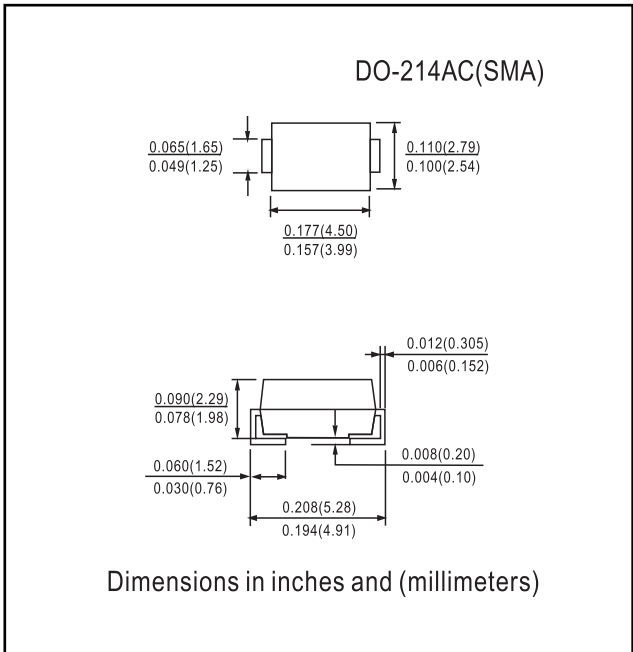




- FEATURES**
- Low profile package
 - Ideal for automated placement
 - Trench MOS Schottky technology
 - Low power losses, high efficiency
 - Low forward voltage drop
 - Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
 - Not recommended for PCB bottom side wave mounting
 - Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
 - **Halogen-free according to IEC 61249-2-21 definition**



Mechanical Data

Case: DO-214AC (SMA)

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 1A whisker test

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	VSSA310S	UNIT
Device marking code		V3B	
Maximum repetitive peak reverse voltage	V _{RRM}	100	V
Maximum DC forward current	I _F ⁽¹⁾	3.0	A
	I _F ⁽²⁾	1.7	
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	60	A
Operating junction and storage temperature range	T _J , T _{STG}	- 40 to + 150	°C

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Breakdown voltage	I _R = 1.0 mA	T _A = 25 °C	V _{BR}	100 (minimum)	-	V
Instantaneous forward voltage	I _F = 3.0 A	T _A = 25 °C	V _F ⁽¹⁾	0.71	0.80	V
		T _A = 125 °C		0.62	0.70	
Reverse current	V _R = 70 V	T _A = 25 °C	I _R ⁽²⁾	1.0	-	μA
		T _A = 125 °C		0.95	-	mA
	V _R = 100 V	T _A = 25 °C		3.5	150	μA
		T _A = 125 °C		2.2	15	mA
Typical junction capacitance	4.0 V, 1 MHz		C _J	175	-	pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	VSSA310S	UNIT
Typical thermal resistance	R _{θJA} ⁽¹⁾	135	°C/W
	R _{θJM} ⁽²⁾	25	

Notes
 (1) Free air, mounted on recommended PCB 1 oz. pad area; thermal resistance R_{θJA} - junction to ambient
 (2) Units mounted on P.C.B. with 10 mm x 10 mm copper pad areas; R_{θJM} - junction to mount



