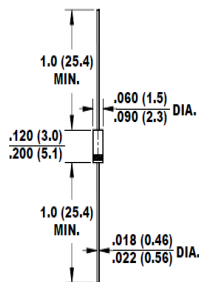


# Data Sheet

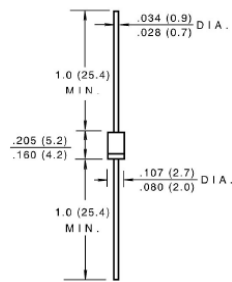
## 120 pcs Assortment Rectifier Diode set K/DIODE1



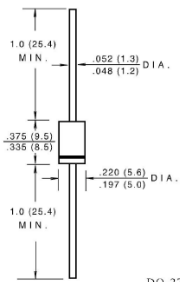
**Drawing:**  
1N4148



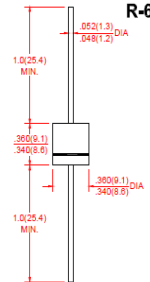
1N4007



1N5408

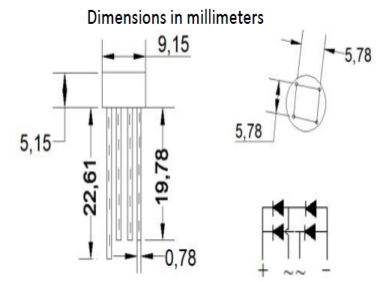


Diode 6A10



2W01

Case: WOB Series



Dimensions in inches and (millimeters)

### Technical data

Ratings at 25 °C ambient temperature, unless otherwise specified

Single phase, half wave, 60 Hz, resistive or inductive load

For capacitive load derate current by 20%

## Data Sheet

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1N4148 - Silicon Epitaxial Planar Switching Diode x 50 pcs

Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C

Case: Glass, hermetically sealed

Polarity: Colour band denotes cathode

Mounting position: Any

| Ratings   | Symbol          | Value      | Units   |
|---|-----------------|------------|---------|
| Reverse Voltage                                   | $V_R$           | 75         | V       |
| Peak Reverse Voltage                              | $V_{RM}$        | 100        | V       |
| Forward Current (average)                         | $I_o$           | 150        | mA      |
| Repetitive Forward Peak Current                   | $I_{FRM}$       | 300        | mA      |
| Forward Voltage ( $I_F=10$ mA)                    | $V_F$           | 1          | V       |
| Reverse Current ( $V_R=20$ V)                     | $I_{R1}$        | 25         | $\mu$ A |
| Reverse Current ( $V_R=75$ V)                     |                 | 5          | $\mu$ A |
| Reverse Current ( $V_R=20$ V, $T_J=100$ °C)       | $I_{R2}$        | 50         | $\mu$ A |
| Capacitance (note 1)                              | $C_t$           | 4          | pF      |
| Reverse Recovery Time (note 2)                    | $I_F$           | 4          | $\mu$ S |
| Thermal Resistance (junction to ambient) (note 3) | $R_{\theta JA}$ | 0.35       | °C /mW  |
| Operating Junction and Storage Temperature Range  | $T_{STG}, T_J$  | -55 ~ +175 | °C      |

Notes:

1.  $V_R=0$  V,  $f=1$  MHz

2.  $I_F=10$  mA to  $I_R=1$  mA,  $V_R=6$  V,  $R_L=100$   $\Omega$

3. Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

## Data Sheet

1N4007 - General Purpose Silicon Rectifier Diode x 50 pcs

Case: Transfer molded plastic

Epoxy: UL94V - 0 rate flame retardant

Polarity: Colour band denotes cathode end

Lead: Plated axial lead, solderable per MIL - STD - 202E method 208C

Mounting position: Any

Weight: 0.012 ounce, 0.33 grams

| Ratings  | Symbol          | Value                 | Units                  |
|--|-----------------|-----------------------|------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 1000                  | V                      |
| Maximum RMS Voltage  | $V_{RMS}$       | 700                   | V                      |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 1000                  | V                      |
| Maximum Average Forward Rectified Current,<br>9.5 mm (0.375") lead length at $T_L = 75\text{ °C}$            | $I_{(AV)}$      | 1.0                   | A                      |
| Peak Forward Surge Current 8.3 ms single half sine - wave<br>superimposed on rated load (JEDEC method)       | $I_{FSM}$       | 30                    | A                      |
| Maximum Instantaneous Forward Voltage at 1.0 A   | $V_F$           | 1.1                   | V                      |
| Maximum DC Reverse Current at rated DC<br>blocking voltage   | $I_R$           | $T_A = 25\text{ °C}$  | 5.0                    |
|  |                 | $T_A = 100\text{ °C}$ | 50                     |
| Maximum Full Load Reverse Current, full cycle<br>average 9.5 mm (0.375") lead length at $T_L = 75\text{ °C}$ | $I_{R(AV)}$     | 30                    | $\mu\text{A}$          |
| Typical Junction Capacitance (Note 1)  | $C_J$           | 15                    | pF                     |
| Typical Thermal Resistance (Note 2)  | $R_{\theta JA}$ | 50                    | $\text{°C} / \text{W}$ |
| Operating and Storage Temperature Range  | $T_J$           | -65 ~ +175            | $\text{°C}$            |
| Storage Temperature Range  | $T_{STG}$       | -65 ~ +175            | $\text{°C}$            |

Notes:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 9.5 mm (0.375") lead length, P.C. board mounted with 5.0 x 5.0 mm (0.2" x 0.2") copper pads.

