

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	BYD33GGPHE3/54
Manufacturer:	Vishay General Semiconductor - Diodes Division
Package:	DO-204AL, DO-41, Axial
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division/byd33ggphe3-54.html>

Request a Quote:

[Submit RFQ for this part](#)



Scan for product page

Contact Information

Email: info@antrexco.com

WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

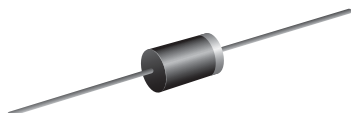
This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



Avalanche Glass Passivated Junction Fast Switching Rectifier

SUPERECTIFIER®



DO-204AL (DO-41)

FEATURES

- Superectifier structure for high reliability condition
- Cavity-free glass-passivated junction
- Avalanche surge capability guaranteed
- Fast reverse recovery time
- Low switching losses, high efficiency
- Low leakage current, typical I_R less than $0.1 \mu A$
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip $275^\circ C$ max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1.0 A
V_{RRM}	200 V to 1000 V
I_{FSM}	30 A
E_{RSM}	10 mJ, 7 mJ
t_{rr}	150 ns, 250 ns, 300 ns
I_R	$5.0 \mu A$
T_J max.	$175^\circ C$

TYPICAL APPLICATIONS

For use in high frequency rectification of switching power supplies, inverters, converters and freewheeling applications for consumer, automotive, and telecommunication.

MECHANICAL DATA

Case: DO-204AL, molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade
Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BYD33DGP	BYD33GGP	BYD33JGP	BYD33KGP	BYD33MGP	UNIT
Device marking code		33DGP	33GGP	33JGP	33KGP	33MGP	V
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	800	1000	V
Maximum DC blocking voltage	V _{DC}	200	400	600	800	1000	V
Maximum average forward rectified current 0.375 " (9.5 mm) lead length at T _A = 55 °C	I _{F(AV)}	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30					A
Non-repetitive peak reverse avalanche energy at L = 120 mH, T _J = T _J max. prior to surge	E _{RSM}	10			7		mJ
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length T _A = 55 °C	I _{R(AV)}	100					μA
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 175					°C

BYD33DGP thru BYD33MGP

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	BYD33DGP	BYD33GGP	BYD33JGP	BYD33KGP	BYD33MGP	UNIT
Maximum instantaneous forward voltage	1.0 A		V _F ⁽¹⁾	1.3					V
Maximum DC reverse current at rated DC blocking voltage		T _A = 25 °C	I _R	5.0					μA
		T _A = 150 °C		200					
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	150		250	300		ns
Typical junction capacitance	4.0 V, 1 MHz		C _J	15					pF

Note(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	BYD33DGP	BYD33GGP	BYD33JGP	BYD33KGP	BYD33MGP	UNIT	
Typical thermal resistance	$R_{\theta JA}^{(1)}$	55					$^{\circ}\text{C/W}$	

Note

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BYD33JGP-E3/54	0.336	54	5500	13" diameter paper tape and reel
BYD33JGP-E3/73	0.336	73	3000	Ammo pack packaging
BYD33JGPHE3/54 ⁽¹⁾	0.336	54	5500	13" diameter paper tape and reel
BYD33JGPHE3/73 ⁽¹⁾	0.336	73	3000	Ammo pack packaging

Note

(1) AEC-Q101 qualified

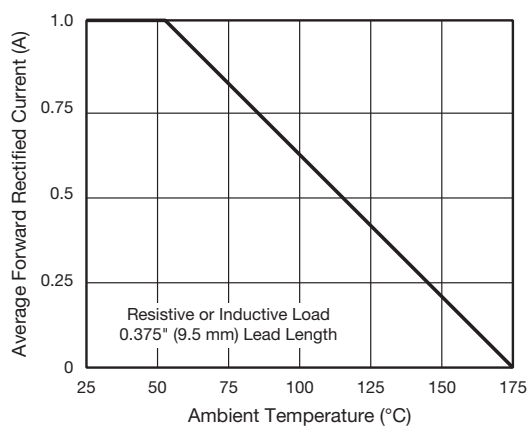
RATINGS AND CHARACTERISTICS CURVES $(T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

