- WeiPan technology



SMA-J



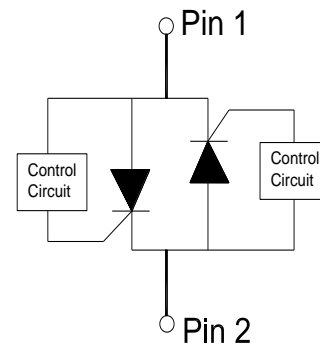
SMB

Main applications

- RS-485 interface
- Telecommunications infrastructure
- PBX's and other switches
- Set-top box
- Ammeter

Protection solution to meet

- TIA-968-A/TIA-968-B
- ITU K.20/21 Enhanced Level*/Basic Level
- GR 1089 Inter-building*/Intra-building
- IEC 61000-4-5
- IEC61000-4-2
- YD/T 1082
- YD/T 993
- YD/T 950



Ordering Information

| Device | Qty per Reel | Reel Size |
|----------|--------------|-----------|
| WP61065A | 5000 | 13 Inch |
| WP61065B | 2500 | 13 Inch |

Maximum ratings (Tamb=25°C Unless Otherwise Specified)

| Parameter | Symbol | Value | Unit |
|--|-------------------|-------------------------|------|
| Non-repetitive peak on-state current: WP61065A 10/1000 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) 5/320 us (ITU-T K.20, K.21& K.45, K.44 open-circuit voltage wave shape 10/700us) 1.2/50 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) 2/10 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) | I _{PPSM} | 45 60 60 80 | A |
| Non-repetitive peak on-state current: WP61065B 10/1000 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) 5/320 us (ITU-T K.20, K.21& K.45, K.44 open-circuit voltage wave shape 10/700us) 1.2/50 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) 2/10 us (Telcordia(Bellcore)Gr-1089-CORE.Issue 2.February 1999,Section4) | I _{PPSM} | 65 100 150 150 | A |
| Lead Soldering Temperature | T _L | 260 (10 sec.) | °C |
| Operating Temperature Range | T _J | -40 ~ 85 | °C |
| Storage Temperature Range | T _{STG} | -55 ~ 150 | °C |
| Lead Solder Temperature – Maximum (10 Second Duration) | T _L | 260 | °C |
| Junction To ambient | R _{θJA} | 100 | °C/W |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical characteristics (Tamb=25°C Unless Otherwise Specified)

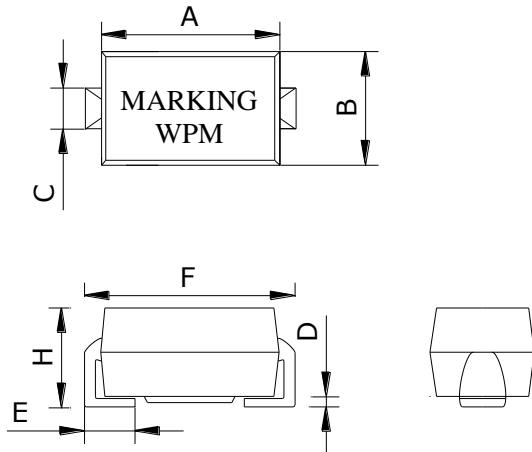
| Parameter | Symbol | Value | | | Unit |
|---|------------------|-------|--------------|------------|------|
| | | Min. | Typ. | Max. | |
| Repetitive peak off-state voltage, WP61065A WP61065B | V _{DRM} | | | ±8 ±8 | V |
| Reverse Leakage Current, V _R =6.5V WP61065A WP61065B | I _R | | | ±2 ±5 | uA |
| Reverse Breakdown Voltage, I _R =1mA WP61065A WP61065B | V _{BR} | | ±8.7 ±8.7 | | V |
| Impulse breakover voltage, dv/dt ≤ ±100 V/μs, Linear voltage ramp, WP61065A WP61065B | V _{BO} | | | ±16 ±14 | V |
| On-state voltage, T = ±2.2 A, t w = 100 μs WP61065A WP61065B | V _T | | | ±4 ±4 | V |
| Off-state capacitance, f = 1 MHz, V _d = 0.3V rms, V _{DC} = 0V WP61065A WP61065B | C _{off} | | | 55 110 | pF |

Package Information

SMA-J

Mechanical Data

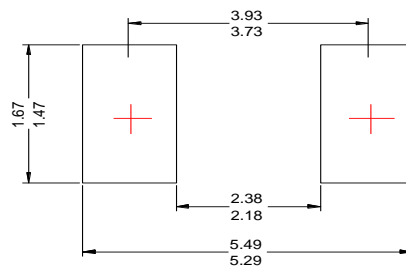
- Case: SMA-J
- Case Material: Molded Plastic. UL Flammability



