

1A,50-1000V Standard 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(DO-204AL)

Applications

- Small battery charger, Power supplies

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

| Parameter | Symbol | 1N4001G | 1N4002G | 1N4003G | 1N4004G | 1N4005G | 1N4006G | 1N4007G | 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 | 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} | 52 | °C /W |
| Thermal Resistance, Junction to Case | R _{θJC} | 15 | °C /W |
| Thermal Resistance, Junction to Lead | R _{θJL} | 13 | °C /W |

Electrical Specifications (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Test Conditions | 1N4001 G | 1N4002 G | 1N4003 G | 1N4004 G | 1N4005 G | 1N4006 G | 1N4007 G | Unit |
|---|----------------|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Forward Drop Voltage | V _F | I _F =1A | 1.10 | | | | | | | 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 | 15 | | | | | | | pF |
| Typical reverse recovery time | trr | I _F =0.5A, I _R =1.0A, I _{RR} =0.25A | 1 | | | | | | | uS |

Note:

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

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

FIG.1-FORWARD CURRENT DERATING CURVE

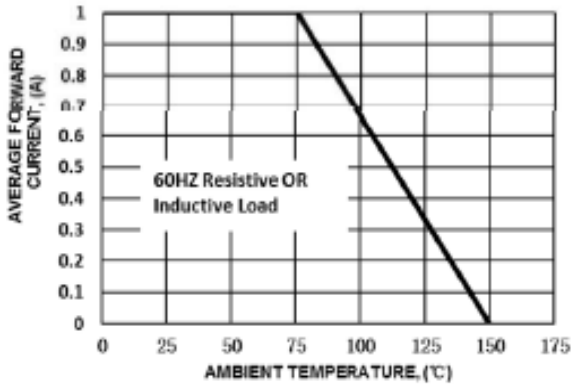


FIG 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

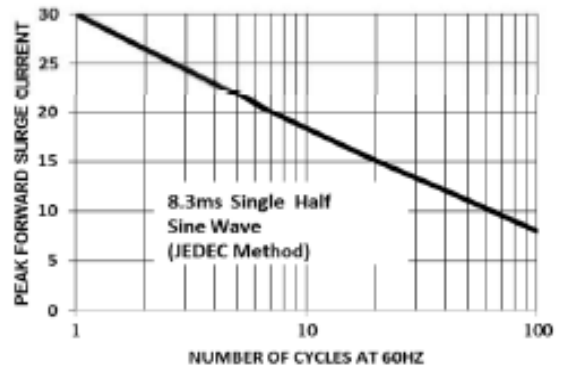


FIG 3-Typ INSTANTANEOUS FORWARD CHARACTERISTICS

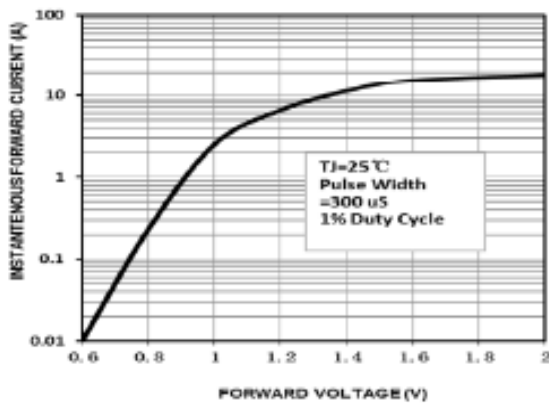


FIG4 Typ JUNCTION CAPACITANCE

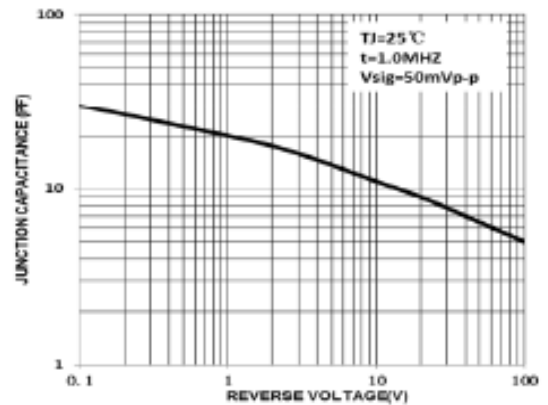


FIG5-TYPICAL REVERSE CHARACTERISTICS

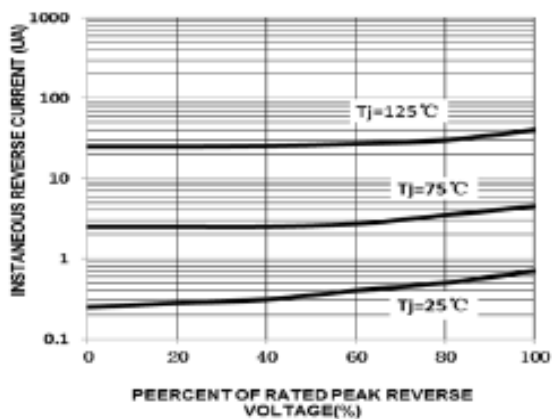
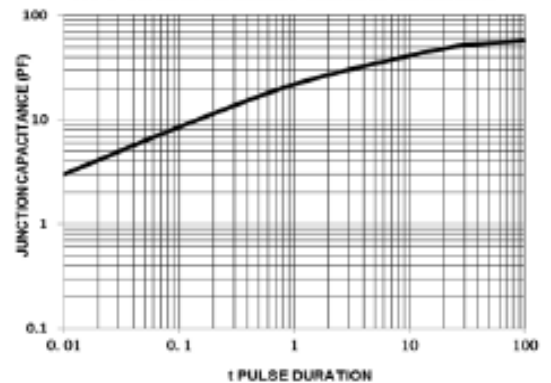


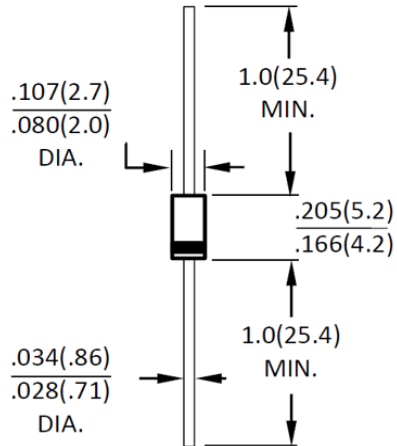
FIG 6- TYPICAL TRANSIENT THERMAL IMPEDANCE



Package Outline Dimensions

in inches (millimeters)

DO-41(DO-204AL)



Dimensions in inches and (millimeters)

Revision History


| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2023.11.27 | Released Datasheet |

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