

FR101-G Thru. FR107-G

Voltage: 50 to 1000 V

Current: 1.0 A

RoHS Device

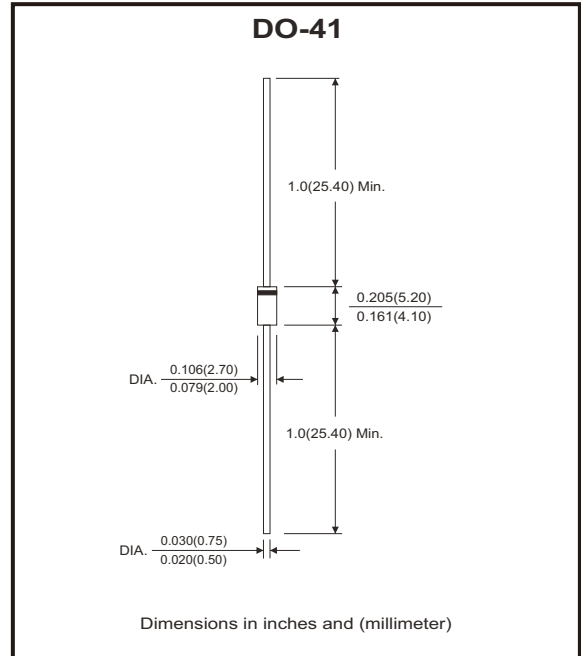


Features

- Fast switching for high efficiency.
- Diffused junction.
- Low reverse leakage current.
- Low forward voltage drop
- High current capability.

Mechanical data

- Case: JEDEC DO-41 molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode
- Lead: Plated axial lead, solderable per MIL-STD-750, method 2026.
- Mounting position: Any



Circuit Diagram



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

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load derate current by 20%.

| Parameter | Symbol | FR101 -G | FR102 -G | FR103 -G | FR104 -G | FR105 -G | FR106 -G | FR107 -G | Unit |
|---|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current @TA=75°C | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum reverse recovery time (Note 1) | t_{rr} | 150 | | | | 250 | 500 | | nS |
| Operating temperature range | T_J | -55 ~ +150 | | | | | | | °C |
| Storage temperature range | T_{STG} | -55 ~ +150 | | | | | | | °C |

Notes: 1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{RR}=0.25A$.

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

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|---|------------------------|------------------------------------|-----|-----|-----|--------------|
| Forward voltage | $I_F = 1.0A$ DC | V_F | | | 1.3 | V |
| DC reverse current at rated DC blocking voltage | $T_J = 25^\circ C$ | I_R | | | 5.0 | μA |
| | $T_J = 100^\circ C$ | | | | 100 | |
| Junction capacitance | $V_R = 4V, f = 1.0MHz$ | FR101-G/FR102-G FR103-G/FR104-G | | 25 | | pF |
| | | FR105-G/FR106-G FR107-G | | 15 | | pF |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 25 | | $^\circ C/W$ |

RATING AND CHARACTERISTIC CURVES (FR101-G Thru. FR107-G)

