BYG10GHM3_A/I Datasheet

DiGi Electronics Part Number	BYG10GHM3_A/I-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	BYG10GHM3_A/I
Description	DIODE AVAL 400V 1.5A DO214AC
Detailed Description	Diode 400 V 1.5A Surface Mount DO-214AC (SMA)

https://www.DiGi-Electronics.com

This model BYG10GHM3_A/I is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

Request a Quote

Datasheet Search

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BYG10GHM3_A/I	Vishay General Semiconductor - Diodes Division
Series:	Product Status:
-	Active
Technology:	Voltage - DC Reverse (Vr) (Max):
Avalanche	400 V
Current - Average Rectified (Io):	Voltage - Forward (Vf) (Max) @ If:
1.5A	1.15 V @ 1.5 A
Speed:	Reverse Recovery Time (trr):
Standard Recovery >500ns, > 200mA (Io)	4 µs
Current - Reverse Leakage @ Vr:	Capacitance @ Vr, F:
1 µA @ 400 V	-
Grade:	Qualification:
Automotive	AEC-Q101
Mounting Type:	Package / Case:
Surface Mount	DO-214AC, SMA
Supplier Device Package:	Operating Temperature - Junction:
DO-214AC (SMA)	-55°C ~ 150°C
Base Product Number:	
BYG10	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.10.0080	

Standard Avalanche SMD Rectifier

SMA (DO-214AC)

Cathode ○—|◀|—○ Anode

DESIGN SUPPORT TOOLS AVAILABLE

3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.5 A
V_{RRM}	200 V, 400 V, 600 V, 800 V, 1000 V, 1600 V
I_{FSM}	30 A
I_R	1.0 µA
V_F	1.15 V
E_R	20 mJ
T_J max.	150 °C
Package	SMA (DO-214AC)
Circuit configuration	Single

FEATURES

AUTOMOTIVE GRADE Available

RoHS COMPLIANT HALOGEN FREE

- Low profile package
- Ideal for automated placement
- Controlled avalanche characteristics
- Glass passivated pellet chip junction
- Low reverse current
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
  - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: SMA (DO-214AC)
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade
Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified
Base P/NHM3_X - halogen-free, RoHS-compliant and AEC-Q101 qualified
("_X" denotes revision code e.g. A, B,...)

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3, M3, HE3, HM3 suffix meet JESD 201 class 2 whisker test

Polarity: color band denotes the cathode end

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

PARAMETER	SYMBOL	BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	UNIT
Device marking code		BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	1600	V
Average forward current	$I_{F(AV)}$	1.5						A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	30						A
Pulse energy in avalanche mode, non repetitive (inductive load switch off) $I_{(BR)R}$ = 1 A, T_J = 25 °C (for BYG10D thru BYG10M) $I_{(BR)R}$ = 0.4 A, T_J = 25 °C (for BYG10Y)	E_R	20						mJ
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150						°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)										
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**BYG10D**	**BYG10G**	**BYG10J**	**BYG10K**	**BYG10M**	**BYG10Y**	**UNIT**
Maximum instantaneous forward voltage (1)	I_F = 1 A	T_J = 25 °C	V_F	1.1						V
	I_F = 1.5 A			1.15						
Maximum DC reverse current	$V_R = V_{RRM}$	T_J = 25 °C	I_R	1						µA
		T_J = 100 °C		10						
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	4						µs

Note

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

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	**SYMBOL**	**BYG10D**	**BYG10G**	**BYG10J**	**BYG10K**	**BYG10M**	**BYG10Y**	**UNIT**
Typical thermal resistance, junction to lead	$R_{\theta JL}$	25						°C/W
Typical thermal resistance, junction to ambient	$R_{\theta JA}$ (1)	150						°C/W
	$R_{\theta JA}$ (2)	125						
	$R_{\theta JA}$ (3)	100						

Notes

(1) Mounted on epoxy-glass hard tissue
(2) Mounted on epoxy-glass hard tissue, 50 mm^2 35 µm Cu
(3) Mounted on Al-oxide-ceramic (Al_2O_3), 50 mm^2 35 µm Cu

