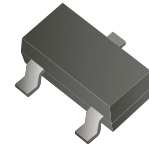


AGSOT24C-HF

RoHS Device
Halogen Free



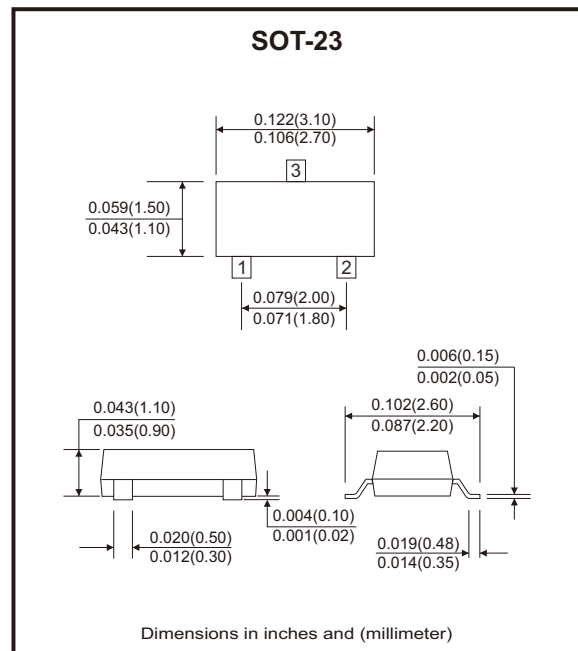
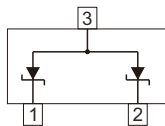
Features

- Two-line ESD-protection device.
- ESD-protection acc. IEC 61000-4-2.
±30 kV contact discharge
±30 kV air discharge
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-23, molded plastic.

Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter | Test Conditions | Symbol | Limits | Unit |
|-----------------------------|--|------------------|------------|------|
| Peak pulse power | Pin 1 to 3 or Pin 2 to 3 acc. IEC 61000-4-5, tp = 8/20 μs ; single shot | P _{pp} | 235 | W |
| | Pin 1 to 2 or Pin 2 to 1 ; Pin 3 not connected acc. IEC 61000-4-5, tp = 8/20 μs ; single shot | | 240 | |
| Peak pulse current | Pin 1 to 3 or Pin 2 to 3 acc. IEC 61000-4-5, tp = 8/20 μs ; single shot | I _{pp} | 5 | A |
| | Pin 1 to 2 or Pin 2 to 1 ; Pin 3 not connected acc. IEC 61000-4-5, tp = 8/20 μs ; single shot | | 5 | |
| ESD immunity | Contact discharge acc. IEC 61000-4-2 ; 10 pulses | V _{PP} | ±30 | kV |
| | Air discharge acc. IEC 61000-4-2 ; 10 pulses | V _{ESD} | ±30 | |
| Operating temperature range | Junction temperature | T _J | -55 ~ +150 | °C |
| Storage temperature range | | T _{STG} | -55 ~ +150 | °C |

Electrical Characteristics (at Ta=25°C unless otherwise noted)

Between Pin 1 to Pin 3 or Pin 2 to Pin 3

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|---|----------------------|-----|----------|----------|-------|
| Protection paths | Number of lines which can be protected | N _{channel} | | | 2 | lines |
| Reverse stand-off voltage | I _R = 1μA | V _{RWM} | | | 24 | V |
| Reverse current | V _R = 24V | I _R | | | 1 | μA |
| Reverse breakdown voltage | I _R = 1mA | V _{BR} | 27 | 30 | | V |
| Clamping voltage | I _{PP} = 1A I _{PP} = I _{PPM} = 5A | V _C | | 34 41 | 41 47 | V |
| Forward clamping voltage | I _{PP} = 1A I _{PP} = I _{PPM} = 5A | V _F | | 1 1.4 | 1.2 - | μA |
| Junction capacitance | V _R = 0V, f = 1MHz V _R = 12V, f = 1MHz | C _D | | 65 20 | 80 - | pF |

