Not for New Designs

RGP30A, RGP30B, RGP30D, RGP30G, RGP30J, RGP30K, RGP30M



Vishay General Semiconductor

Glass Passivated Junction Fast Switching Plastic Rectifier



PRIMARY CHARACTERISTICS							
I _{F(AV)} 3.0 A							
V _{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I _{FSM}	125 A						
V _F	1.3 V						
I _R	5.0 µA						
T _J max.	175 °C						
Package	DO-201AD						
Circuit configuration	Single						

FEATURES

- Superectifier structure for high reliability condition
- Cavity-free glass-passivated junction
- Fast switching for high efficiency
- Low leakage current, typical I_R less than 0.2 μA
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

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

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	RGP30A	RGP30B	RGP30D	RGP30G	RGP30J	RGP30K	RGP30M	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	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)}	I _{F(AV)} 3.0						А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	I _{FSM} 125						А	
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I _{R(AV)}	I _{R(AV)} 100						μA	
Operating junction and storage temperature range	T _J , T _{STG} -65 to +175							°C	



COMPLIANT

Revision: 06-Oct-2021
 1
 Document Number: 88704

 For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	RGP30A RGP30B RGP30D RGP30G RGP30J RGP30K RG				RGP30M	UNIT
Maximum instantaneous forward voltage	3.0 A		V _F	1.3				V	
Maximum DC reverse current		T _A = 25 °C	I _B	5.0					
at rated DC blocking voltage		T _A = 125 °C	'R	100				μA	
Maximum reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 A, 5 A	t _{rr}	150 250 500				ns	
Typical junction capacitance	4.0 V, 1	MHz	CJ	60				pF	

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER SYMBOL RGP30A RGP30B RGP30D RGP30G RGP30J RGP30K RGP30M U						UNIT		
Typical thermal resistance	R _{0JA} ⁽¹⁾	20				°C/W		

Note

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

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
RGP30J-E3/54	1.28	54	1400	13" diameter paper tape and reel					
RGP30J-E3/73	1.28	73	1000	Ammo pack packaging					

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

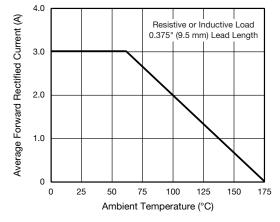


Fig. 1 - Forward Current Derating Curve

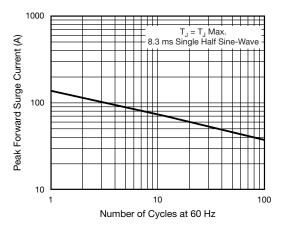


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

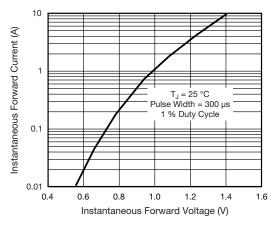


Fig. 3 - Typical Instantaneous Forward Characteristics

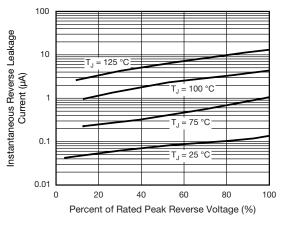


Fig. 4 - Typical Reverse Characteristics

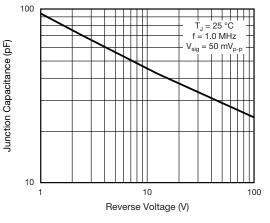


Fig. 5 - Typical Junction Capacitance

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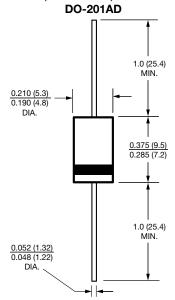
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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