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
BYG10M-E3/TR	0.064	TR	1800	7" diameter plastic tape and reel
BYG10M-E3/TR3	0.064	TR3	7500	13" diameter plastic tape and reel
BYG10MHE3_A/H (1)	0.064	H	1800	7" diameter plastic tape and reel
BYG10MHE3_A/I (1)	0.064	I	7500	13" diameter plastic tape and reel
BYG10M-M3/TR	0.064	TR	1800	7" diameter plastic tape and reel
BYG10M-M3/TR3	0.064	TR3	7500	13" diameter plastic tape and reel
BYG10MHM3_A/H (1)	0.064	H	1800	7" diameter plastic tape and reel
BYG10MHM3_A/I (1)	0.064	I	7500	13" diameter plastic tape and reel

Note

(1) AEC-Q101 qualified

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

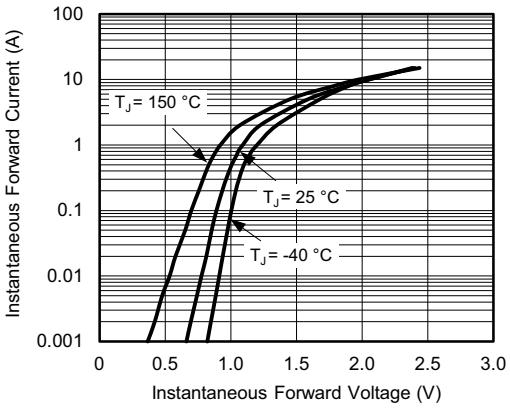


Fig. 1 - Forward Current vs. Forward Voltage

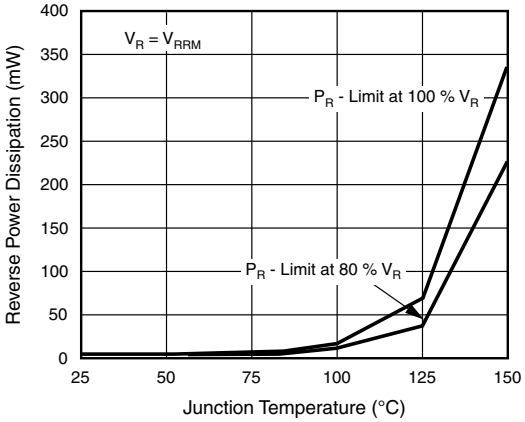


Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

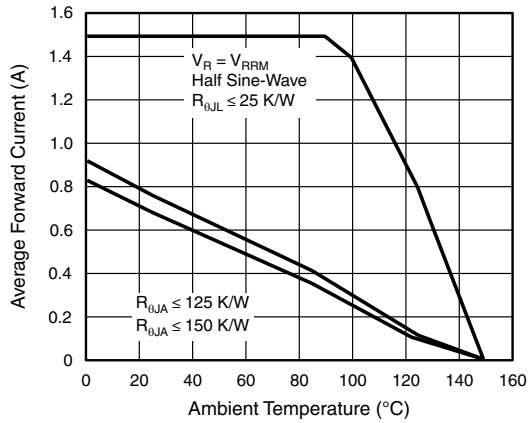


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

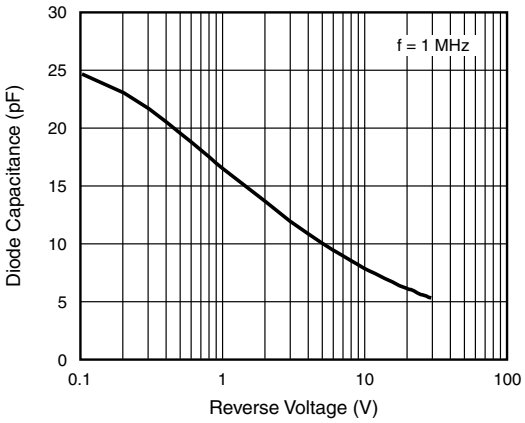


Fig. 5 - Diode Capacitance vs. Reverse Voltage

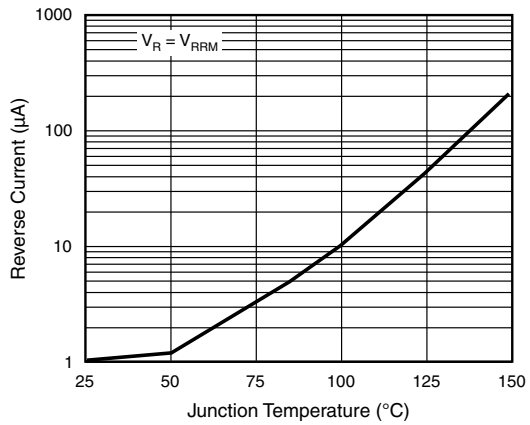


Fig. 3 - Reverse Current vs. Junction Temperature

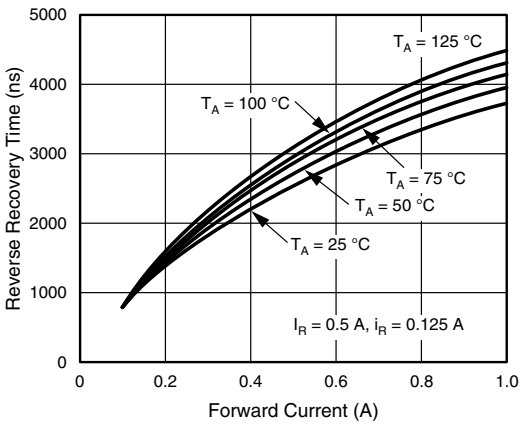


Fig. 6 - Reverse Recovery Time vs. Forward Current

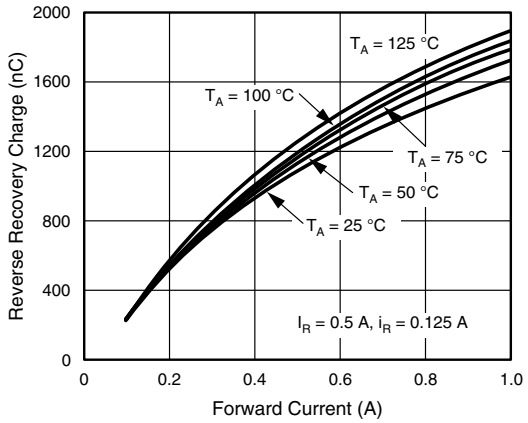
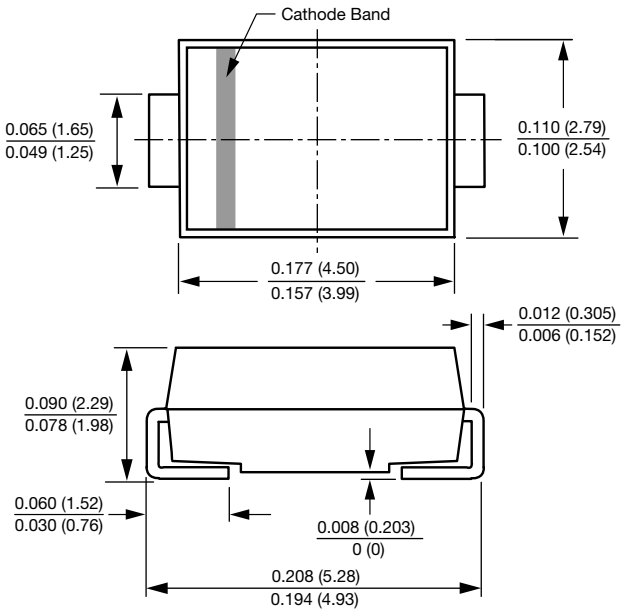


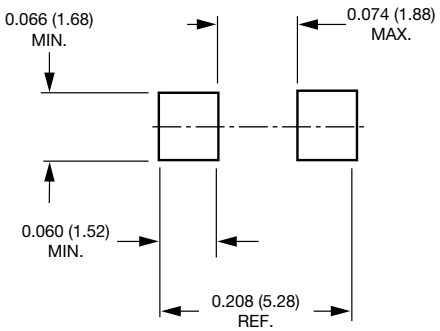
Fig. 7 - Reverse Recovery Charge vs. Forward Current

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMA (DO-214AC)



Mounting Pad Layout



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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.