Between Pin 1 to Pin 2 or Pin 2 to Pin 1 ; Pin 3 not Connected

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---------------------------|---|----------------------|------|----------|----------|-------|
| Protection paths | Number of lines which can be protected | N _{channel} | | | 1 | lines |
| Reverse stand-off voltage | I _R = 1μA | V _{RWM} | | | 24.5 | V |
| Reverse current | V _R = 24.5V | I _R | | | 1 | μA |
| Reverse breakdown voltage | I _R = 1mA | V _{BR} | 27.5 | 30.7 | | V |
| Clamping voltage | I _{PP} = 1A I _{PP} = I _{PPM} = 5A | V _C | | 34 40 | 41 48 | V |
| Junction capacitance | V _R = 0V, f = 1MHz V _R = 12V, f = 1MHz | C _D | | 33 18 | 40 - | pF |

Rating and Characteristic Curves (AGSOT24C-HF)

Fig.1 - Typical Forward Current vs. Forward Voltage

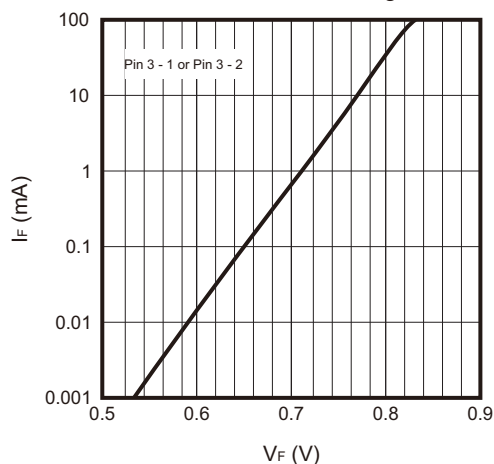
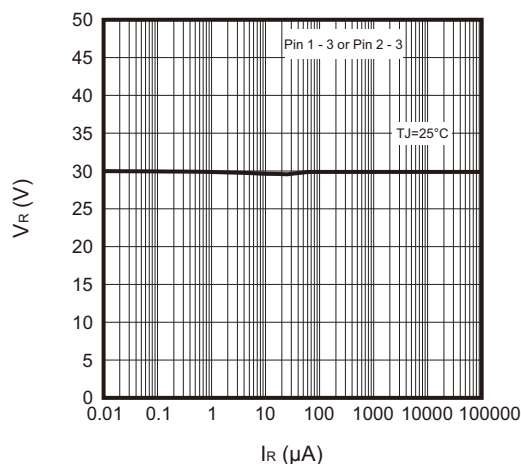
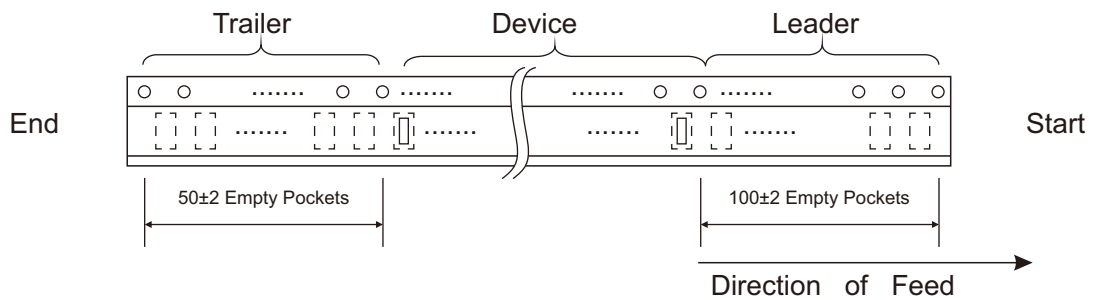
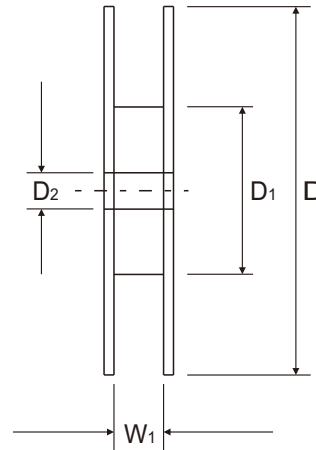
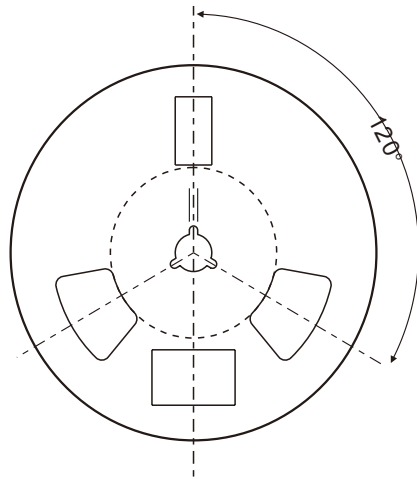
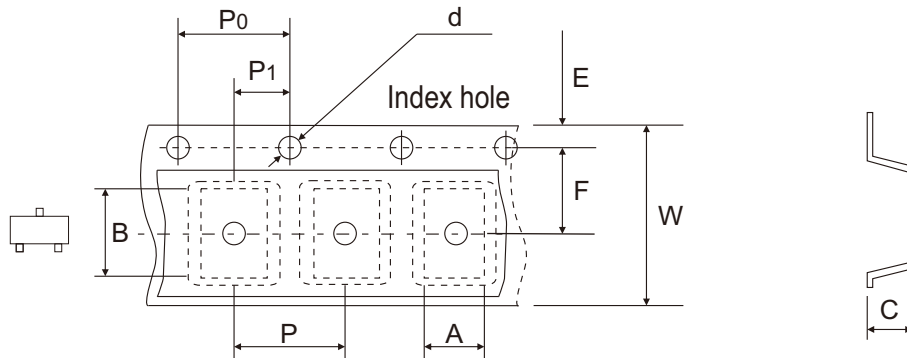