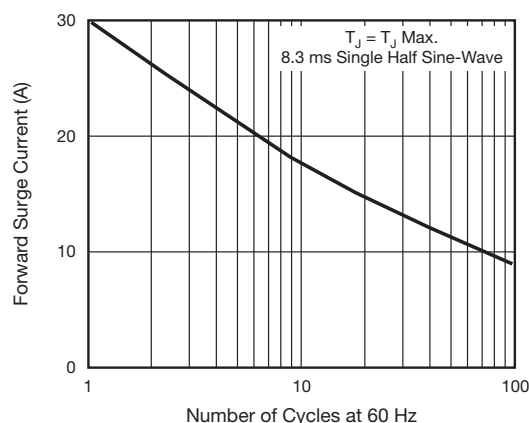


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

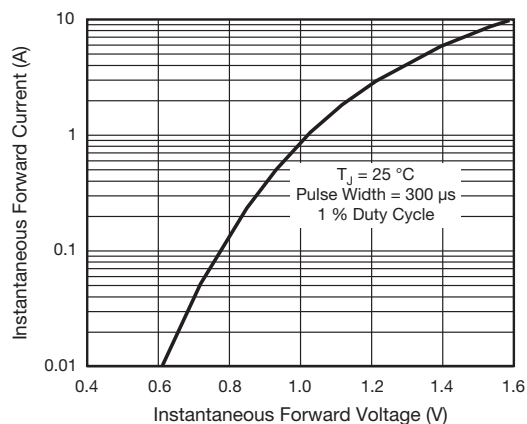


Fig. 3 - Typical Instantaneous Forward Characteristics

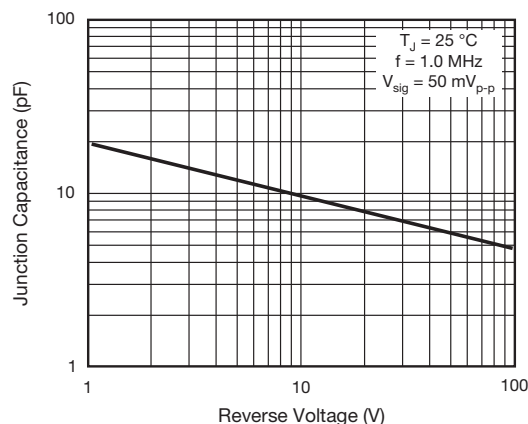


Fig. 5 - Typical Junction Capacitance

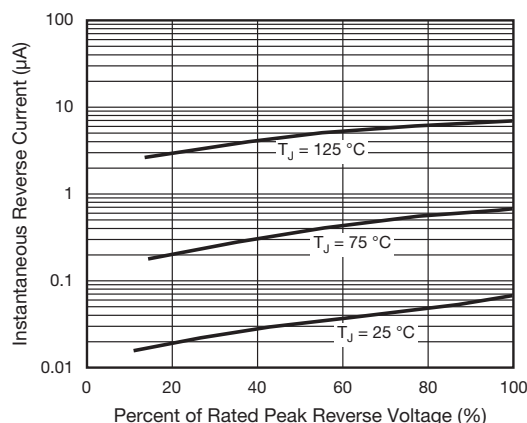


Fig. 4 - Typical Reverse Characteristics

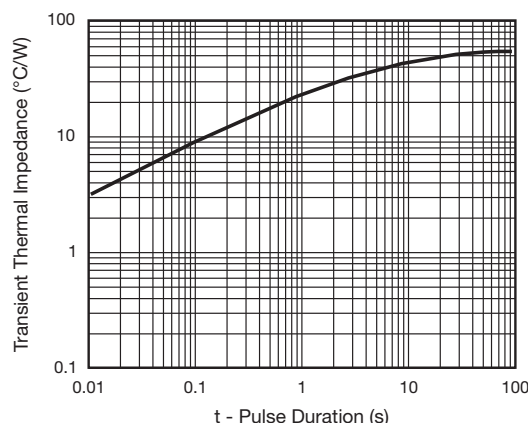
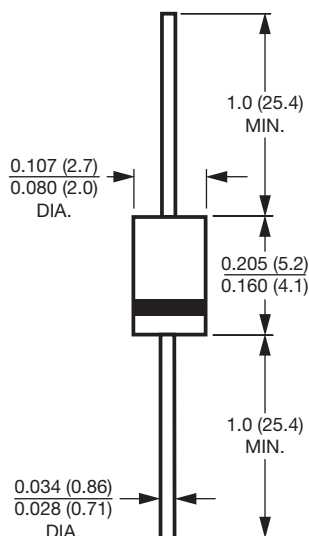


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)





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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.