

1A,50-1000V Superfast Rectifiers

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- For general purpose applications
- Moisture sensitivity: level 1, per J-STD-020
- For fast switching and low logic level applications
- High temperature soldering guaranteed: 260°C/10 seconds



DO-41/A-405

Applications

- Small battery charger, Power supplies

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

| Parameter | Symbol | SF11 | SF12 | SF13 | SF14 | SF15 | SF16 | SF17 | SF18 | SF19 | Unit |
|--|--------------------|-------------|------|------|------|------|------|------|------|------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current | I _{F(AV)} | 1 | | | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode | I _{FSM} | 30 | | | | | | | | | A |
| Operating junction temperature range | T _J | -55 to +150 | | | | | | | | | °C |
| Storage temperature range | T _{STG} | -55 to +150 | | | | | | | | | °C |

Thermal-Mechanical Specifications (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Typ | Unit |
|---|------------------|-----|-------|
| Thermal Resistance, Junction to Ambient | R _{θJA} | 65 | °C /W |
| Thermal Resistance, Junction to Case | R _{θJC} | 50 | °C /W |
| Thermal Resistance, Junction to Lead | R _{θJL} | 22 | °C /W |



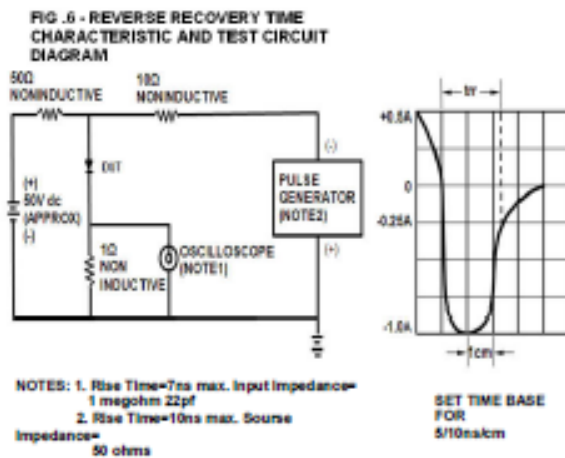
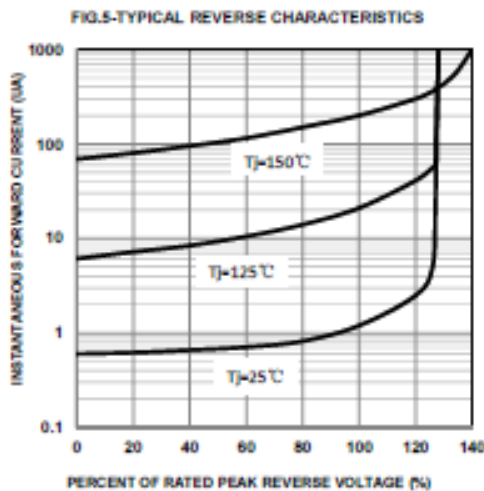
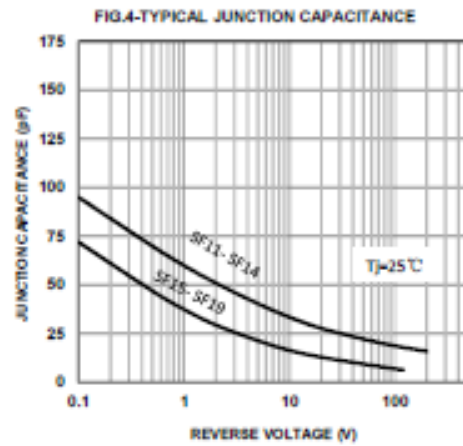
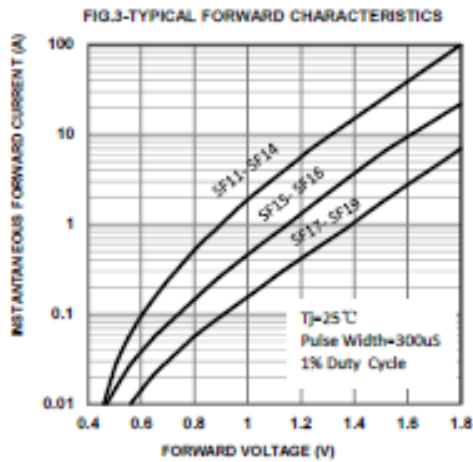
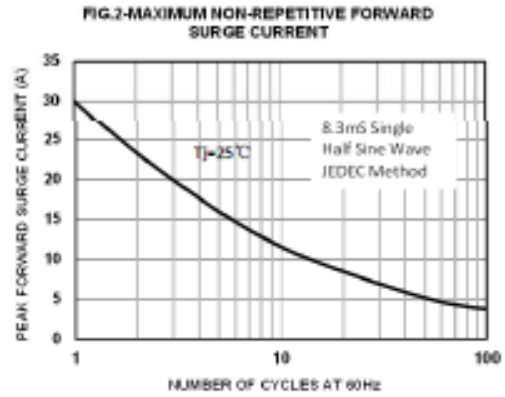
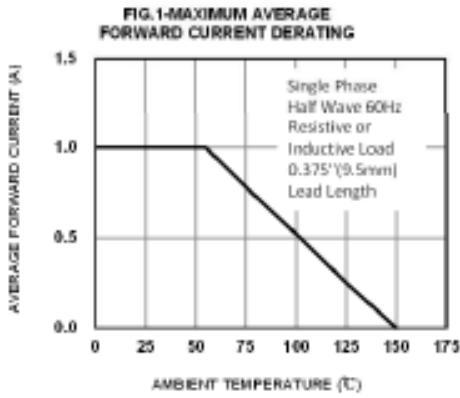
| Electrical Specifications (T _A =25°C unless otherwise noted) | | | | | | | | | | | | |
|---|-----------------|--|------|------|------|------|------|------|------|------|------|------|
| Parameter | Symbol | Test Conditions | SF11 | SF12 | SF13 | SF14 | SF15 | SF16 | SF17 | SF18 | SF19 | Unit |
| Forward Drop Voltage | V _F | I _F =1A | 0.95 | | | | 1.30 | | 1.70 | | | V |
| Reverse leakage current @V _R | I _R | T _J =25°C | 5 | | | | | | | | | uA |
| | | T _J =125°C | 100 | | | | | | | | | |
| Typical junction capacitance | C _J | 4.0 V 1 MHz | 40 | | | | 25 | | | | | pF |
| Maximum reverse recovery time | t _{rr} | I _F =0.5A, I _R =1.0A, I _{RR} =0.25A | 35 | | | | | | | | | nS |

