

New Product

Vishay General Semiconductor

High-Current Density Surface Mount Schottky Rectifier



DO-220AA (SMP)

MAJOR RATINGS AND CHARACTERISTICS

2 A

50 V, 60 V

50 A

11.25 mJ

0.54 V

150 °C

I_{F(AV)}

V_{RRM}

I_{FSM}

E_{AS}

 V_{F}

T_i max.

FEATURES

• Very low profile - typical height of 1.0 mm



- · Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- · Low thermal resistance
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, dc-to-dc converters and polarity protection applications.

MECHANICAL DATA

Case: DO-220AA (SMP)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	SS2P5	SS2P6	UNIT		
Device marking code		25	26			
Maximum repetive peak reverse voltage	V _{RRM}	50	60	V		
Maximum average forward rectified current (see Fig. 1)	I _{F(AV)}	2.0		А		
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	50		А		
Non-repetitive avalanche energy at $I_{AS} = 1.5 \text{ A}$, L = 10 mH, T _j = 25 °C	E _{AS}	11.25		mJ		
Voltage rate of change (rated V _R)	dv/dt	10000		V/us		
Operating junction and storage temperature range	T _{J,} T _{STG}	- 55 to	°C			

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	ТҮР	MAX.	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	at $I_F = 2 A$, $T_j = 25 °C$ at $I_F = 2 A$, $T_j = 125 °C$	V _F	0.62 0.54	0.70 0.60	V
Maximum reverse current at rated $V_{R}^{\ (1)}$	T _j = 25 °C T _j = 125 °C	I _R	- 1.6	100 10	μA mA
Typical junction capacitance	at 4.0 V, 1 MHz	CJ	8	0	pF

Note:

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

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THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise specified)					
PARAMETER	SYMBOL	SS2P5	SS2P6	UNIT	
Typical thermal resistance ⁽¹⁾	${f R}_{ heta JA} \ {f R}_{ heta JL} \ {f R}_{ heta JC}$	115 15 20		°C/W	

Note:

(1) Thermal resistance from junction to ambient and junction to lead mounted on P.C.B. with 5.0 x 5.0 mm copper pad areas. $R_{\theta JL}$ is measured at the terminal of cathode band. $R_{\theta JC}$ is measured at the top centre of the body

ORDERING INFORMATION						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
SS2P5-E3/84A	0.024	84A	3000	7" Diameter Plastic Tape & Reel		
SS2P5-E3/85A	0.024	85A	10000	13" Diameter Plastic Tape & Reel		

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

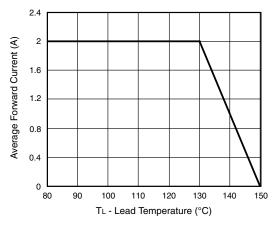


Figure 1. Forward Current Derating Curve

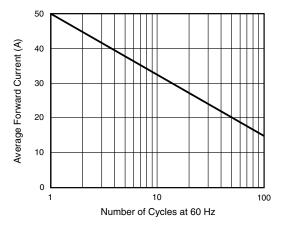


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

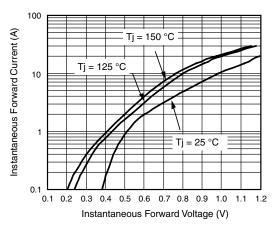


Figure 3. Typical Instantaneous Forward Characteristics

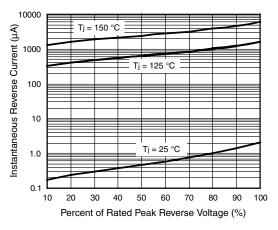


Figure 4. Typical Reverse Leakage Characteristics



SS2P5 & SS2P6

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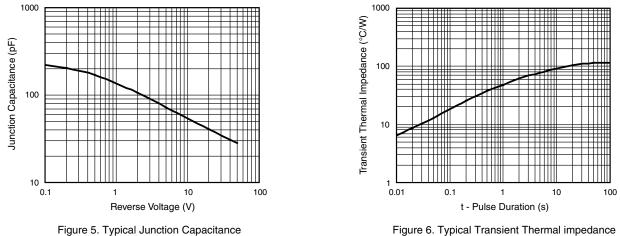
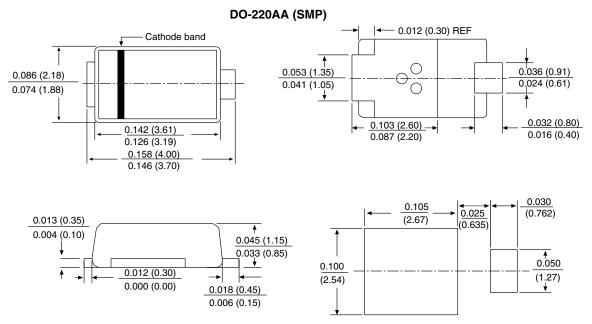


Figure 6. Typical Transient Thermal impedance







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