

# Surface Mount Schottky Barrier Rectifier

## SSA24

### Features

- UL Flammability 94V-0 Classification
- MSL 1
- Industrial Device Qualified per AEC-Q101 Standards.  
\* see authorized use policy
- This Device is Pb-Free, Halogen Free and are RoHS Compliant

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol      | Parameter                                                                                          | Value       | Unit             |
|-------------|----------------------------------------------------------------------------------------------------|-------------|------------------|
| $V_{RRM}$   | Recurrent Peak Reverse Voltage                                                                     | 40          | V                |
| $V_{RMS}$   | RMS Voltage                                                                                        | 28          | V                |
| $V_{DC}$    | DC Blocking Voltage                                                                                | 40          | V                |
| $I_{F(AV)}$ | Average Forward Current at $T_L = 75^\circ\text{C}$                                                | 2           | A                |
| $I_{FSM}$   | Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | 50          | A                |
| $T_J$       | Operating Junction Temperature Range                                                               | -55 to +150 | $^\circ\text{C}$ |
| $T_{STG}$   | Storage Temperature Range                                                                          | -55 to +150 | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### THERMAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                                  | Value | Unit                      |
|-----------------|------------------------------------------------------------|-------|---------------------------|
| $\Psi_{JL}$     | Typical Thermal Characteristics, Junction-to-Lead (Note 1) | 20    | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JA}$ | Typical Thermal Resistance, Junction-to-Ambient (Note 1)   | 75    | $^\circ\text{C}/\text{W}$ |

1. Mounted on P. C. Board with  $8\text{ mm}^2$  (0.013 mm thick) Copper pad Areas.

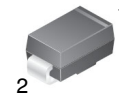
### ELECTRICAL CHARACTERISTICS

(Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.)

| Symbol   | Parameter                | Test Conditions                                                | Min | Typ  | Max | Unit |
|----------|--------------------------|----------------------------------------------------------------|-----|------|-----|------|
| $V_F$    | Forward Voltage (Note 2) | $I_F = 2.0\text{ A}$                                           | –   | –    | 0.5 | V    |
| $I_R$    | DC Reverse Current       | $V_R = 40\text{ V}$                                            | –   | –    | 0.2 | mA   |
|          |                          | $V_R = 40\text{ V}, T_A = 100^\circ\text{C}$                   | –   | –    | 20  |      |
| $T_{rr}$ | Reverse Recovery Time    | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$ | –   | 9.84 | –   | nA   |

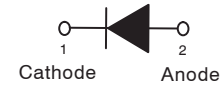
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Pulse Test Pulse Width =  $300\text{ }\mu\text{s}$ , 1% Duty Cycle.

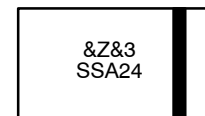


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CASE 403AE

### CONNECTION DIAGRAM



### MARKING DIAGRAM



(Color Band Denotes Cathode)

&Z = Assembly Plant Code  
 &3 = Numeric Date Code (Year & Week)  
 SSA24 = Specific Device Code

### ORDERING INFORMATION

| Device | Package          | Shipping†             |
|--------|------------------|-----------------------|
| SSA24  | SMA<br>(Pb-Free) | 7500 /<br>Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](http://BRD8011/D).