# Data Sheet

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

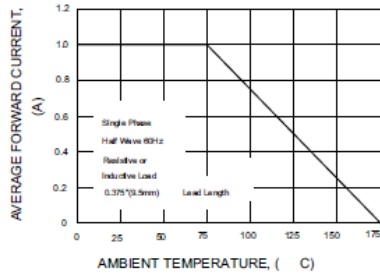


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

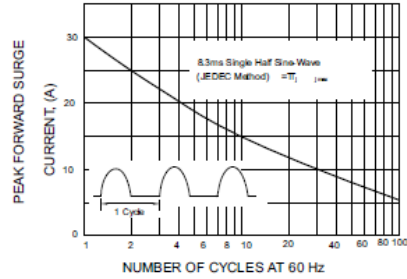


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

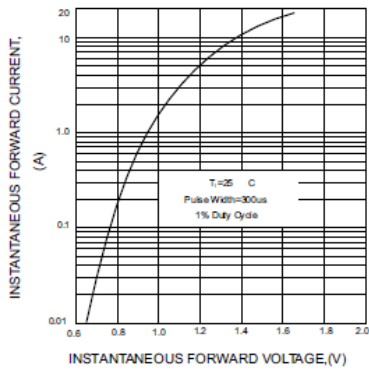


FIG.4-TYPICAL REVERSE CHARACTERISTICS

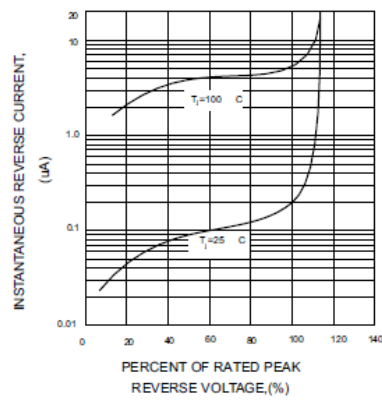
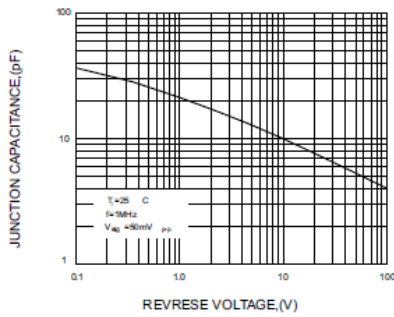


FIG.5-TYPICAL JUNCTION CAPACITANCE



## Data Sheet

1N5408 - General Purpose Silicon Rectifier Diode x 14 pcs

Case: Transfer molded plastic

Epoxy: UL94V - 0 rate flame retardant

Polarity: Colour band denotes cathode end

Lead: Plated axial lead, solderable per MIL - STD - 202E method 208C

Mounting position: Any

Weight: 0.042 ounce, 1.19 grams

| Ratings  | Symbol          | Value                             | Units                       |
|--|-----------------|-----------------------------------|-----------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 1000                              | V                           |
| Maximum RMS Voltage  | $V_{RMS}$       | 700                               | V                           |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 1000                              | V                           |
| Maximum Average Forward Rectified Current, 9.5 mm (0.375") lead length at $T_L = 105\text{ }^\circ\text{C}$            | $I_{(AV)}$      | 3.0                               | A                           |
| Peak Forward Surge Current 8.3 ms single half sine - wave superimposed on rated load (JEDEC method)                    | $I_{FSM}$       | 200                               | A                           |
| Maximum Instantaneous Forward Voltage at 3.0 A   | $V_F$           | 1.0                               | V                           |
| Maximum DC Reverse Current at rated DC blocking voltage  | $I_R$           | $T_A = 25\text{ }^\circ\text{C}$  | 10                          |
|  |                 | $T_A = 100\text{ }^\circ\text{C}$ | 500                         |
| Maximum Full Load Reverse Current, full cycle average 9.5 mm (0.375") lead length at $T_L = 105\text{ }^\circ\text{C}$ | $I_{R(AV)}$     | 500                               | $\mu\text{A}$               |
| Typical Junction Capacitance (Note 1)  | $C_J$           | 40                                | pF                          |
| Typical Thermal Resistance (Note 2)  | $R_{\theta JA}$ | 30                                | $^\circ\text{C} / \text{W}$ |
| Operating and Storage Temperature Range  | $T_J$           | -65 ~ +175                        | $^\circ\text{C}$            |
| Storage Temperature Range  | $T_{STG}$       | -65 ~ +175                        | $^\circ\text{C}$            |

Notes:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 9.5 mm (0.375") lead length, P.C. board mounted with 20 X 20 mm (0.8" X 0.8") copper heatsink.

