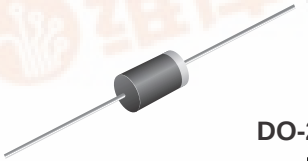
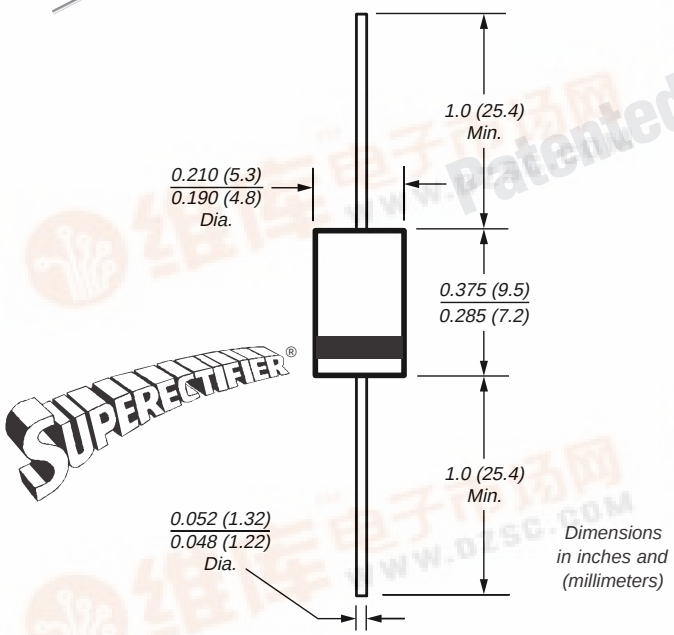
Clamper/Damper Glass Passivated Rectifier



Reverse Voltage 1400 to 1500V
Forward Current 3.0A

DO-201AD



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

Features

- Specially designed for clamping circuits, horizontal deflection systems and damper applications
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- 3.0 ampere operation at T_A=50°C with no thermal runaway
- Typical I_R less than 0.1µA
- Capable of meeting environmental standards of MIL-S-19500
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-201AD, 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: 0.04 oz., 1.12 g
Packaging codes/options:
1/Bulk - 1.5K per container, 15K per box
4/1.4K per 13" reel, 5.6K per box
23/1K per ammo mag., 9K per box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	CGP30	DGP30	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1400	1500	V
Maximum RMS voltage	V_{RMS}	980	1050	V
Maximum DC blocking voltage	V_{DC}	1400	1500	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A = 50°C	$I_{F(AV)}$	3.0		A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC Method) at T_A = 50°C	I_{FSM}	100		A
Maximum full load reverse current full cycle average 0.375" (9.5mm) lead length at T_A = 70°C	$I_{R(AV)}$	200		µA
Typical thermal resistance (Note 1)	$R_{\Theta JA}$	20		°C/W
Operating junction and storage temperature range	T_J, T_{STG}	–65 to +175		°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Symbol	CGP30	DGP30	Unit
Maximum instantaneous forward voltage at 3.0A		V_F	1.2		V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C T_A = 100°C	I_R	5.0 100		µA
Maximum reverse recovery time at I_F = 0.5A, I_R = 50mA		t_{rr}	15	20	µs
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	typical maximum	t_{rr}	1.0 2.0		µs
Typical junction capacitance at 4.0V, 1MHz		C_J	40		pF

Note: (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, with leads attached to heat sink

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

Fig. 1 – Forward Current Derating Curve

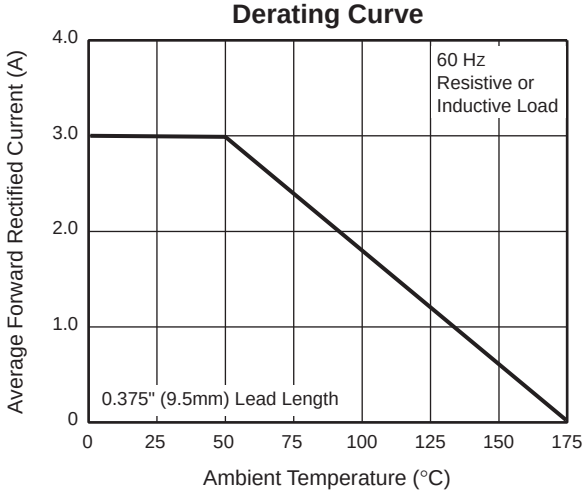


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

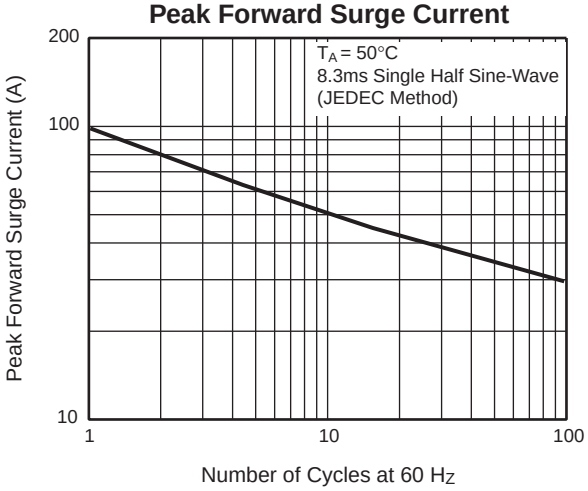


Fig. 3 – Typical Instantaneous Forward Characteristics

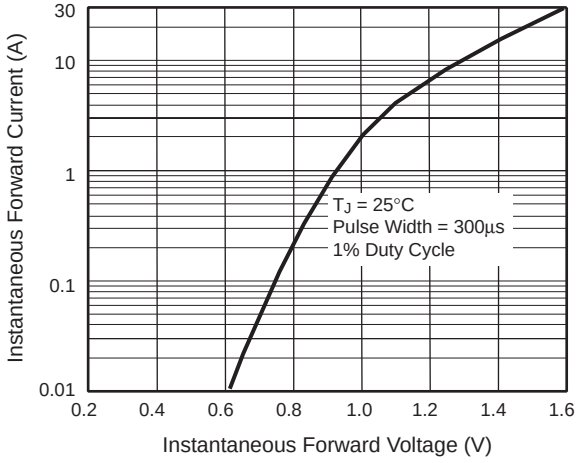


Fig. 4 – Typical Reverse Characteristics

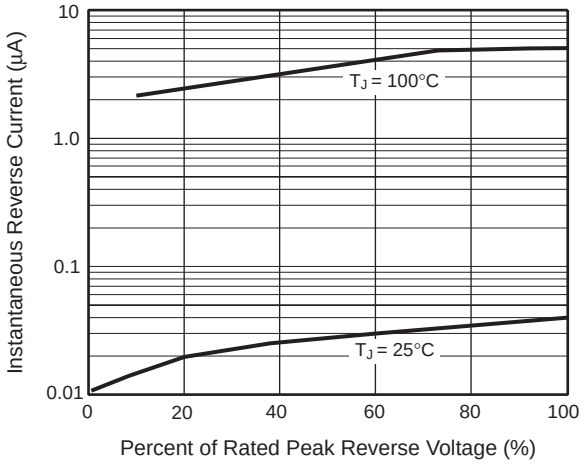


Fig. 5 – Typical Junction Capacitance