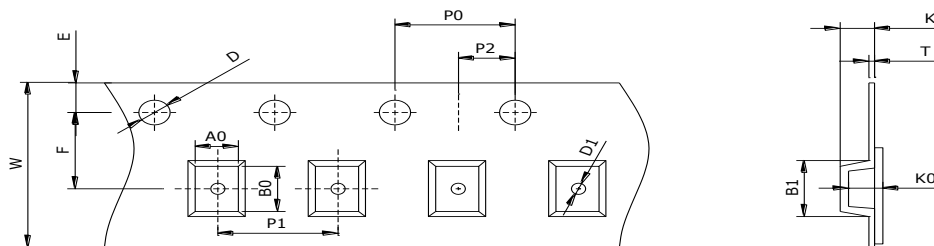
SMA-J

| DIM | Millimeters | | Inches | |
|-----|-------------|-------|--------|-------|
| | Min | Max | Min | Max |
| A | 3.90 | 4.40 | 0.154 | 0.173 |
| B | 2.45 | 2.76 | 0.096 | 0.109 |
| C | 1.45 | 1.95 | 0.057 | 0.077 |
| D | 0.150 | 0.203 | 0.006 | 0.008 |
| E | 0.76 | 1.52 | 0.030 | 0.060 |
| F | 4.06 | 6.26 | 0.160 | 0.246 |
| H | 1.90 | 2.40 | 0.075 | 0.094 |

Recommended Pad outline



SMA-J Reel Dim



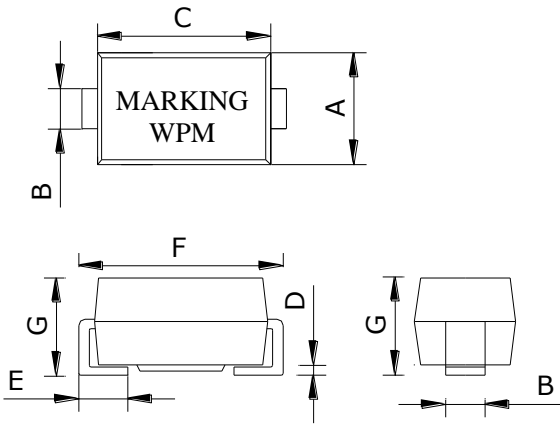
| Package | Chip Size (mm) | Pocket Size B0×A0×K0(mm) | Tape Width | Reel Diameter | Quantity Per Reel | P0 | P1 |
|---------|-------------------|-----------------------------|---------------|---------------|----------------------|------|-----|
| SMA-J | 5.0×2.50×2.00 | 5.10×2.60×2.10 | 12mm | 330mm(13inch) | 5000 | 4mm | 4mm |
| D | D1 | E | F | K | T | W | |
| 1.5mm | 1.0mm | 1.75mm | 3.5mm | 2.45mm | 0.5mm | 12mm | |

Package Information

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Mechanical Data

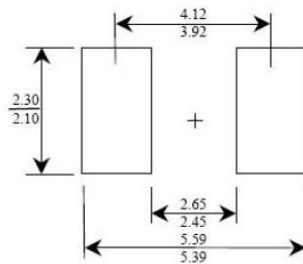
- Case: SMB
- Case Material: Molded Plastic. UL Flammability



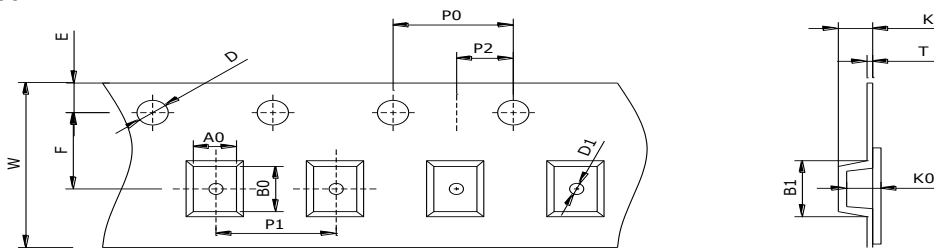
| DIM | Millimeters | | | Inches | | |
|-----|-------------|------|-------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 3.30 | 3.60 | 3.94 | 0.130 | 0.142 | 0.155 |
| B | 1.80 | 2.00 | 2.21 | 0.071 | 0.079 | 0.087 |
| C | 4.05 | 4.45 | 5.30 | 0.159 | 0.175 | 0.209 |
| D | 0.051 | 0.20 | 0.203 | 0.002 | 0.007 | 0.008 |
| E | 0.76 | 1.14 | 1.52 | 0.030 | 0.045 | 0.060 |
| F | 5.08 | 5.25 | 5.59 | 0.200 | 0.207 | 0.220 |
| G | 2.05 | 2.30 | 2.45 | 0.081 | 0.091 | 0.096 |

SMB

Recommended Pad outline



SMB Reel Dim



| Package | Chip Size (mm) | Pocket Size B0×A0×K0(mm) | Tape Width | Reel Diameter | Quantity Per Reel | P0 | P1 |
|---------|----------------|--------------------------|------------|---------------|-------------------|------|-----|
| SMB | 5.50×3.80×2.40 | 5.70×4.00×2.70 | 12mm | 330mm(13inch) | 2500 | 4mm | 8mm |
| D | D1 | E | F | K | T | W | |
| 1.5mm | 1.0mm | 1.75mm | 5.5mm | 2.5mm | 0.5mm | 12mm | |

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