Vishay General Semiconductor

Surface Mount Fast Switching Rectifier



DO-214AB (SMC)

3.0 A

50 V to 800 V

100 A

150 ns, 250 ns, 500 ns

1.3 V

150 °C

PRIMARY CHARACTERISTICS

I_{F(AV)}

 V_{RRM}

I_{FSM}

t_{rr} VF

T_J max.

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- · Fast switching for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-214AB (SMC)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

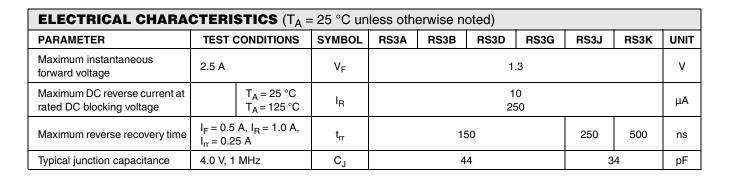
Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	UNIT
Device marking code		RA	RB	RD	RG	RJ	RK	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	500	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	V
Maximum average forward rectified current at T_L = 75 °C	I _{F(AV)}	3.0					А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100					А	
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 150					°C	



ROHS COMPLIANT

Vishay General Semiconductor



THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	UNIT	
Typical thermal resistance ⁽¹⁾	$R_{ extsf{ heta}JA}\ R_{ heta}JL$	50 15					°C/W		

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0 mm) copper pad area

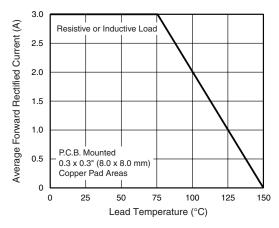
ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	REFFERED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
RS3J-E3/57T	0.211	57T	850	7" diameter plastic tape and reel				
RS3J-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel				
RS3JHE3/57T ⁽¹⁾	0.211	57T	850	7" diameter plastic tape and reel				
RS3JHE3/9AT ⁽¹⁾	0.211	9AT	3500	13" diameter plastic tape and reel				

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)





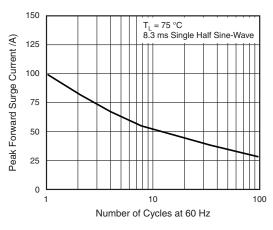


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current



RS3A thru RS3K

Vishay General Semiconductor

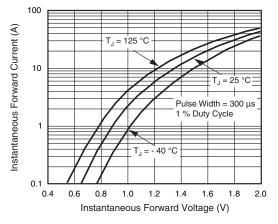


Figure 3. Typical Instantaneous Forward Characteristics

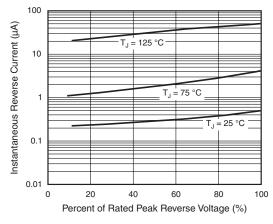


Figure 4. Typical Reverse Characteristics

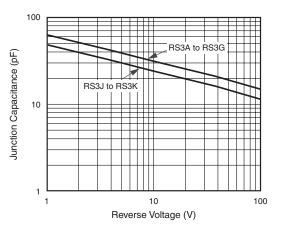


Figure 5. Typical Junction Capacitance

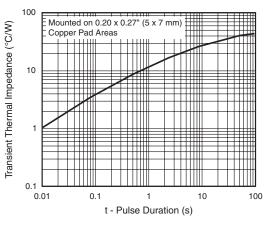
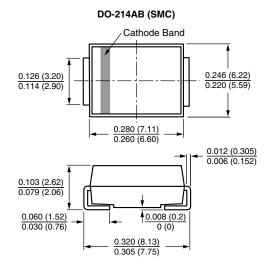
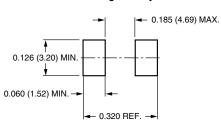


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Mounting Pad Layout





Vishay

Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.