# Data Sheet

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

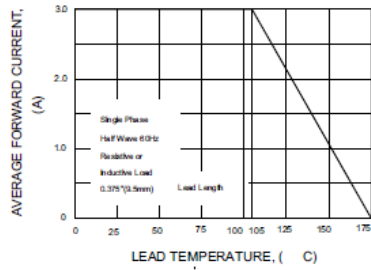


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

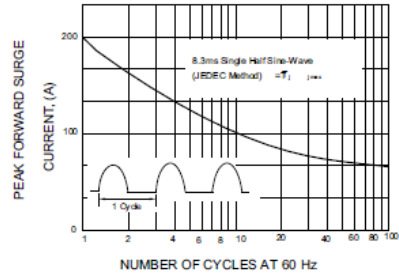


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

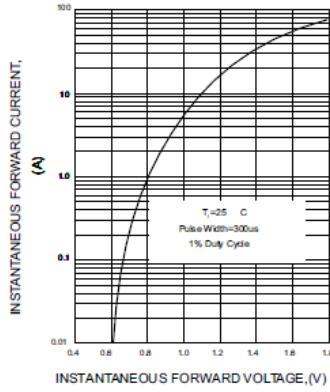


FIG.4-TYPICAL REVERSE CHARACTERISTICS

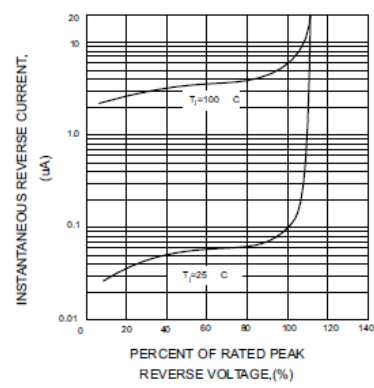
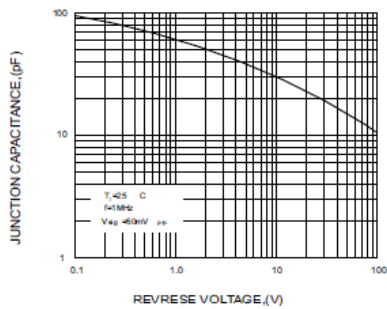


FIG.5-TYPICAL JUNCTION CAPACITANCE



## Data Sheet

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Diode 6A10 - Axial Silastic Guard Junction Rectifier x 4 pcs

Case: Transfer molded plastic

Epoxy: UL94V-O rate flame retardant

Polarity: Colour band denotes cathode end

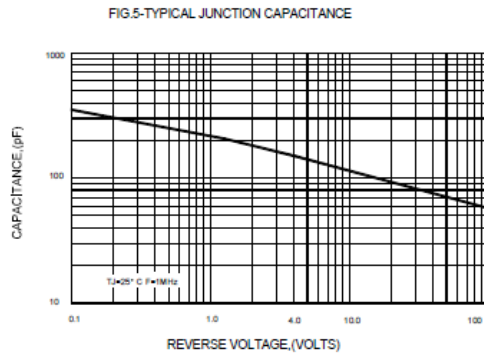
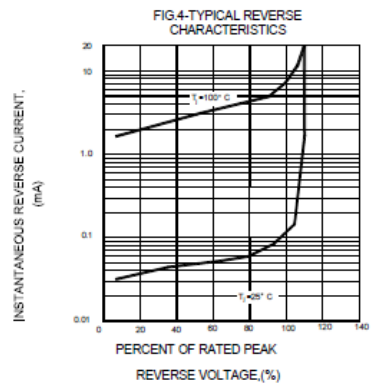
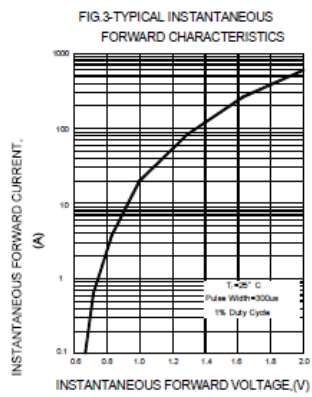
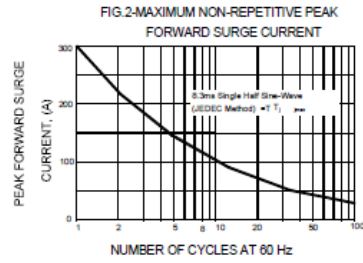
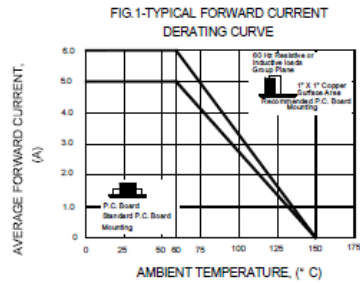
Lead: Plated axial lead, solderable per MIL-STD-202E method 208C

