






**THE DATASHEET OF  
1N5404**



**SPECIFICATION SHEET**

|                                |   |
|--------------------------------|---|
| <b>SPECIFICATION SHEET NO.</b> | N0929-DO271N5404A340  |
| <b>DATE</b>                    | Sept. 29, 2021  |
| <b>REVISION</b>                | A0  |
| <b>DESCRIPTION</b>             | <p>Axial Lead General Purpose Silicon Rectifier, DO-27/DO-201AD series,<br/>1N5404 Type 2 Pins</p> <p>Reverse Voltage 400V Max. Forward Current 3.0A Max.</p> <p>Operating Temp. Range -65°C ~+150°C</p> <p>Package in AMMO Pack, 1000pcs/Tape, Tape/Box</p> <p>RoHS/RoHS III compliant</p> |
| <b>CUSTOMER</b>                |   |
| <b>CUSTOMER PART NUMBER</b>    |   |
| <b>CROSS REF. PART NUMBER</b>  |   |
| <b>ORIGINAL PART NUMBER</b>    | MDD 1N5404  |
| <b>PART CODE</b>               | DO271N5404A340  |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: Sept. 29, 2021    |   |  |   |

|                         |  |
|-------------------------|--|
| <b>CUSTOMER APPROVE</b> |  |
|                         |  |
| DATE:                   |  |

**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

**MAIN FEATURE**



- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- High forward surge current capability
- High temperature soldering guaranteed, 250 °C/10 seconds at terminals
- Low reverse leakage
- Construction utilizes void free molded plastic technique

**APPLICATION**

- For printed circuit board

**RFQ**  
Request For Quotation

**PART CODE GUIDE**

| DO27 | 1N5404 | A | 340 |
|------|--------|---|-----|
| 1    | 2      | 3 | 4   |

- 1) **DO27**: Axial Lead General Purpose Silicon Rectifier, 2 Pins, DO-27/DO-201AD series
- 2) **1N5404**: Type Code for original part number 1N5404
- 3) **A**: Package code, Package in AMMO Pack, 1000pcs/Tape, Tape/Box
- 4) **340** Specification code for Forward Current 3.0A Max. Reverse Voltage 400V Max.

**MORE ITEMS AVAILABLE**

|                |                |                |                |                       |
|----------------|----------------|----------------|----------------|-----------------------|
| DO271N5400A305 | DO271N5401A310 | DO271N5402A320 | DO271N5403A330 | <b>DO271N5404A340</b> |
| DO271N5405A350 | DO271N5406A360 | DO271N5407A380 | DO271N5408A30A |                       |

**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

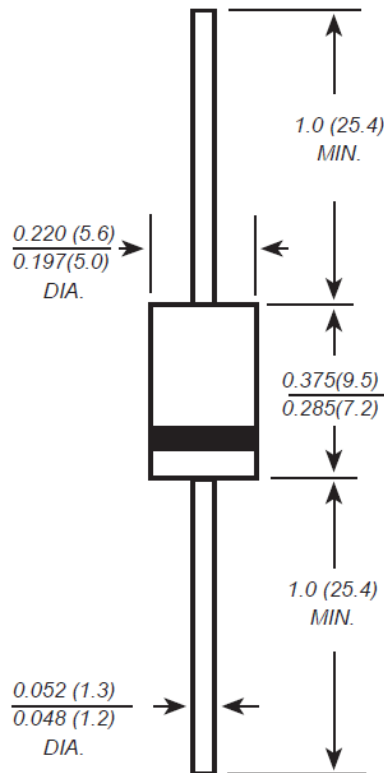
**DIMENSION (Unit: Inch/mm)**

Image for reference



Marking: 1N5404

DO-27/DO-201AD



**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**
**MECHANICAL DATA**

| Case   | Terminals   | Polarity                           | Mounting Position | Weight per piece         |
|--|---|------------------------------------|-------------------|--------------------------|
| JEDEC<br>DO-27/DO-201AD<br>molded plastic body | Solder plated,<br>Solderable per<br>MIL-STD-750,<br>Method 2026 | Polarity symbol<br>marking on case | Any               | 0.04 Ounce,<br>1.1 grams |

