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Vishay General Semiconductor

Surface Mount Schottky Barrier Rectifier



DO-214AB (SMC)

PRIMARY CHARACTERISTICS						
I _{F(AV)} 3.0 A						
V _{RRM}	20 V, 30 V, 40 V, 50 V, 60 V					
I _{FSM}	100 A					
EAS	20 mJ					
V _F	0.5 V, 0.75 V					
T _J max.	125 °C, 150 °C					
Package	DO-214AB					
Diode variations	Single					

FEATURES

- Low profile package
- · Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- · High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- · Material categorization: For definitions of compliance please see www.vishav.com/doc?99912

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

MECHANICAL DATA

Case: DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3_X - 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 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT
Device marking code		S2	S3	S4	S5	S6	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V
Maximum average forward rectified current at T _L (fig. 1)	I _{F(AV)}	3.0				Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100				А	
Non-repetitive avalanche energy at $T_A = 25$ °C, $I_{AS} = 2.0$ A, $L = 10$ mH	E _{AS}	20				mJ	
Voltage rate of change (rated V _R)	dV/dt	10 000			V/µs		
Operating junction temperature range	TJ	-55 to +125 -55 to +150			+150	°C	
Storage temperature range	T _{STG}	-55 to +150 °C			°C		



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST C	ONDITIONS	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT
Maximum instantaneous forward voltage (1)	3.0 A		V _F	0.5		0.75		V	
Maximum DC reverse current		T _A = 25 °C	1_	0.5			mA		
at rated DC blocking voltage (1)		T _A = 100 °C	IR		20		1	0	IIIA

Note

 $^{^{(1)}\,}$ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SS32	SS33	SS34	SS35	SS36	UNIT
Typical thermal resistance (1)	$R_{\theta JA}$	55					°C/W
Typical thermal resistance (9	$R_{ heta JL}$	17					C/ VV

Note

 $^{^{(1)}\,}$ PCB. mounted 0.55" x 0.55" (14 mm x 14 mm) copper pad areas

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
SS34-E3/57T	0.235	57T	850	7" diameter plastic tape and reel				
SS34-E3/9AT	0.235	9AT	3500	13" diameter plastic tape and reel				
SS34HE3_A/H (1)	0.235	Н	850	7" diameter plastic tape and reel				
SS34HE3_A/I (1)	0.235	I	3500	13" diameter plastic tape and reel				

Note

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

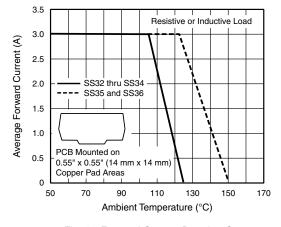


Fig. 1 - Forward Current Derating Curve

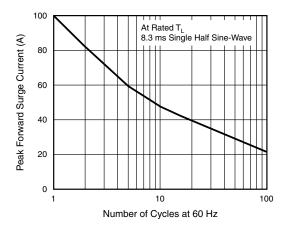


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ AEC-Q101 qualified



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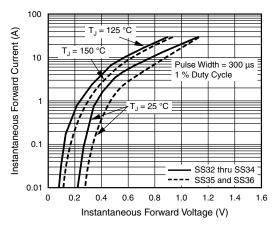


Fig. 3 - Typical Instantaneous Forward Characteristics

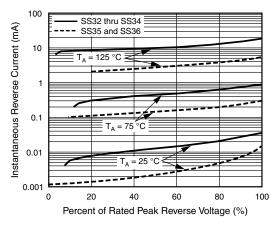


Fig. 4 - Typical Reverse Current Characteristics

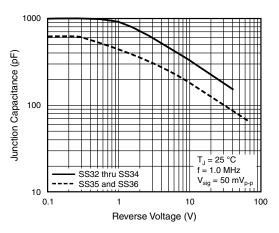


Fig. 5 - Typical Junction Capacitance

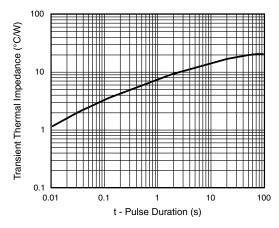
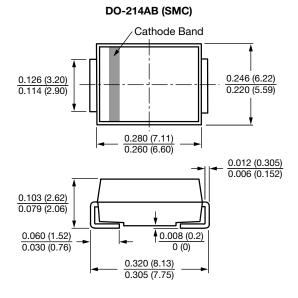
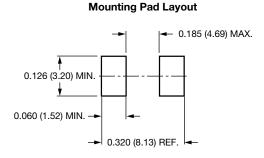


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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