## TYPICAL PERFORMANCE CHARACTERISTICS

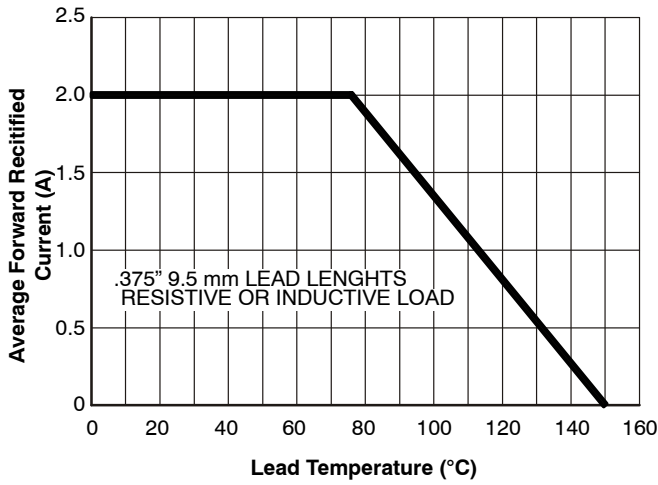


Figure 1. Forward Current Derating Curve

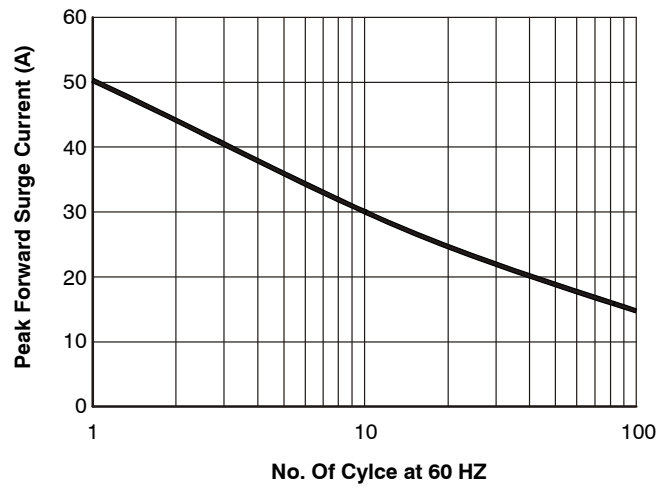


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

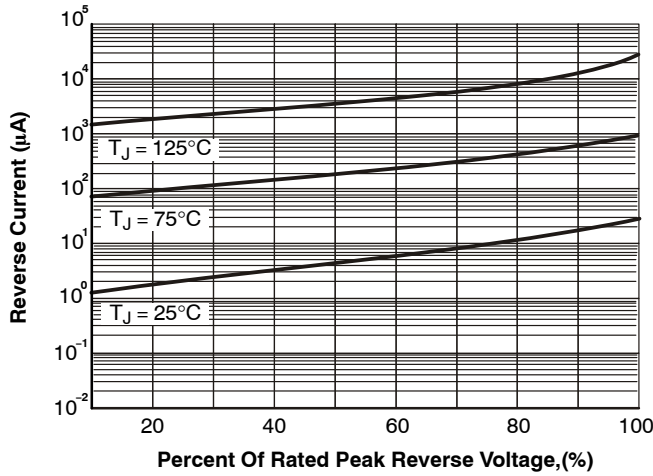


Figure 3. Typical Reverse Characteristic

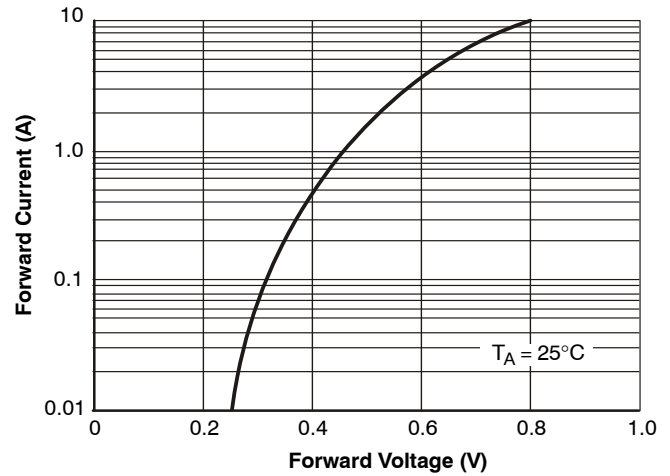


Figure 4. Typical Instantaneous Forward Characteristics

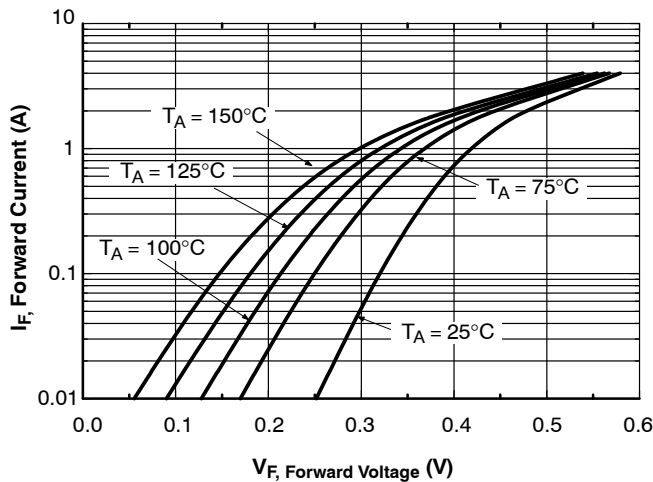


Figure 5. Typical Forward Characteristics

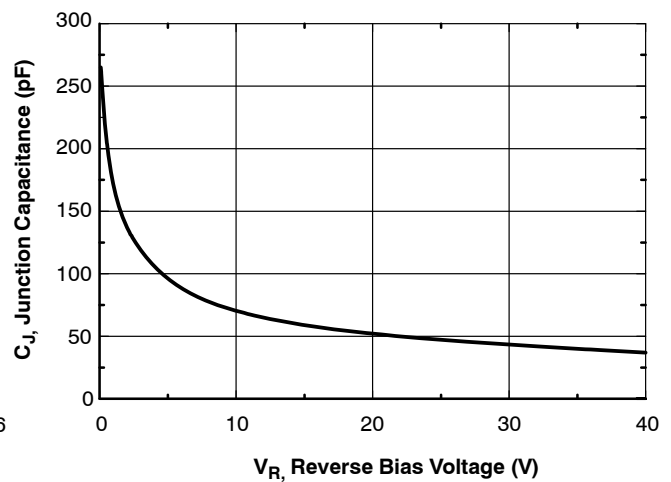
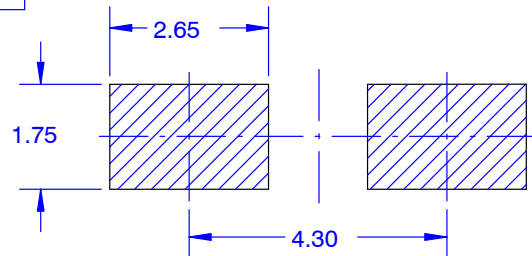
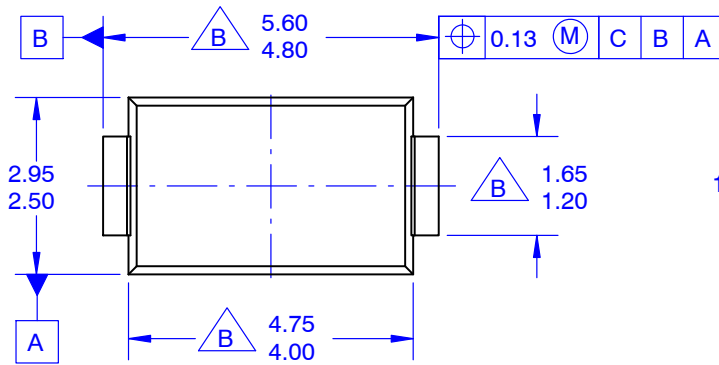


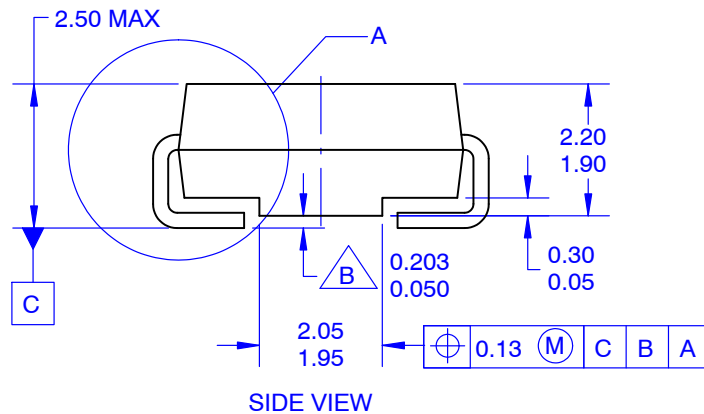
Figure 6. Typical Junction Capacitance