Fig.1 - Forward Current Derating Curve

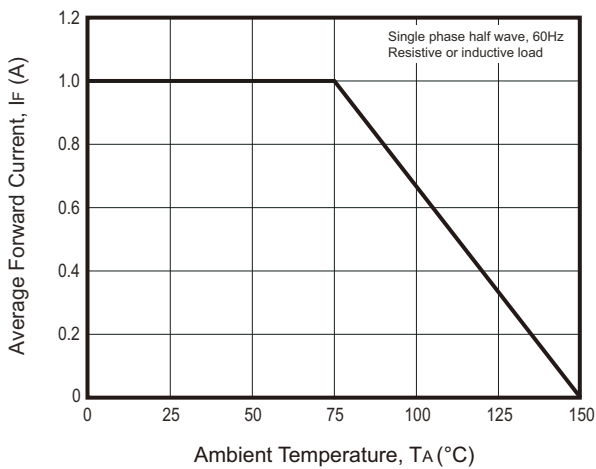


Fig.2 - Maximum Non-repetitive Surge Current

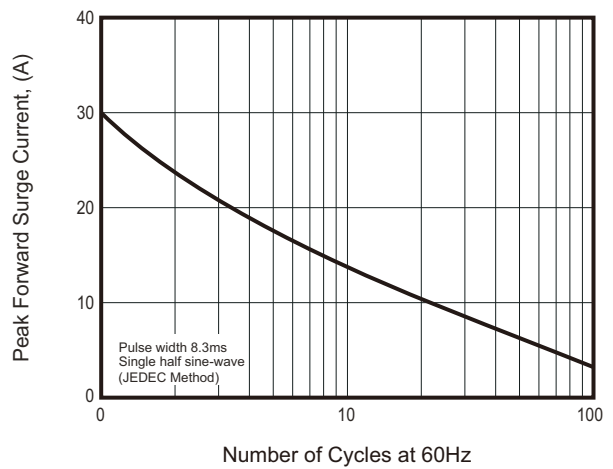


Fig.3 - Typical Junction Capacitance

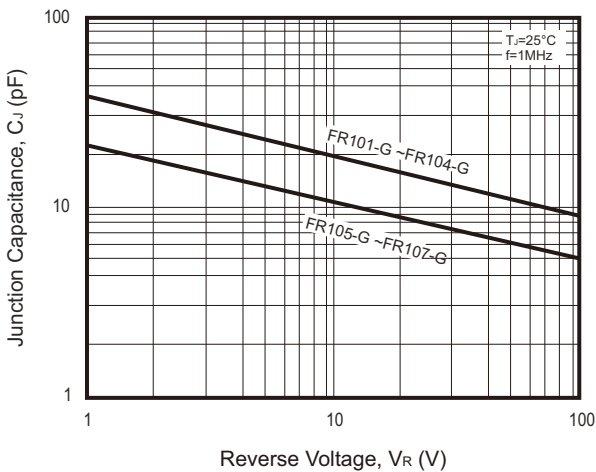
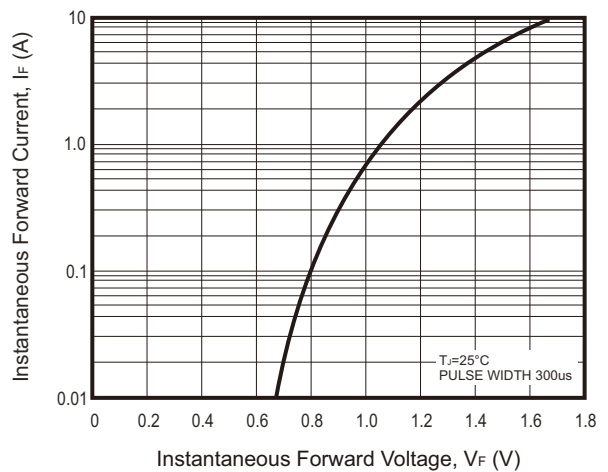
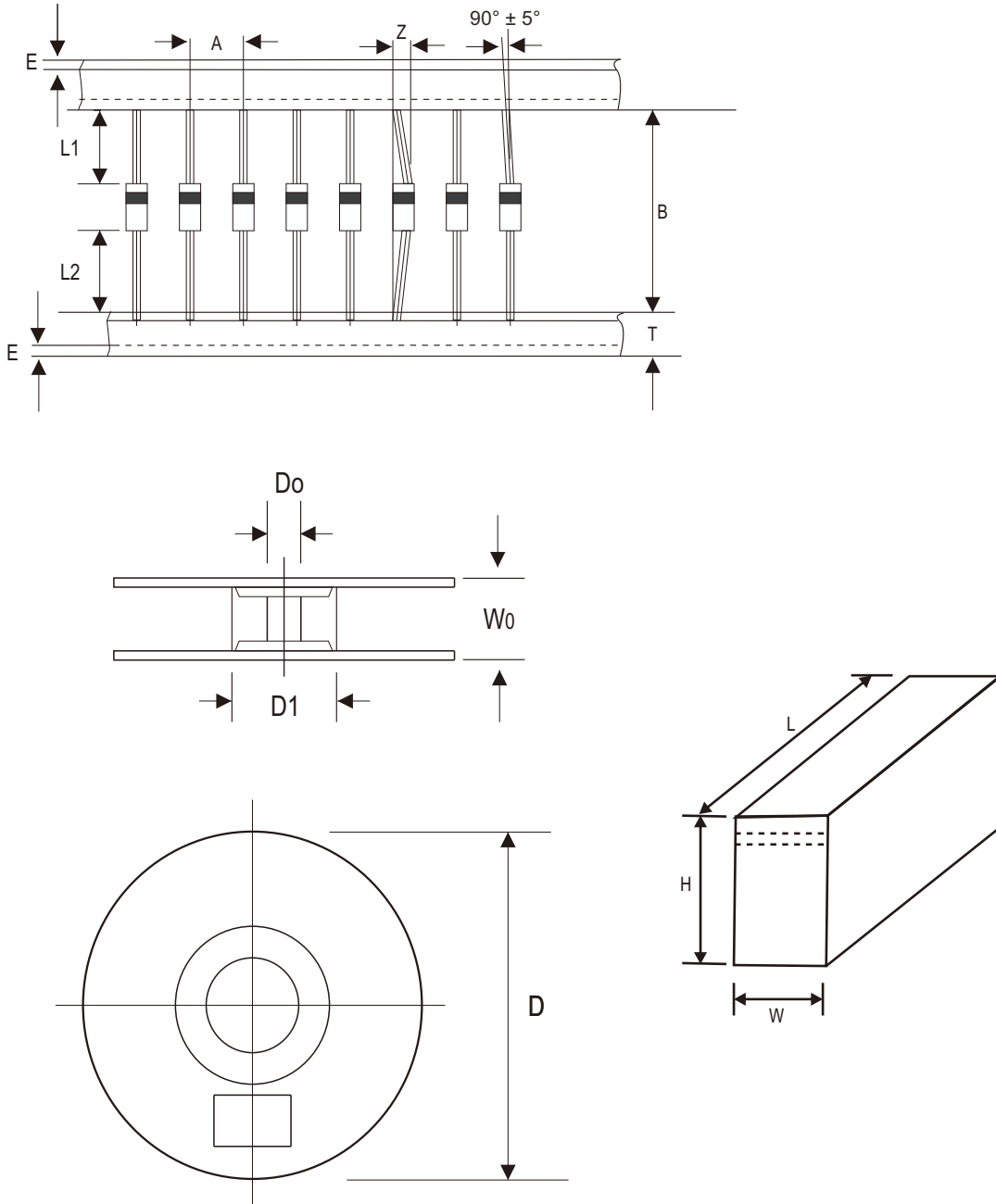


