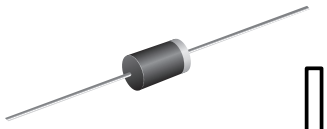
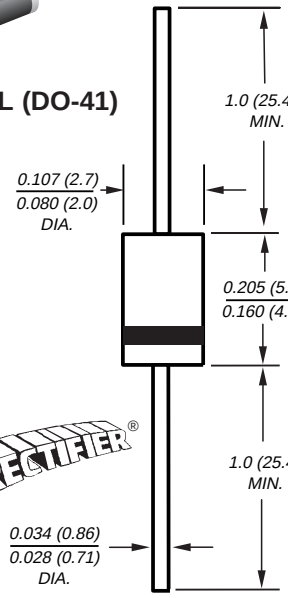
Glass Passivated Junction Rectifiers

Reverse Voltage
50 to 1600V
Forward Current 1.0A



DO-204AL (DO-41)



Dimensions in inches and (millimeters)

NOTE: *Lead diameter is* 0.026 (0.66) / 0.023 (0.58) *for suffix "E" part numbers*

Patented*

*Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 1.0 Ampere operation at T_A = 75°C and 55°C with no thermal runaway
- Typical I_R less than 0.1µA
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-204AL, molded plastic over glass body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 oz., 0.3 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	A	B	D	G	J	K	M	N	Q	T	V	W	Y	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50 to 1600V (See Fig. 5)													V
Maximum average forward rectified current 0.375" (9.5mm) lead length (See fig. 1)	$I_{F(AV)}$	1.0													A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							25						A
Maximum full load reverse current, full cycle average, 0.375" (9.5mm) lead lengths at T_A = 75°C	$I_{R(AV)}$	30													µA
Typical thermal resistance (Note 1)	$R_{\theta JA}$	55													°C/W
Operating junction and storage temperature range	T_J, T_{STG}	–65 to +175							–65 to +150						°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	A	B	D	G	J	K	M	N	Q	T	V	W	Y	Unit
Maximum instantaneous forward voltage at 1.0A	V_F	1.1					1.2				1.3				V
Maximum DC reverse current at rated DC blocking voltage T_A = 25°C / T_A = 125°C	I_R	5.0 / 50													µA
Typical reverse recovery time at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A	t_{rr}	3.0													µs
Typical junction capacitance at 4.0V, 1MHz	C_J	8.0					7.0				5.0				pF

Note: (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

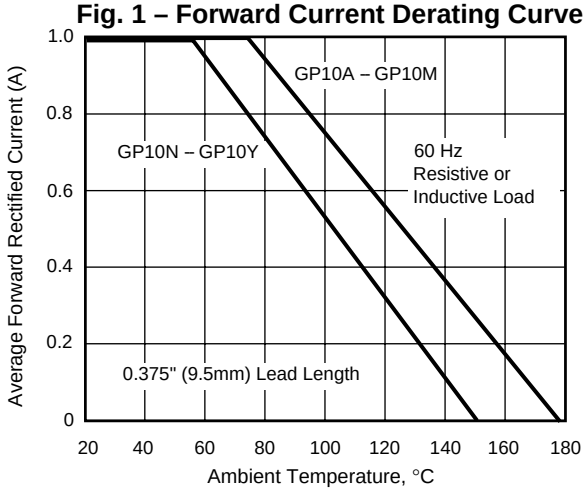


Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

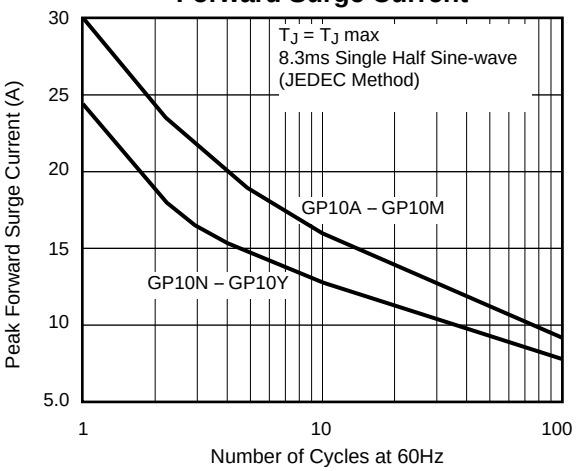


Fig 3. – Typical Instantaneous Forward Characteristics

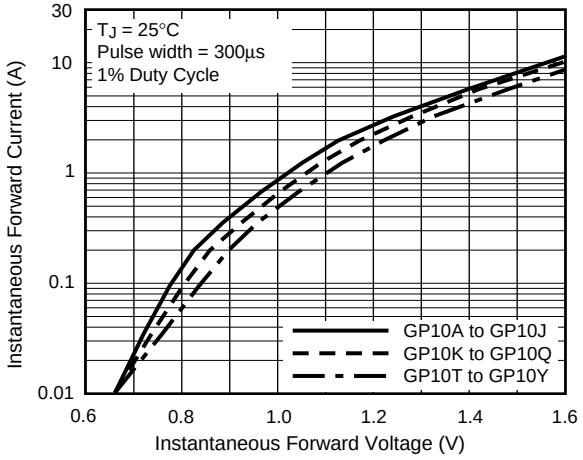


Fig 4. – Typical Reverse Characteristics

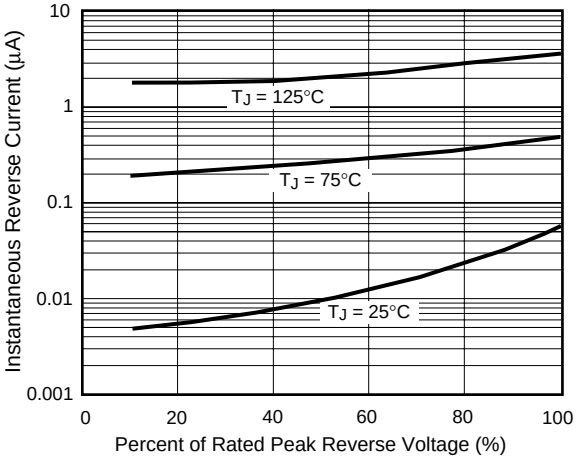


Fig 5. – Maximum Repetitive Peak Reverse Voltage, V_{RRM}

GP10A	50V
GP10B	100V
GP10D	200V
GP10G	400V
GP10J	600V
GP10K	800V
GP10M	1000V
GP10N	1100V
GP10Q	1200V
GP10T	1300V
GP10V	1400V
GP10W	1500V
GP10Y	1600V

Fig 6. – Typical Junction Capacitance