

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | | | | | | | |
|---|-----------------|---------------------------|-----|--------|-----------------|------------------------|-------------------|-----------------|--------------------|-------|--------------------------------|--|
| Part number (Note 1) | Marking code | Zener voltage (Note 2) | | | Test current | Regulator impedance | | Test current | Leakage current | | Maximum DC Zener Current | |
| | | $V_Z @ I_Z$ | | | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_{ZK} | $I_R @ V_R$ | | I_{ZM} | |
| | | V | | | mA | Ω | Ω | mA | μA | V | mA | |
| | | Min | Nom | Max | | Max | Max | | Max | | Max | |
| 1SMA5926 | 926A | 10.45 | 11 | 11.55 | 34.1 | 5.5 | 550 | 0.25 | 0.5 | 8.4 | 136 | |
| 1SMA5927 | 927A | 11.40 | 12 | 12.60 | 31.2 | 6.5 | 550 | 0.25 | 0.5 | 9.1 | 125 | |
| 1SMA5928 | 928A | 12.35 | 13 | 13.65 | 28.8 | 7.0 | 550 | 0.25 | 0.5 | 9.9 | 115 | |
| 1SMA5929 | 929A | 14.25 | 15 | 15.75 | 25.0 | 9.0 | 600 | 0.25 | 0.5 | 11.4 | 100 | |
| 1SMA5930 | 930A | 15.20 | 16 | 16.80 | 23.4 | 10.0 | 600 | 0.25 | 0.5 | 12.2 | 94 | |
| 1SMA5931 | 931A | 17.10 | 18 | 18.90 | 20.8 | 12.0 | 650 | 0.25 | 0.5 | 13.7 | 83 | |
| 1SMA5932 | 932A | 19.00 | 20 | 21.00 | 18.7 | 14.0 | 650 | 0.25 | 0.5 | 15.2 | 75 | |
| 1SMA5933 | 933A | 20.90 | 22 | 23.10 | 17.0 | 17.5 | 650 | 0.25 | 0.5 | 16.7 | 68 | |
| 1SMA5934 | 934A | 22.80 | 24 | 25.20 | 15.6 | 19.0 | 700 | 0.25 | 0.5 | 18.2 | 63 | |
| 1SMA5935 | 935A | 25.65 | 27 | 28.35 | 13.9 | 23.0 | 700 | 0.25 | 0.5 | 20.6 | 56 | |
| 1SMA5936 | 936A | 28.50 | 30 | 31.50 | 12.5 | 26.0 | 750 | 0.25 | 0.5 | 22.8 | 50 | |
| 1SMA5937 | 937A | 31.35 | 33 | 34.65 | 11.4 | 33.0 | 800 | 0.25 | 0.5 | 25.1 | 45 | |
| 1SMA5938 | 938A | 34.20 | 36 | 37.80 | 10.4 | 38.0 | 850 | 0.25 | 0.5 | 27.4 | 42 | |
| 1SMA5939 | 939A | 37.05 | 39 | 40.95 | 9.6 | 45.0 | 900 | 0.25 | 0.5 | 29.7 | 38 | |
| 1SMA5940 | 940A | 40.85 | 43 | 45.15 | 8.7 | 53.0 | 950 | 0.25 | 0.5 | 32.7 | 35 | |
| 1SMA5941 | 941A | 44.65 | 47 | 49.35 | 8.0 | 67.0 | 1000 | 0.25 | 0.5 | 35.8 | 32 | |
| 1SMA5942 | 942A | 48.45 | 51 | 53.55 | 7.3 | 70.0 | 1100 | 0.25 | 0.5 | 38.8 | 29 | |
| 1SMA5943 | 943A | 53.20 | 56 | 58.80 | 6.7 | 86.0 | 1300 | 0.25 | 0.5 | 42.6 | 27 | |
| 1SMA5944 | 944A | 58.90 | 62 | 65.10 | 6.0 | 100.0 | 1500 | 0.25 | 0.5 | 47.1 | 24 | |
| 1SMA5945 | 945A | 64.60 | 68 | 71.40 | 5.5 | 120.0 | 1700 | 0.25 | 0.5 | 51.7 | 22 | |
| 1SMA5946 | 946A | 71.25 | 75 | 78.75 | 5.0 | 140.0 | 2000 | 0.25 | 0.5 | 56.0 | 20 | |
| 1SMA5947 | 947A | 77.90 | 82 | 86.10 | 4.6 | 160.0 | 2500 | 0.25 | 0.5 | 62.2 | 18 | |
| 1SMA5948 | 948A | 86.45 | 91 | 95.55 | 4.1 | 200.0 | 3000 | 0.25 | 0.5 | 69.2 | 16 | |
| 1SMA5949 | 949A | 95.00 | 100 | 105.00 | 3.7 | 250.0 | 3100 | 0.25 | 0.5 | 76.0 | 15 | |
| 1SMA5950 | 950A | 104.50 | 110 | 115.50 | 3.4 | 300.0 | 4000 | 0.25 | 0.5 | 83.6 | 13 | |
| 1SMA5951 | 951A | 114.00 | 120 | 126.00 | 3.1 | 360.0 | 4500 | 0.25 | 0.5 | 91.2 | 12 | |
| 1SMA5952 | 952A | 123.50 | 130 | 136.50 | 2.9 | 450.0 | 5000 | 0.25 | 0.5 | 98.8 | 11 | |
| 1SMA5953 | 953A | 142.50 | 150 | 157.50 | 2.5 | 600.0 | 6000 | 0.25 | 0.5 | 114.0 | 10 | |
| 1SMA5954 | 954A | 152.00 | 160 | 168.00 | 2.3 | 700.0 | 6500 | 0.25 | 0.5 | 121.6 | 9 | |
| 1SMA5955 | 955A | 171.00 | 180 | 189.00 | 2.1 | 900.0 | 7000 | 0.25 | 0.5 | 136.8 | 8 | |
| 1SMA5956 | 956A | 190.00 | 200 | 210.00 | 1.9 | 1200.0 | 8000 | 0.25 | 0.5 | 152.0 | 7 | |