Note:

- Valid provided that leads at a distance of 9.5 mm from case are kept at ambient temperature.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

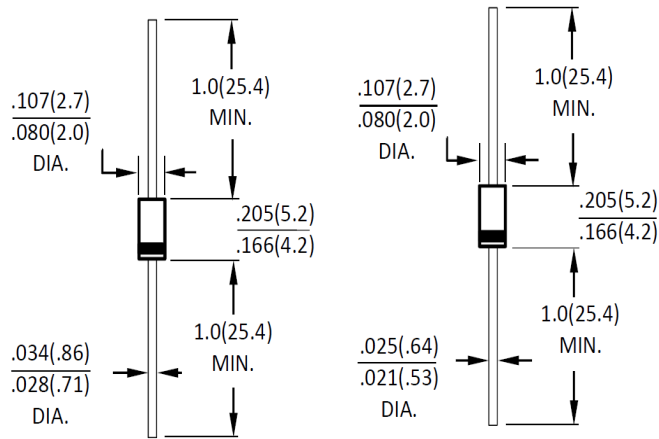


Package Outline Dimensions

in inches (millimeters)

DO-41/A-405

DO-204AL(DO-41) A-405



Dimensions in inches and (millimeters)

Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.06.01 | Released Datasheet |
| Rev.B | 2023.11.13 | Modify document format |

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