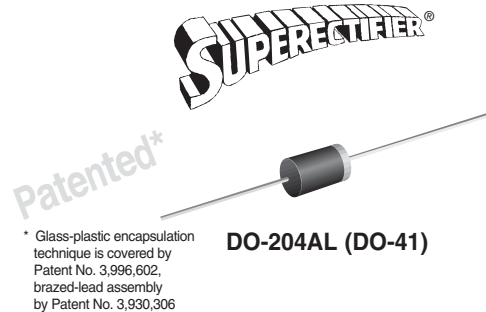


Glass Passivated Junction Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	50 V to 1600 V
I_{FSM}	30 A, 25 A
I_R	5.0 μ A
V_F	1.1 V, 1.2 V, 1.3 V
T_j max.	175 °C



Features

- Superrectifier structure for High Reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-204AL, molded epoxy over glass body
Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for both consumer and automotive applications

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

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 1600 V (See Fig. 5)														V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length (See fig. 1)	$I_{F(AV)}$	1.0														A	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30					25										A
Maximum full load reverse current, full cycle average, 0.375" (9.5 mm) lead lengths at $T_A = 75$ °C	$I_{R(AV)}$	30														μ A	
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					- 65 to + 150										°C

Electrical Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

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

Thermal Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	A	B	D	G	J	K	M	N	Q	T	V	W	Y	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$				55									$^\circ\text{C/W}$	

Notes:

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

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

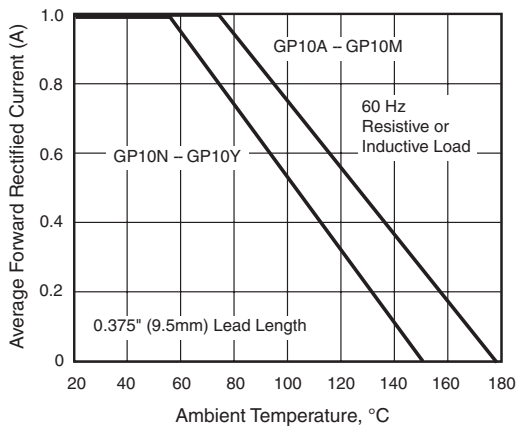


Figure 1. Forward Current Derating Curve

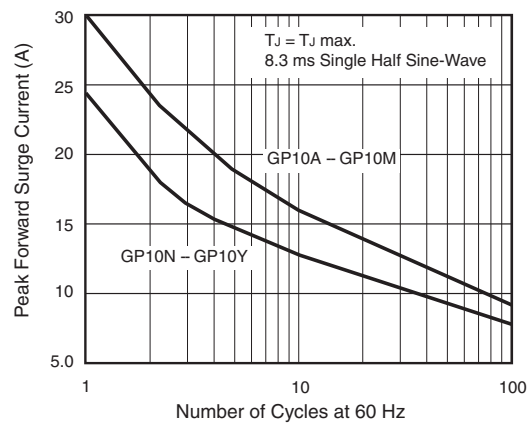


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

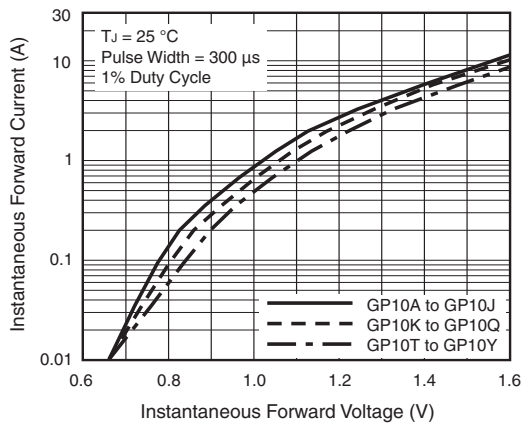


Figure 3. Typical Instantaneous Forward Characteristics

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

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

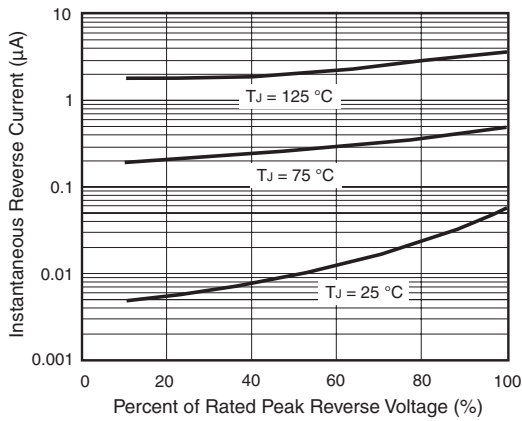


Figure 4. Typical Reverse Characteristics

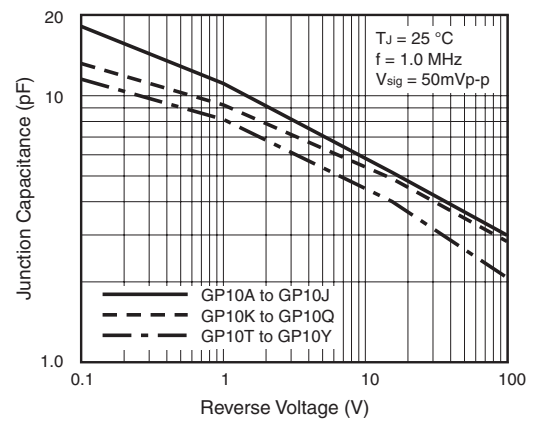
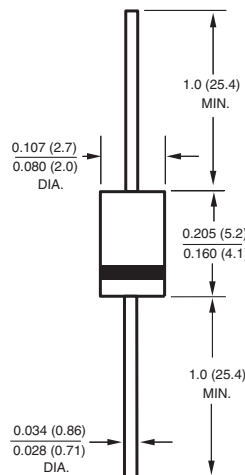


Figure 6. Typical Junction Capacitance

Package outline dimensions in inches (millimeters)

DO-204AL (DO-41)



NOTE: Lead diameter is $\frac{0.026 (0.66)}{0.023 (0.58)}$ for suffix "E" part numbers



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