**MAX. RATING & CHARACTERISTICS**

| Parameter   | SYMBOLS          | VALUE |         |       | UNITS |
|---|------------------|-------|---------|-------|-------|
|   |                  | Min.  | Typical | Max.  |       |
| <b>Repetitive peak reverse voltage</b>  | V <sub>RRM</sub> |       |         | 400   | Volts |
| <b>RMS voltage</b>  | V <sub>RMS</sub> |       |         | 280   | Volts |
| <b>DC blocking voltage</b>  | V <sub>DC</sub>  |       |         | 400   | Volts |
| <b>Average forward output rectified current at TL= 75°C</b>   | I <sub>AV</sub>  |       |         | 3.0   | A     |
| <b>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)</b> | I <sub>FSM</sub> |       |         | 150.0 | A     |
| <b>Instantaneous forward voltage at 3.0A</b>  | V <sub>F</sub>   |       |         | 1.2   | Volts |
| <b>DC reverse current at rated DC blocking voltage</b>  | I <sub>R</sub>   |       |         | 5.0   | μA    |
|   |                  |       |         | 100   | μA    |
| <b>Junction capacitance (Note 2)</b>  | C <sub>J</sub>   |       | 30      |       | pF    |
| <b>Thermal resistance (Note 3)</b>  | R <sub>QJA</sub> |       | 20      |       | °C/W  |
| <b>Operating junction temperature range</b>   | T <sub>J</sub>   | -65   |         | +150  | °C    |
| <b>Storage temperature range</b>  | T <sub>STG</sub> | -65   |         | +150  | °C    |

**Note**

1. Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
2. Measured at 1.0MHz and applied reverse voltage of 4.0Voltage
3. Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length, PCB. Mounted.

**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

**RELIABILITY**

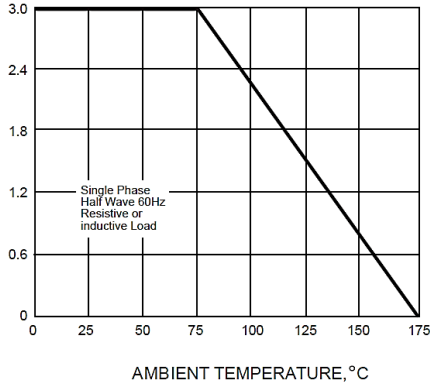
| Number | Experiment Items                   | Experiment Method And Conditions   | Reference Documents             |
|--------|------------------------------------|--|---------------------------------|
| 1      | Solder Resistance Test             | Test 260°C± 5°C for 10 ± 2 sec.<br>Immerse body into solder 1/16" ± 1/32"                                      | MIL-STD-750D<br>METHOD-2031.2   |
| 2      | Solderability Test                 | 230°C ±5°C for 5 sec.  | MIL-STD-750D<br>METHOD-2026.1 0 |
| 3      | Pull Test                          | 1 kg in axial lead direction for 10 sec.   | MIL-STD-750D<br>METHOD-2036.4   |
| 4      | Bend Test                          | 0.5Kg Weight Applied To Each Lead,<br>Bending Arcs 90 °C ± 5 °C For 3 Times                                    | MIL-STD-750D<br>METHOD-2036.4   |
| 5      | High Temperature Reverse Bias Test | TA=100°C for 1000 Hours at VR=80%<br>Rated VR  | MIL-STD-750D<br>METHOD-1038.4   |
| 6      | Forward Operation Life Test        | TA=25°C Rated Average Rectified<br>Current   | MIL-STD-750D<br>METHOD-1027.3   |
| 7      | Intermittent Operation Life Test   | On state: 5 min with rated IRMS Power<br>Off state: 5 min with Cool Forced Air.<br>On and off for 1000 cycles. | MIL-STD-750D<br>METHOD-1036.3   |
| 8      | Pressure Cooker Test               | 15 PSIG, TA=121°C, 4 hours   | MIL-S-19500<br>APPENOIXC        |
| 9      | Temperature Cycling Test           | -55°C~+125°C; 30 Minutes For Dwelled<br>Time 5 minutes for transferred time.<br>Total: 10 cycles.              | MIL-STD-750D<br>METHOD-1051.7   |
| 10     | Thermal Shock Test                 | 0°C for 5 minutes., 100°C for 5minutes,<br>Total: 10 cycles  | MIL-STD-750D<br>METHOD-1056.7   |
| 11     | Forward Surge Test                 | 8.3ms Single Sale Sine-wave One Surge.   | MIL-STD-750D<br>METHOD-4066.4   |
| 12     | Humidity Test                      | TA=65°C, RH=98% for 1000 hours.  | MIL-STD-750D<br>METHOD-1021.3   |
| 13     | High Temperature Storage life Test | 150°C for 1000 Hours   | MIL-STD-750D<br>METHOD-1031.5   |

