HALOGEN

FREE



Vishay General Semiconductor

Surface-Mount TMBS® (Trench MOS Barrier Schottky) Rectifier



SMA (DO-214AC)

Cathode O Anode

LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS				
I _{F(AV)}	3.0 A			
V_{RRM}	60 V			
I _{FSM}	60 A			
V _F at I _F = 3.0 A	0.48 V			
T _J max.	150 °C			
Package	SMA (DO-214AC)			
Circuit configuration	Single			

FEATURES

- Low profile package
- Ideal for automated placement
- Trench MOS Schottky technology
- · Low power losses, high efficiency
- Low forward voltage drop
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Not recommended for PCB bottom side wave mounting
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: SMA (DO-214AC)

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

M3 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	VSSA36S	UNIT	
Device marking code		V36		
Maximum repetitive peak reverse voltage	V_{RRM}	60	V	
Maying DC favorand assurant		3.0	۸	
Maximum DC forward current	I _F ⁽²⁾	2.4	A	
Peak forward surge current 10 ms single half sine-wave superimposed on rated load		60	Α	
Operating junction and storage temperature range		-55 to +150	°C	

Notes

- (1) Mounted on 8 mm x 8 mm pad areas, 1 oz. FR4 PCB
- (2) Free air, mounted on recommended copper pad area

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantance un ferwerd voltage	1 204	$T_A = 25 ^{\circ}\text{C}$ $T_A = 125 ^{\circ}\text{C}$	V _F ⁽¹⁾	0.53	0.63	V
Instantaneous forward voltage	$I_F = 3.0 \text{ A}$	T _A = 125 °C		0.48	0.59] v
Reverse current	V _R = 60 V	$T_A = 25 ^{\circ}\text{C}$ $T_A = 125 ^{\circ}\text{C}$	I _R ⁽²⁾	-	900	μΑ
	v _R = 60 v	T _A = 125 °C		4	15	mA
Typical junction capacitance	4.0 V, 1 MHz		CJ	245	-	pF

Notes

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

(2) Pulse test: Pulse width \leq 40 ms



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise specified)				
PARAMETER	SYMBOL	VSSA36S	UNIT	
Typical thermal resistance	R _{0JA} (1)	120	°C/W	
Typical thermal resistance	R _{0JM} (2)	20		

Notes

- $^{(1)}$ Free air, mounted on recommended PCB, 1 oz. pad area; thermal resistance $R_{\theta JA}$ junction to ambient
- (2) Mounted on 8 mm x 8 mm pad areas, 1 oz. FR4 PCB; $R_{\theta JM}$ junction to mount

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
VSSA36S-M3/61T	0.064	61T	1800	7" diameter plastic tape and reel	
VSSA36S-M3/5AT	0.064	5AT	7500	13" diameter plastic tape and reel	

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

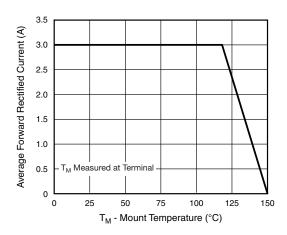


Fig. 1 - Maximum Forward Current Derating Curve

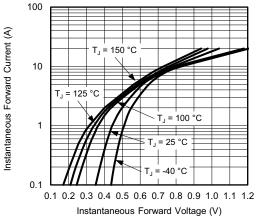


Fig. 3 - Typical Instantaneous Forward Characteristics

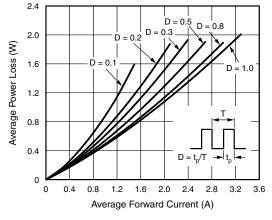


Fig. 2 - Forward Power Loss Characteristics

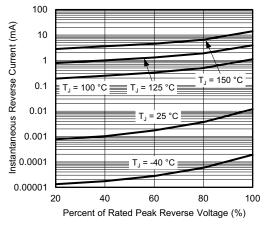


Fig. 4 - Typical Reverse Characteristics



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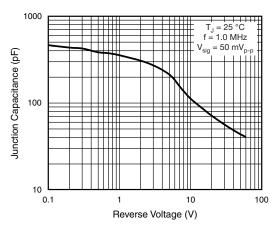


Fig. 5 - Typical Junction Capacitance

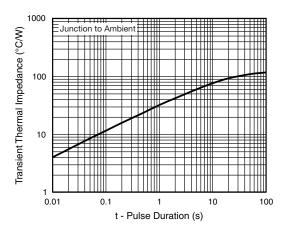
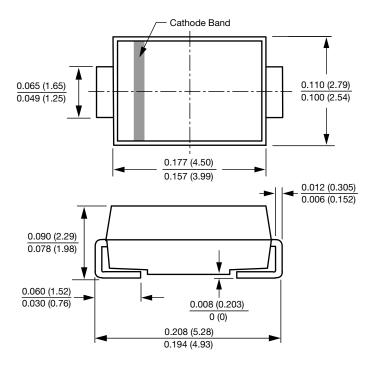


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMA (DO-214AC)



0.066 (1.68) MIN. 0.060 (1.52) MIN.

0.208 (5.28) REF.

Mounting Pad Layout



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