Excellent Integrated System Limited

Stocking Distributor

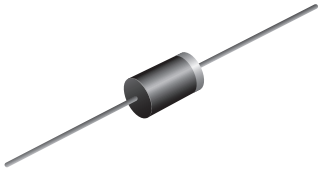
Click to view price, real time Inventory, Delivery & Lifecycle Information:

Vishay Semiconductor/Diodes Division
CGP30-E3/54

For any questions, you can email us directly:
sales@integrated-circuit.com

Clamper/Damper Glass Passivated Plastic Rectifier

SUPERECTIFIER®



DO-201AD

FEATURES

- Superectifier structure
- Cavity-free glass passivated junction
- Low forward voltage drop
- Typical I_R less than 0.1 μA
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in high voltage rectification of power supplies, inverters, converters and freewheeling diodes specially designed for clamping circuits, horizontal deflection systems, and damper applications.

MECHANICAL DATA

Case: DO-201AD, molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	1400 V, 1500 V
I_{FSM}	100 A
I_R	5.0 μA
V_F	1.2 V
T_J max.	175 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

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" (9.5 mm) lead lengths at T_A = 50 °C	$I_{F(AV)}$	3.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100		A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T_A = 70 °C	$I_{R(AV)}$	200		μA
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175		°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**CGP30**	**DGP30**	**UNIT**
Maximum instantaneous forward voltage	I_F = 3.0 A		V_F [1]	1.2		V
Maximum reverse current	Rated V_R	T_A = 25 °C	I_R	5.0		μA
		T_A = 100 °C		100		
Maximum reverse recovery time	I_F = 0.5 A, I_R = 50 mA		t_{rr}	15	20	μs
Reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	Typical	t_{rr}	1.0		μs
		Maximum		2.0		
Typical junction capacitance	4.0 V, 1 MHz		C_J	40		pF

Note

[1] Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**CGP30**	**DGP30**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ [1]	20		°C/W

Note

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
CGP30-E3/54	1.28	54	1400	13" diameter paper tape and reel
CGP30-E3/73	1.28	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

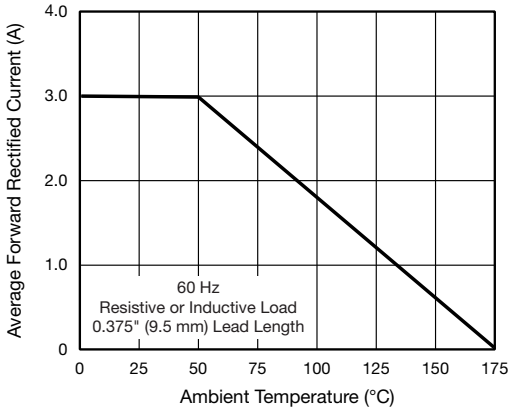


Fig. 1 - Forward Current Derating Curve

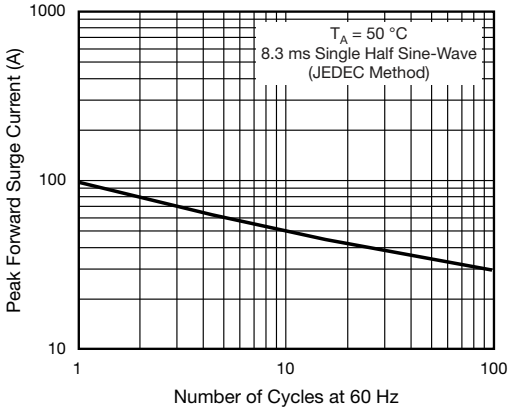


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

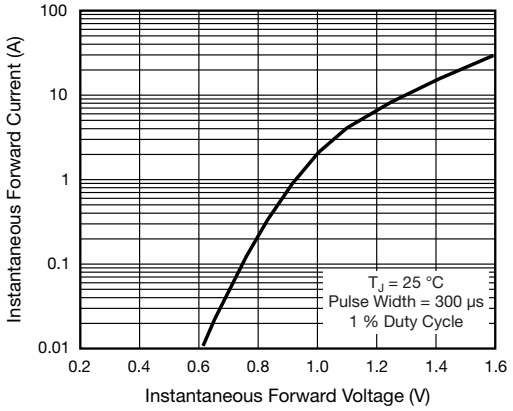


Fig. 3 - Typical Instantaneous Forward Characteristics

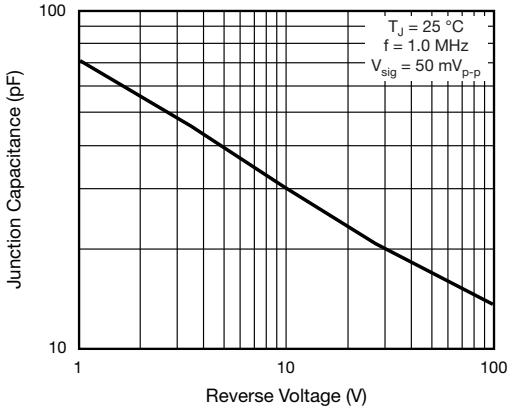


Fig. 5 - Typical Junction Capacitance

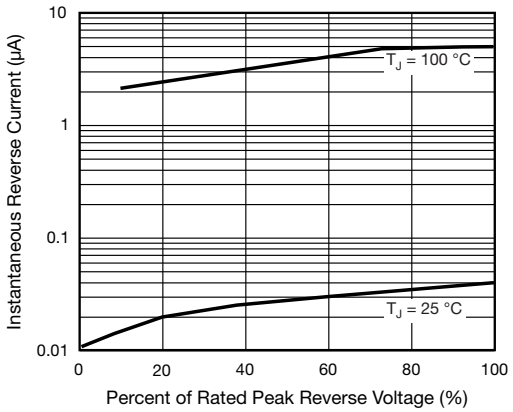
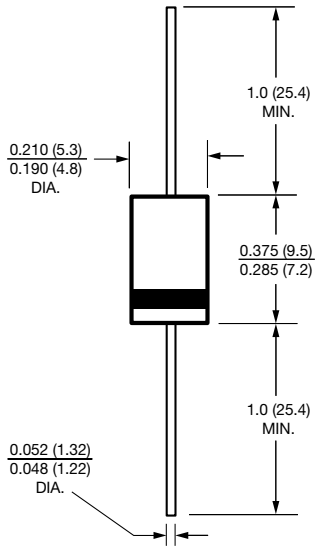


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.