**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

**RATINGS AND CHARACTERISTIC CURVES (For Reference Only)**

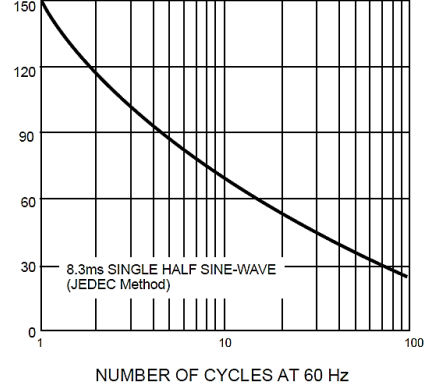
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



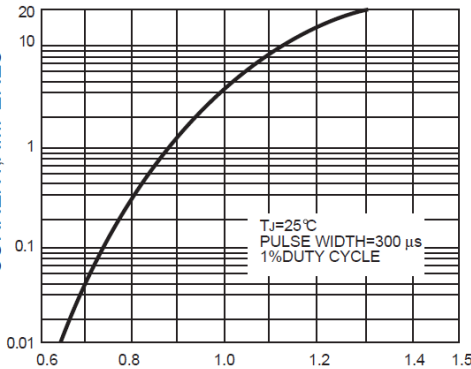
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



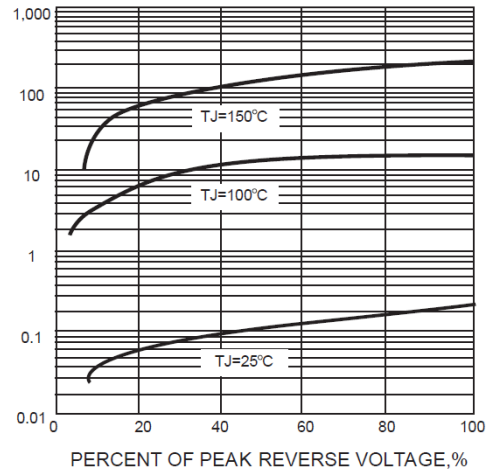
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



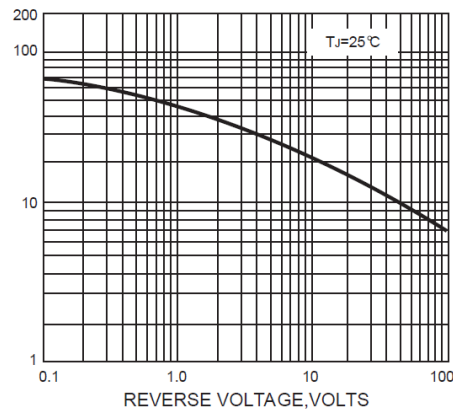
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



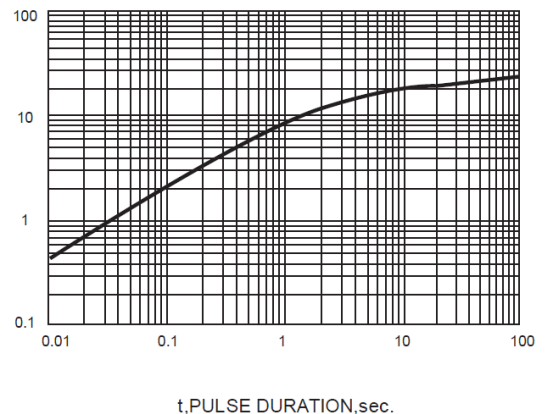
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