RATINGS AND CHARACTERISTIC CURVES VSSA310

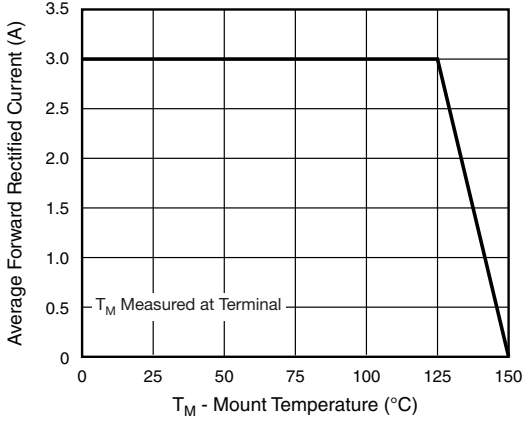


Fig. 1 - Maximum Forward Current Derating Curve

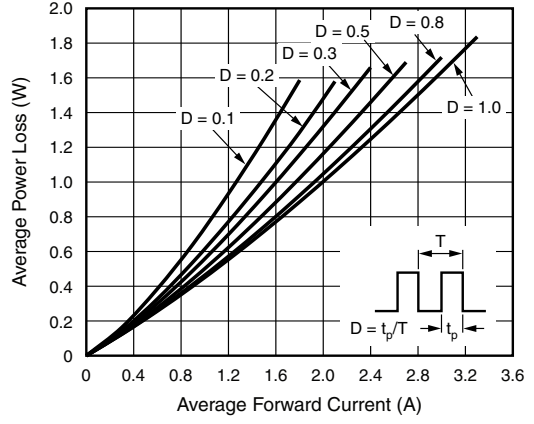


Fig. 2 - Forward Power Loss Characteristics

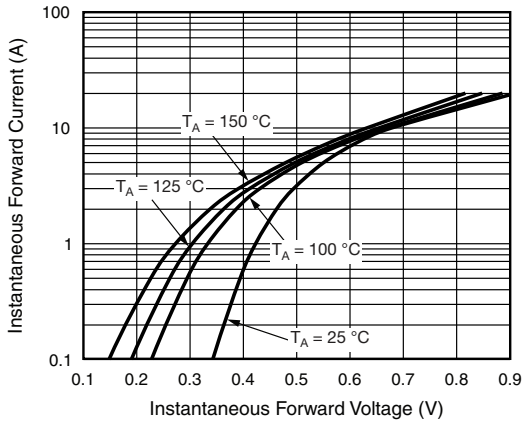


Fig. 3 - Typical Instantaneous Forward Characteristics

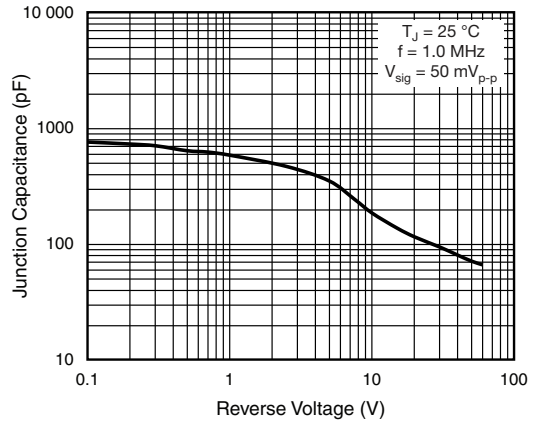


Fig. 5 - Typical Junction Capacitance

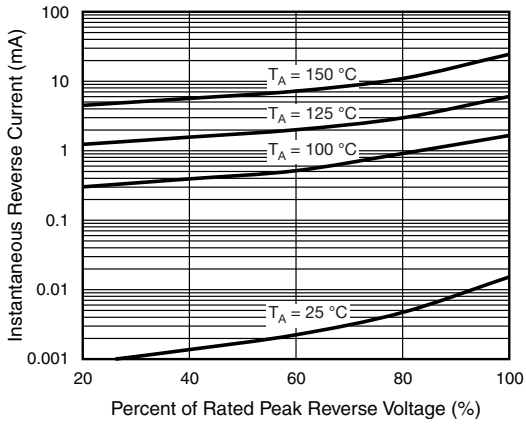


Fig. 4 - Typical Reverse Characteristics

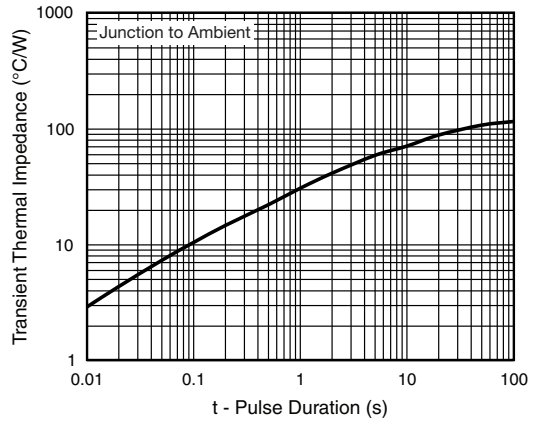


Fig. 6 - Typical Transient Thermal Impedance