

**DIOTEC ELECTRONICS CORP.**  
18020 Hobart Blvd., Unit B  
Gardena, CA 90248 U.S.A  
Tel.: (310) 767-1052 Fax: (310) 767-7958

Data Sheet No. GPDG-101-1B

## 1 AMP HIGH RELIABILITY SILICON DIODES

### FEATURES

- **PROPRIETARY SOFT GLASS<sup>®</sup> JUNCTION PASSIVATION FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical  $\leq 2\%$ , Max.  $\leq 10\%$  of Die Area)**
- **EXTREMELY LOW LEAKAGE AT HIGH TEMPERATURES**
- **LOW FORWARD VOLTAGE DROP**
- **1A at  $T_A = 75^\circ\text{C}$  WITH NO THERMAL RUNAWAY**

### MECHANICAL DATA

- Case: JEDEC DO-41, molded epoxy (U/L Flammability Rating 94V-0)
- Terminals: Plated axial leads
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.012 Ounces (0.34 Grams)

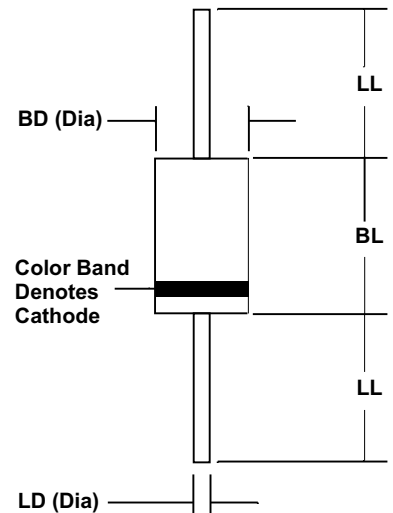
**RoHS COMPLIANT**

### MECHANICAL SPECIFICATION

ACTUAL SIZE OF  
DO-41 PACKAGE

**SERIES GP100 - GP110**

**DO - 41**



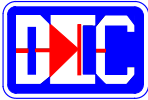
| Sym | Minimum |      | Maximum |      |
|-----|---------|------|---------|------|
|     | In      | mm   | In      | mm   |
| BL  | 0.160   | 4.1  | 0.205   | 5.2  |
| BD  | 0.103   | 2.6  | 0.107   | 2.7  |
| LL  | 1.00    | 25.4 |         |      |
| LD  | 0.028   | 0.71 | 0.034   | 0.86 |

### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive loads, derate current by 20%.

| PARAMETER (TEST CONDITIONS)                                                                                         | SYMBOL                            | RATINGS     |       |       |       |       |       |       | UNITS |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Series Number                                                                                                       |                                   | GP100       | GP101 | GP102 | GP104 | GP106 | GP108 | GP110 |       |
| Maximum DC Blocking Voltage                                                                                         | V <sub>RM</sub>                   | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | VOLTS |
| Maximum RMS Voltage                                                                                                 | V <sub>RMS</sub>                  | 35          | 70    | 140   | 280   | 420   | 560   | 700   |       |
| Maximum Peak Recurrent Reverse Voltage                                                                              | V <sub>RRM</sub>                  | 50          | 100   | 200   | 400   | 600   | 800   | 1000  |       |
| Average Forward Rectified Current @ T <sub>A</sub> = 75 °C,<br>Lead length = 0.375 in. (9.5 mm)                     | I <sub>O</sub>                    | 1           |       |       |       |       |       |       | AMPS  |
| Peak Forward Surge Current ( 8.3 mSec single half sine wave<br>superimposed on rated load)                          | I <sub>FSM</sub>                  | 50          |       |       |       |       |       |       |       |
| Maximum Forward Voltage at 1 Amp DC                                                                                 | V <sub>FM</sub>                   | 1           |       |       |       |       |       |       | VOLTS |
| Maximum Full Cycle Reverse Current @ T <sub>L</sub> = 75 °C (Note 1)                                                | I <sub>RM(AV)</sub>               | 5           |       |       |       |       |       |       | μA    |
| Maximum Average DC Reverse Current @ T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @ T <sub>A</sub> = 125°C | I <sub>RM</sub>                   | 0.5<br>30.0 |       |       |       |       |       |       |       |
| Typical Thermal Resistance, Junction to Ambient (Note 1)                                                            | R <sub>θJA</sub>                  | 30          |       |       |       |       |       |       | °C/W  |
| Typical Junction Capacitance (Note 2)                                                                               | C <sub>J</sub>                    | 10          |       |       |       |       |       |       | pF    |
| Operating and Storage Temperature Range                                                                             | T <sub>J</sub> , T <sub>STG</sub> | -65 to +175 |       |       |       |       |       |       | °C    |

NOTES: (1) Lead length = 0.375 in. (9.5 mm)  
(2) Measured at 1MHz & applied reverse voltage of 4 volts



