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Data Sheet No. FSPD-100-1B

1 AMP HIGH RELIABILITY FAST RECOVERY DIODES

FEATURES

- PROPRIETARY SOFT GLASS[®] 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 202E Method 208 guaranteed
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.012 Ounces (0.34 Grams)

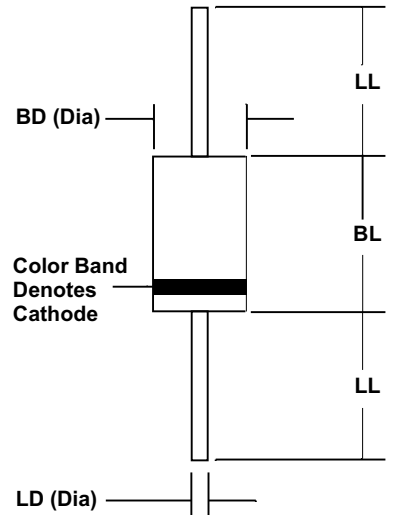
RoHS COMPLIANT

MECHANICAL SPECIFICATION

ACTUAL SIZE OF DO-41 PACKAGE

SERIES RGP100 - RGP110

DO - 41



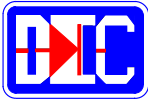
| Sym | Minimum | | Maximum | |
|-----|---------|------|---------|------|
| | In | mm | In | mm |
| BL | 0.160 | 4.1 | 0.205 | 5.2 |
| BD | 0.103 | 2.6 | 0.107 | 2.7 |
| LL | 1.00 | 25.4 | | |
| LD | 0.028 | 0.71 | 0.034 | 0.86 |

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °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 |
|--|-----------------|-------------|---------|---------|---------|---------|--------------|---------|--|--------------------|
| | | RGP 100 | RGP 101 | RGP 102 | RGP 104 | RGP 106 | RGP 108 | RGP 110 | | |
| Series Number | | | | | | | | | | |
| Maximum DC Blocking Voltage | V_{RM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | | VOLTS |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | | |
| Maximum Peak Recurrent Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | | |
| Average Forward Rectified Current @ $T_A = 75^\circ\text{C}$, Lead length = 0.375 in. (9.5 mm) | I_O | 1 | | | | | | | | AMPS |
| Peak Forward Surge Current (8.3 mSec single half sine wave superimposed on rated load) | I_{FSM} | 50 | | | | | | | | |
| Maximum Forward Voltage at 1 Amp DC | V_{FM} | 1.2 | | | | | | | | VOLTS |
| Maximum Reverse Recovery Time ($I_F=0.5A, I_R=1A, I_{RR}=0.25A$) | T_{RR} | 150 | | | | 250 | 500 (Note 3) | | | nS |
| Maximum Average DC Reverse Current At Rated DC Blocking Voltage | I_{RM} | | | | | 0.5 | | | | μA |
| | | | | | | 25 | | | | |
| Typical Thermal Resistance, Junction to Ambient (Note 1) | $R_{\theta JA}$ | 55 | | | | | | | | $^\circ\text{C/W}$ |
| Typical Junction Capacitance (Note 2) | C_J | 15 | | | | | | | | pF |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +175 | | | | | | | | $^\circ\text{C}$ |

NOTES: (1) Lead length = 0.375 in. (9.5 mm)
 (2) Measured at 1MHz & applied reverse voltage of 4 volts
 (3) 300nS available - consult factory