Fig.4 - Typical Forward Characteristics



Taping Specification For Axial Lead Diodes



| DO-41 | SYMBOL | A | B | Z | T | E | [L1-L2] |
|-------|--------|-------------------|------------------------------|-------------|-------------------|-------------|-------------|
| | (mm) | 5.00 ± 0.50 | $52.40 + 1.50$ $- 0.40$ | 1.20 (max) | 6.00 ± 0.40 | 0.80 (max) | 1.00 (max) |
| | (inch) | 0.197 ± 0.020 | $2.063 + 0.059$ $- 0.016$ | 0.047 (max) | 0.236 ± 0.016 | 0.031 (max) | 0.039 (max) |

| DO-41 | SYMBOL | D1 | D0 | D | W0 | L | W | H |
|-------|--------|-------------------|-------------------|--------|-------------------|--------------------|-------------------|-------------------|
| | (mm) | 85.70 ± 0.30 | 16.60 ± 0.40 | 330.00 | 79.00 ± 1.00 | 255.00 ± 5.00 | 75.00 ± 5.00 | 150.00 ± 5.00 |
| | (inch) | 3.374 ± 0.012 | 0.654 ± 0.016 | 12.992 | 3.110 ± 0.039 | 10.039 ± 0.197 | 2.953 ± 0.197 | 5.906 ± 0.197 |

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

REV:C