Fig.2 - Typical Reverse Voltage vs. Reverse Current



Reel Taping Specification



| SOT-23 | SYMBOL | A | B | C | d | D | D1 | D2 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 3.15 ± 0.10 | 2.77 ± 0.10 | 1.22 ± 0.10 | 1.50 ± 0.10 | 178.00 ± 1.00 | 54.00 ± 0.50 | 13.00 ± 0.50 |
| | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.039 | 2.126 ± 0.020 | 0.512 ± 0.020 |

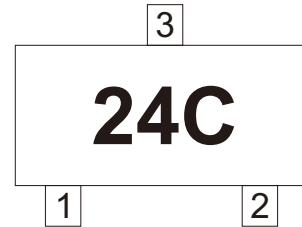
| SOT-23 | SYMBOL | E | F | P | P0 | P1 | W | W1 |
|--------|--------|---------------|---------------|---------------|---------------|---------------|--------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 8.00 + 0.30 - 0.10 | 9.50 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.315 + 0.012 - 0.004 | 0.374 ± 0.039 |

Company reserves the right to improve product design, functions and reliability without notice.

REV:A

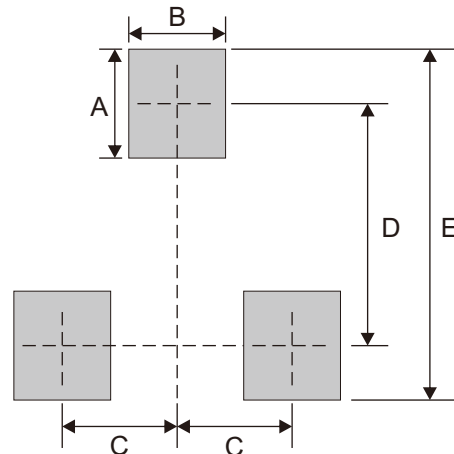
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| AGSOT24C-HF | 24C |



Suggested PAD Layout

| SIZE | SOT-23 | |
|------|--------|--------|
| | (mm) | (inch) |
| A | 0.90 | 0.035 |
| B | 0.80 | 0.031 |
| C | 0.95 | 0.037 |
| D | 2.00 | 0.079 |
| E | 2.90 | 0.114 |



Note: 1. The pad layout is for reference purposes only.

Standard Packaging

| Case Type | REEL PACK | |
|-----------|------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-23 | 3,000 | 7 |