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RATING & CHARACTERISTIC CURVES FOR SERIES RGP100 - RGP110

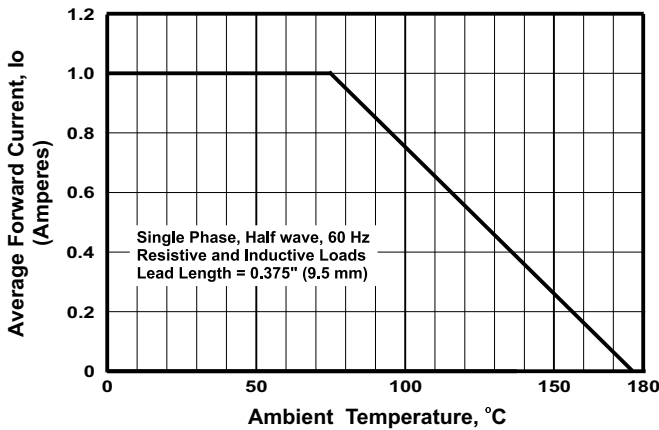


FIGURE 1. FORWARD CURRENT DERATING CURVE

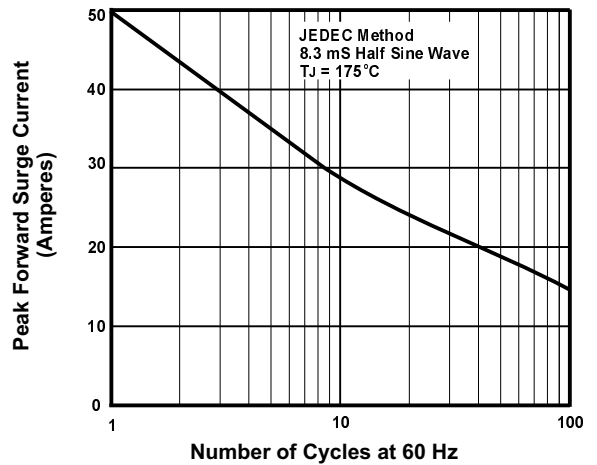


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

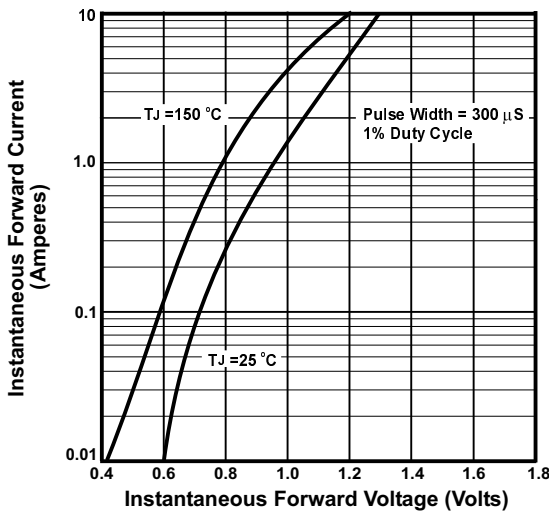


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC

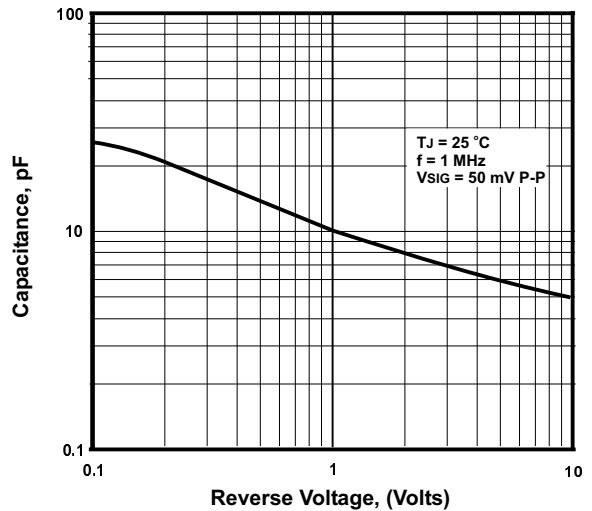
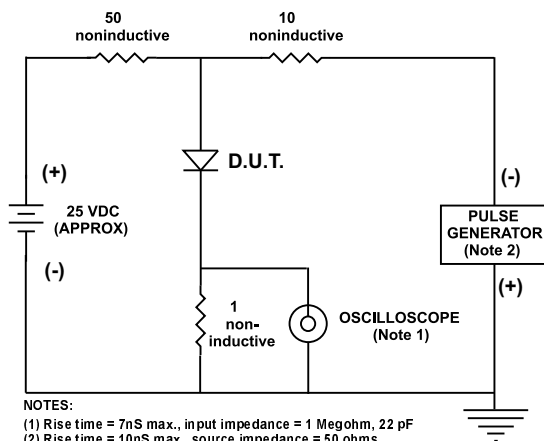


FIGURE 4. TYPICAL JUNCTION CAPACITANCE



NOTES:
 (1) Rise time = 7nS max., input impedance = 1 Megohm, 22 pF
 (2) Rise time = 10nS max., source impedance = 50 ohms

FIGURE 5. REVERSE RECOVERY TEST SETUP AND TIME CHARACTERISTIC