TAYCHIPST **Surface Mount Trench MOS Barrier Schottky Rectifier**

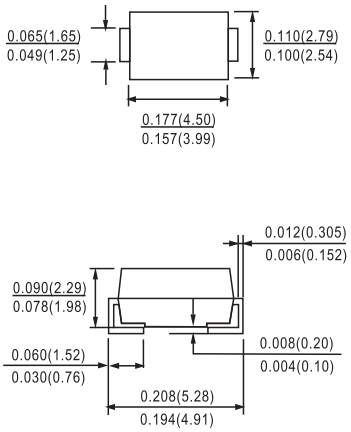
**VSSA210**

100V 2.0A

## 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**

DO-214AC(SMA)




Dimensions in inches and (millimeters)

## 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 | VSSA210 | UNIT |
|---|---|---|---|
| Device marking code | | V2B | |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 100 | V |
| Maximum DC forward current | $I_F$ (1) | 2.0 | 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 | $I_F$ = 2.0 A | $T_A$ = 25 °C | $V_F$ (1) | 0.61 | 0.70 | |
| | | $T_A$ = 125 °C | | 0.56 | 0.65 | |
| 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 | VSSA210 | UNIT |
|---|---|---|---|
| Typical thermal resistance | $R_{\theta JA}$ (1) | 135 | °C/W |
| | $R_{\theta JM}$ (2) | 25 | |

**Notes**

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

## RATINGS AND CHARACTERISTIC CURVES VSSA210

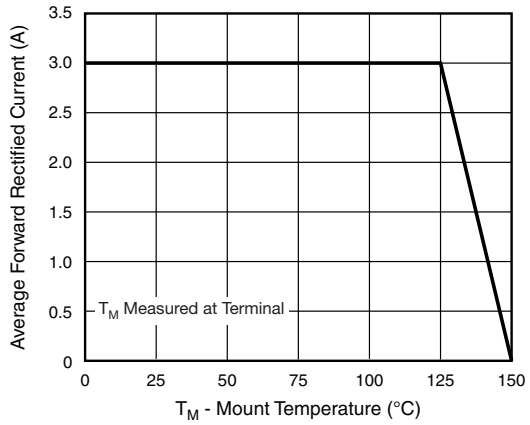



Fig. 1 - Maximum Forward Current Derating Curve

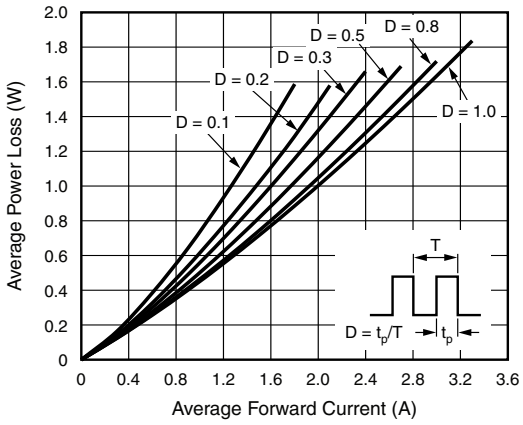



Fig. 2 - Forward Power Loss Characteristics

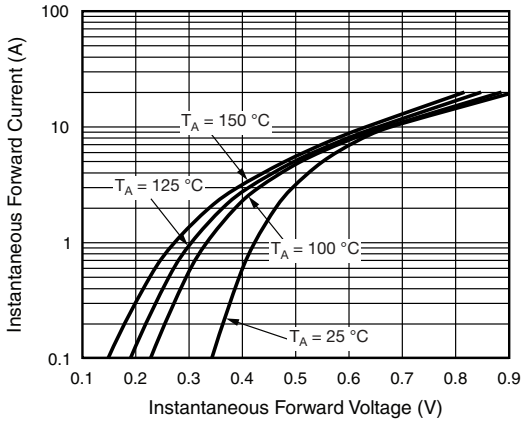



Fig. 3 - Typical Instantaneous Forward Characteristics

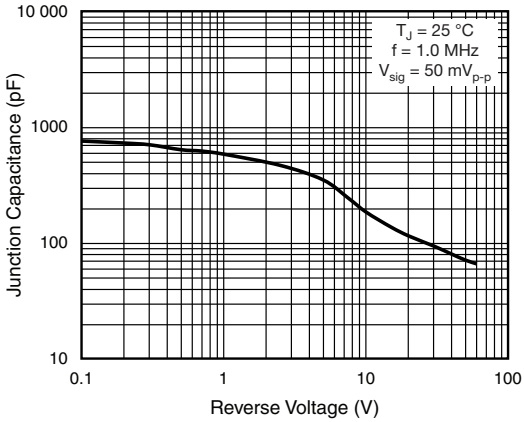



Fig. 5 - Typical Junction Capacitance

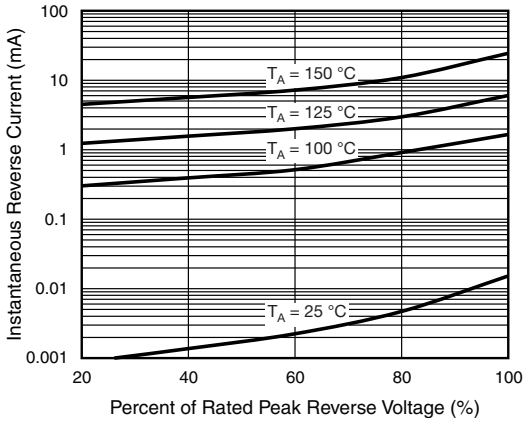



Fig. 4 - Typical Reverse Characteristics

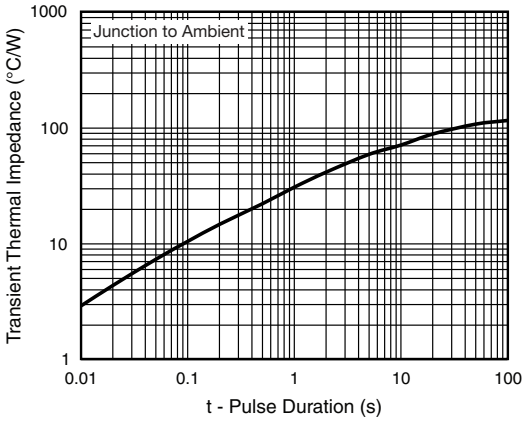



Fig. 6 - Typical Transient Thermal Impedance