## 1 AMP HIGH RELIABILITY SILICON DIODES

### RATING & CHARACTERISTIC CURVES FOR SERIES GP100 - GP110

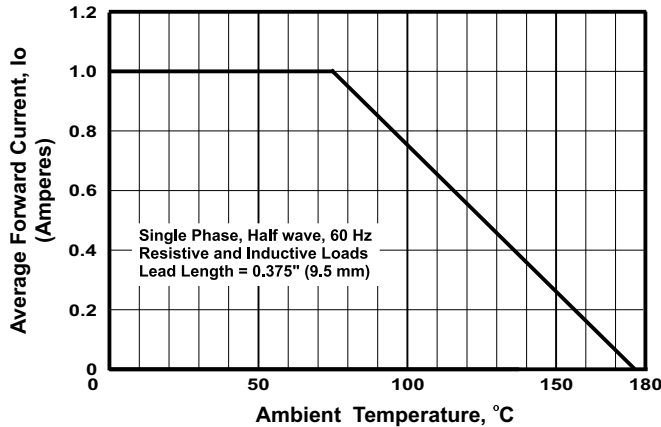


FIGURE 1. FORWARD CURRENT DERATING CURVE

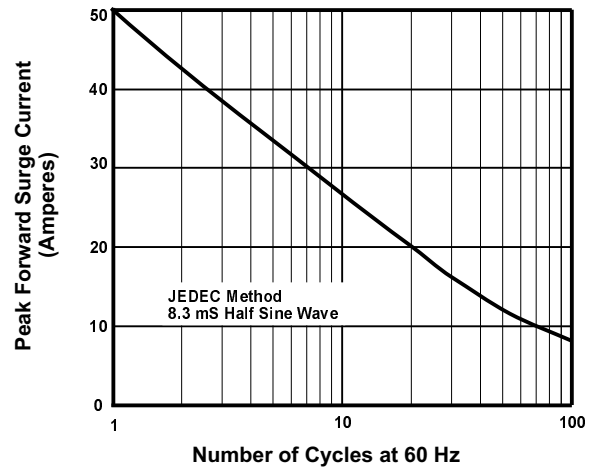


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

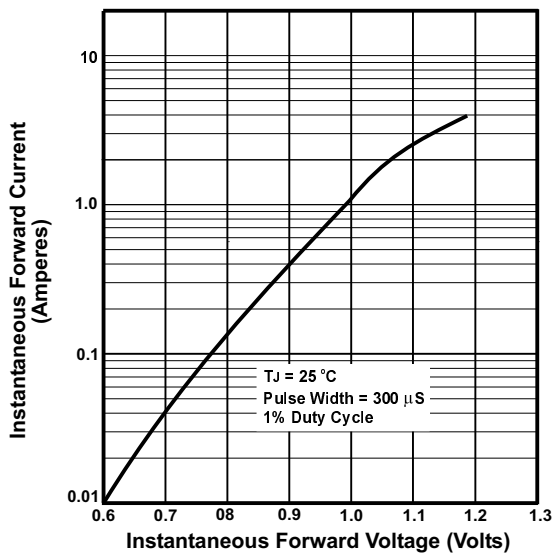


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

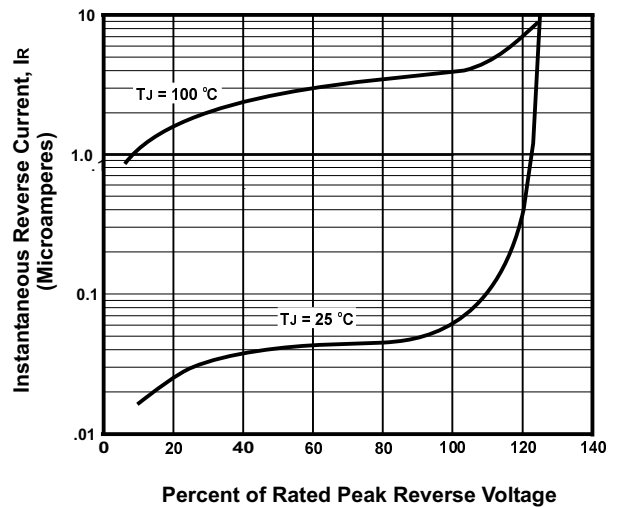


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

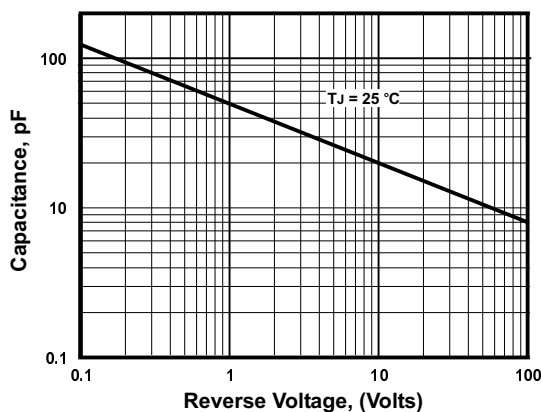


FIGURE 5. TYPICAL JUNCTION CAPACITANCE PER DIODE

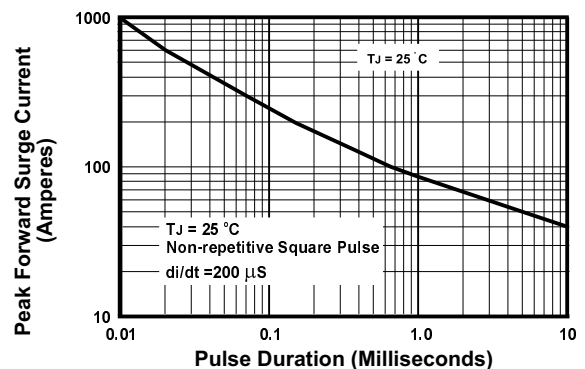


FIGURE 6. PEAK FORWARD SURGE CURRENT