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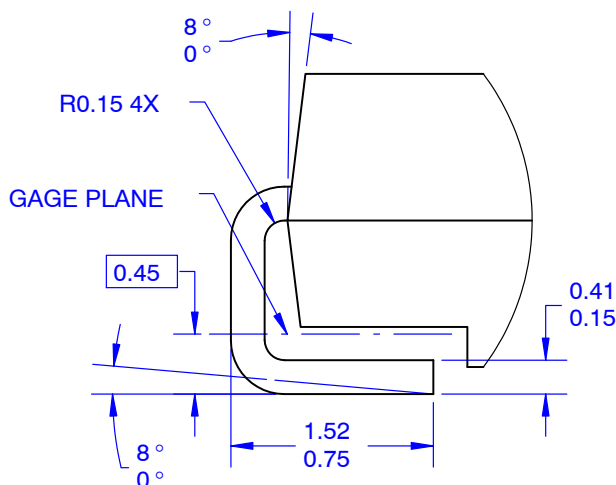


LAND PATTERN RECOMMENDATION



**NOTES:**

- A. EXCEPT WHERE NOTED, CONFORMS TO JEDEC DO214 VARIATION AC.
- B. DOES NOT COMPLY JEDEC STANDARD VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSIONS AND TOLERANCE AS PER ASME Y14.5-2009.
- E. LAND PATTERN STD. DIOM5025X231M



DETAIL A  
SCALE 20 : 1

|                         |                    |                                                                                                                                                                                     |
|-------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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