RS2A, RS2B, RS2D, RS2G, RS2J, RS2K

Vishay General Semiconductor

Surface Mount Fast Switching Rectifier



DO-214AA (SMB)

PRIMARY CHARACTERISTICS							
I _{F(AV)}	1.5 A						
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V						
I _{FSM}	50 A						
t _{rr}	150 ns, 250 ns, 500 ns						
V_{F}	1.3 V						
T _J max.	150 °C						
Package	DO-214AA (SMB)						
Diode variation	Single die						

FEATURES

- Low profile package
- · Ideal for automated placement
- · Glass passivated pellet 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
- AEC-Q101 qualified available
 - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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-214AA (SMB)

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 Base P/NHE3_X - RoHS-compliant, 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 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	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 = 100 °C	I _{F(AV)}	1.5						Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50				Α		
Operating junction and storage temperature range	T_J , T_{STG}	-55 to +150					°C	

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	UNIT
Maximum instantaneous forward voltage	1.5 A		V _F	1.3						V
Maximum DC reverse current at		T _A = 25 °C	I_	5.0					μА	
rated DC blocking voltage		T _A = 125 °C	I _R	200						
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	150			250	500	ns	
Typical junction capacitance	4.0 V, 1 MHz		СЈ	20			1	pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	DL RS2A RS2B RS2D RS2G RS2J RS2K U					UNIT	
Typical thermal resistance	R _{0JA} (1)	55						°C/W
Typical thermal resistance	R ₀ JL (1)	18						C/VV

Note

⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.27" x 0.27" (7.0 mm x 7.0 mm) copper pad

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
RS2J-E3/52T	0.096	52T	750	7" diameter plastic tape and reel					
RS2J-E3/5BT	0.096	5BT	3200	13" diameter plastic tape and reel					
RS2JHE3/52T (1)	0.096	52T	750	7" diameter plastic tape and reel					
RS2JHE3/5BT (1)	0.096	5BT	3200	13" diameter plastic tape and reel					
RS2JHE3_A/H (1)	0.096	Н	750	7" diameter plastic tape and reel					
RS2JHE3_A/I (1)	0.096	I	3200	13" diameter plastic tape and reel					

Note

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

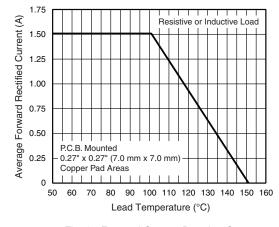


Fig. 1 - Forward Current Derating Curve

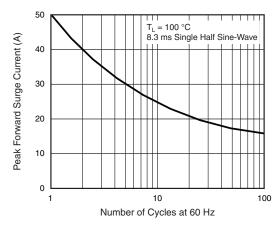


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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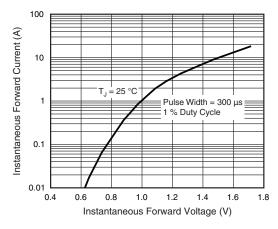


Fig. 3 - Typical Instantaneous Forward Characteristics

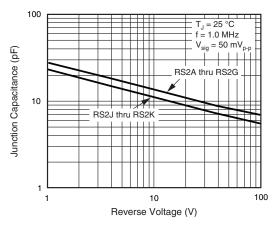


Fig. 5 - Typical Junction Capacitance

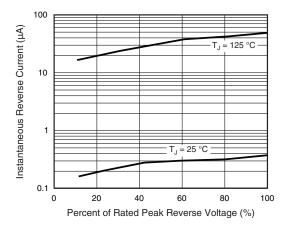
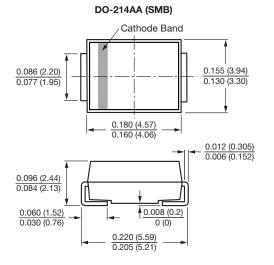
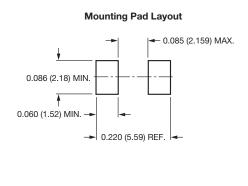


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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