

SMBJ5335B - SMBJ5337B SURFACE MOUNT SILICON ZENER DIODES

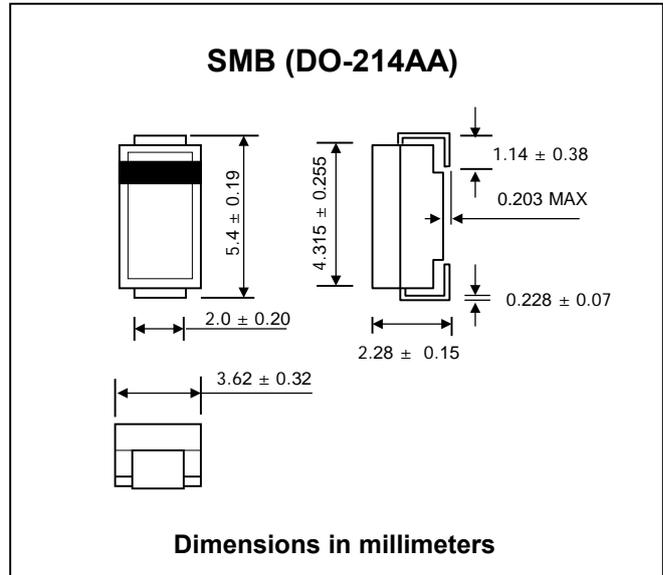
V_Z : 3.1 - 4.7 Volts
P_D : 5 Watts

FEATURES :

- * High peak reverse power dissipation
- * High reliability
- * Low leakage current
- * Pb / RoHS Free

MECHANICAL DATA

- * Case : SMB Molded plastic
- * Epoxy : UL94V-0 rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.108 gram



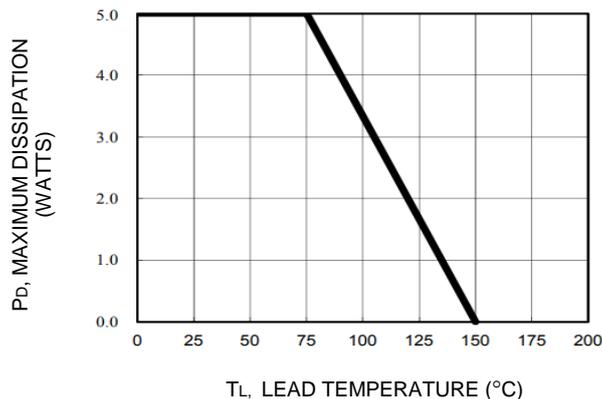
MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating | Symbol | Value | Unit |
|--|-----------------------------------|---------------|------|
| Power Dissipation at T _L = 75 °C | P _D | 5 | W |
| Maximum Forward Voltage at I _F = 200 mA | V _F | 1.2 | V |
| Thermal Resistance, Junction to Ambient (Note 1) | R _{θJA} | 90 | °C/W |
| Thermal Resistance, Junction to Lead (Note 1) | R _{θJL} | 25 | °C/W |
| Thermal Resistance, Junction to Case | R _{θJC} | 40 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | - 65 to + 150 | °C |

Note : (1) When mounted on FR4 PC board (1 oz Cu) with recommended footprint.

Fig. 1 POWER DERATING CURVE



ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| TYPE | Regulator Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum Zener Current | Maximum Surge Current | Maximum Voltage |
|------------------|-------------------|----------|-------------------------|-------------------|----------|---------------------------------|-----|-----------------------|-----------------------|-----------------|
| | $V_Z @ I_{ZT}$ | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_{ZK} | $I_R @ V_R$ | | I_{ZM} | I_{ZSM} | Regulator |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μ A) | (V) | (mA) | (A) | ΔV_Z |
| SMBJ5333B | 3.3 | 380 | 3.0 | 400 | 1.0 | 300.0 | 1.0 | 1440 | 20.0 | 0.85 |
| SMBJ5334B | 3.6 | 350 | 2.5 | 500 | 1.0 | 150.0 | 1.0 | 1320 | 18.7 | 0.80 |
| SMBJ5335B | 3.9 | 320 | 2.0 | 500 | 1.0 | 50.0 | 1.0 | 1220 | 17.6 | 0.54 |
| SMBJ5336B | 4.3 | 290 | 2.0 | 500 | 1.0 | 10.0 | 1.0 | 1100 | 16.4 | 0.49 |
| SMBJ5337B | 4.7 | 260 | 2.0 | 450 | 1.0 | 5.0 | 1.0 | 1010 | 15.3 | 0.44 |

- Notes : (1) Suffix " A " indicates $\pm 10\%$ tolerance, suffix " B " indicates $\pm 5\%$ tolerance
 (2) The surge current (I_{ZSM}) is specified as the maximum peak of a non- recurrent half-sin wave of 8.3 ms duration.
 (3) Voltage regulation (V_Z) is the difference between the voltage measured at 10% and 50% of I_{ZM}

Fig. 2 Temperature Coefficients v.s. Zener Voltage

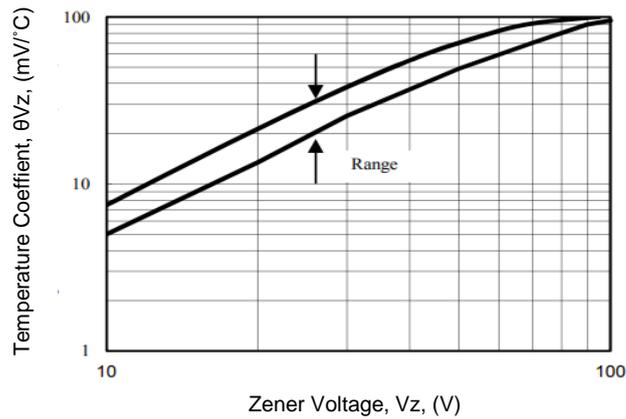


Fig. 3 Maximum Surge Power