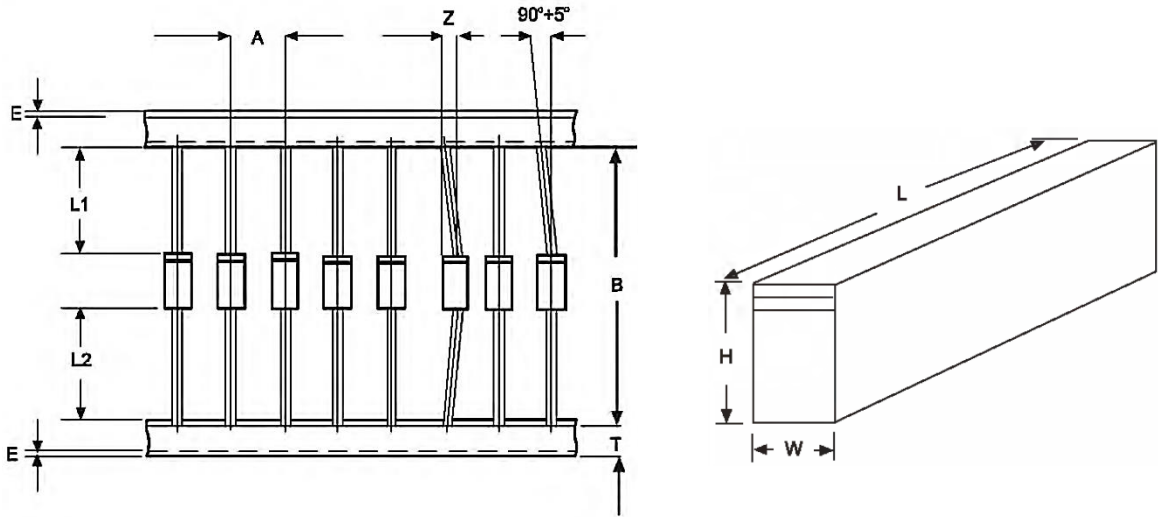
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

**AMMO BOX (Unit: mm)**

- All Devices are packed in accordance with EIA standard RS-296-D and specifications.
- Each component lead shall be sandwiched between taps for A minimum of 3.2 mm (0.126")



| Item                                  | Symbol  | DO-27/DO-201AD<br>Uni(mm) | DO-27/DO-201AD<br>Unit (Inch) |
|---------------------------------------|---------|---------------------------|-------------------------------|
| Component Alignment                   | Z       | 1.2 Max.                  | 0.048 Max.                    |
| Tape Width                            | T       | 6.0 +/- 0.4               | 0.236 +/- 0.016               |
| Exposed Adhesive                      | E       | 0.8 Max.                  | 0.032 Max.                    |
| Body Eccentricity                     | L1 – L2 | 1.0 Max.                  | 0.040 Max.                    |
| Component Pitch A<br>(2.0mm/10 pitch) | A       | 10.0                      | 0.197                         |
| Component Pitch B<br>(2.0mm/10 pitch) | B       | 52.4                      | 1.023                         |
| Component Pitch A<br>(2.0mm/20 pitch) | -       | -                         | -                             |
| Component Pitch B<br>(2.0mm/20 pitch) | -       | -                         | -                             |
| Box Length                            | L       | 450.0 +/- 5.0             | 17.72 +/- 0.197               |
| Box Width                             | W       | 215.0 +/- 5.0             | 8.46 +/- 0.197                |
| Box Height                            | H       | 250.0 +/- 5.0             | 9.84 +/- 0.197                |

**GENERAL PURPOSE SILICON RECTIFIER DO-27 SERIES**

**AMMO PACK IN TAPE/BOX (Unit: mm)**


| Case Code          | Qty. Per Reel (pcs) | Component Space (mm) | Tape Space (mm) | Inner Box L*W*H (mm) | Carton size L*W*H (mm) | Qty. Per Carton (pcs) | G. W (kg) |
|--------------------|---------------------|----------------------|-----------------|----------------------|------------------------|-----------------------|-----------|
| DO-27/<br>DO-201AD | 1000                | 10                   | 52.4            | 260*150*80           | 470*270*320            | 10,000                | 11.4      |

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