Mounting position: Any

Weight: 0.07 ounce, 2.0 grams

| Ratings   | Symbol          | Value                             | Units                       |
|---|-----------------|-----------------------------------|-----------------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 1000                              | V                           |
| Maximum RMS Voltage   | $V_{RMS}$       | 700                               | V                           |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 1000                              | V                           |
| Maximum Average Forward Rectified Current,<br>9.5 mm (0.375") lead length at $T_L = 105\text{ }^\circ\text{C}$            | $I_{(AV)}$      | 6.0                               | A                           |
| Peak Forward Surge Current 8.3 ms single half sine - wave<br>superimposed on rated load (JEDEC method)                    | $I_{FSM}$       | 300                               | A                           |
| Maximum Instantaneous Forward Voltage at 3.0 A  | $V_F$           | 0.95                              | V                           |
| Maximum DC Reverse Current at rated DC<br>blocking voltage  | $I_R$           | $T_A = 25\text{ }^\circ\text{C}$  | 10 $\mu\text{A}$            |
|   |                 | $T_A = 100\text{ }^\circ\text{C}$ | 1.0 mA                      |
| Maximum Full Load Reverse Current, full cycle<br>average 9.5 mm (0.375") lead length at $T_L = 105\text{ }^\circ\text{C}$ | $I_{R(AV)}$     | 1.0                               | mA                          |
| Typical Junction Capacitance  | $C_J$           | 150                               | pF                          |
| Typical Thermal Resistance  | $R_{\theta JC}$ | 10                                | $^\circ\text{C} / \text{W}$ |
| Operating and Storage Temperature Range   | $T_J$           | -55 ~ +150                        | $^\circ\text{C}$            |

# Data Sheet





# Data Sheet

2W01 - Single-Phase 1.5 Amp. Silicon Bridge Rectifier x 2 pcs

Case: Plastic package

Marking / Polarity: Marked on Body

Weight: About 1.2 grams

| Ratings  | Symbol          | Value                             | Units                |
|--|-----------------|-----------------------------------|----------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 100                               | V                    |
| Average Forward Output Rectified Current @ $T_A = 50\text{ }^\circ\text{C}$        | $I_{F(AV)}$     | 1.5                               | A                    |
| Forward Voltage Per Leg @ $I_{FM} = 1.5\text{ A}$                                  | $V_F$           | 1.0                               | V                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave superimposed on rated load | $I_{FSM}$       | 50                                | A                    |
| Maximum DC Reverse Current at rated DC blocking voltage                            | $I_R$           | $T_A = 25\text{ }^\circ\text{C}$  | 5                    |
|  |                 | $T_A = 125\text{ }^\circ\text{C}$ | 500                  |
| Rating for fusing ( $t < 8.3\text{ ms}$ )  | $i^2t$          | 26.5                              | $\text{A}^2\text{S}$ |
| Maximum thermal resistance per leg   | $R_{\theta JC}$ | 32                                | $^\circ\text{C/W}$   |
| Operating Junction and storage temperature range                                   | $T_J, T_{STG}$  | -55 ~ +150                        | $^\circ\text{C}$     |

Note:

1. Junction to ambient without heatsink

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

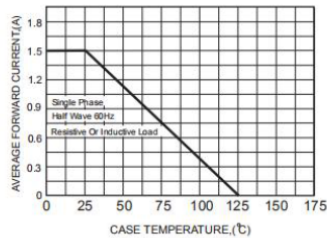


FIG. 2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

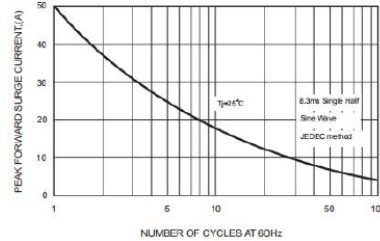


FIG. 3-TYPICAL FORWARD CHARACTERISTICS

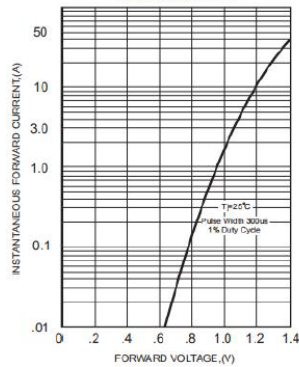


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