Notes:

1. Tolerance and Voltage Regulation Designation. The type number listed indicates a tolerance of $\pm 5\%$
2. V_Z limits are to be guaranteed at thermal equilibrium

| ORDERING INFORMATION | | |
|------------------------------|----------------|---------------------|
| ORDERING CODE ⁽¹⁾ | PACKAGE | PACKING |
| 1SMA59x | DO-214AC (SMA) | 7,500 / Tape & Reel |

Notes:

1. "x" defines voltage from 11V(1SMA5926) to 200V(1SMA5956)

CHARACTERISTICS CURVES

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

Fig.1 Steady State Power Derating

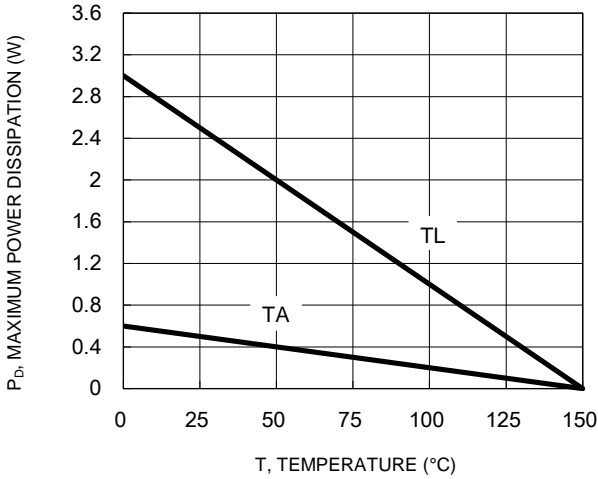


Fig.2 Capacitance Curve

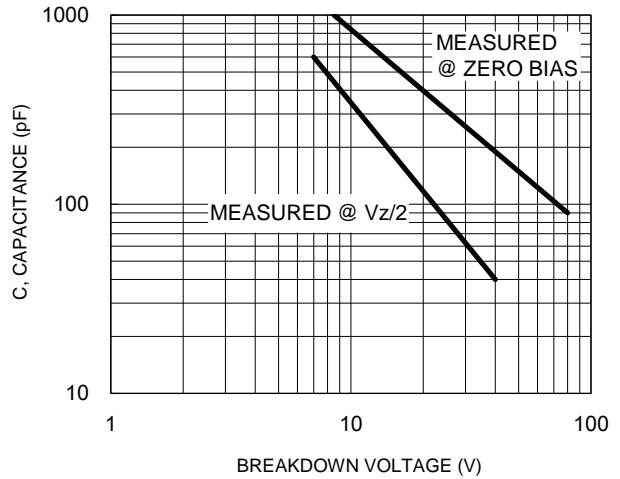


Fig.3 $V_z = 12 - 68$ Volts

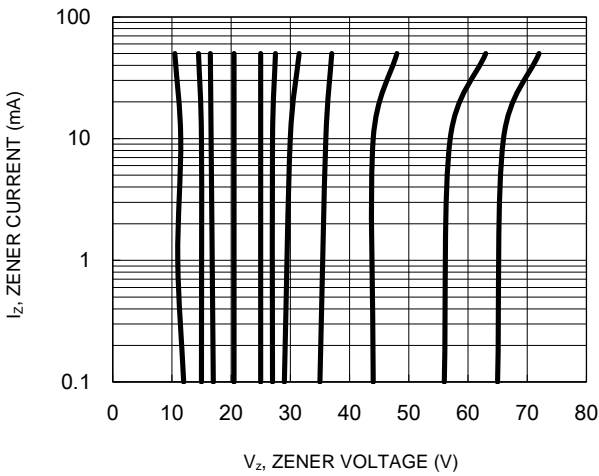


Fig.4 Effect Of Zener Voltage

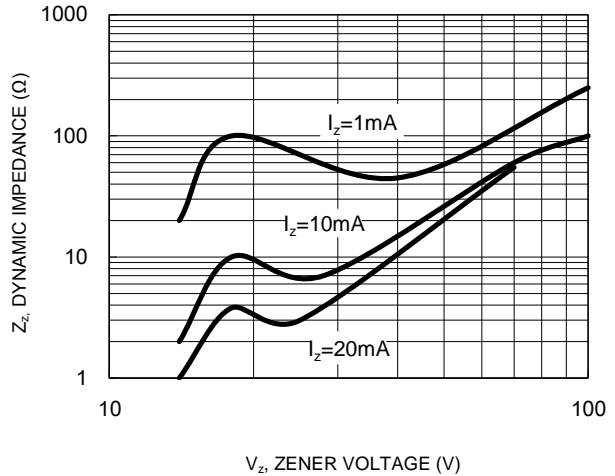


Fig.5 Zener Voltage 12 - 68 Volts

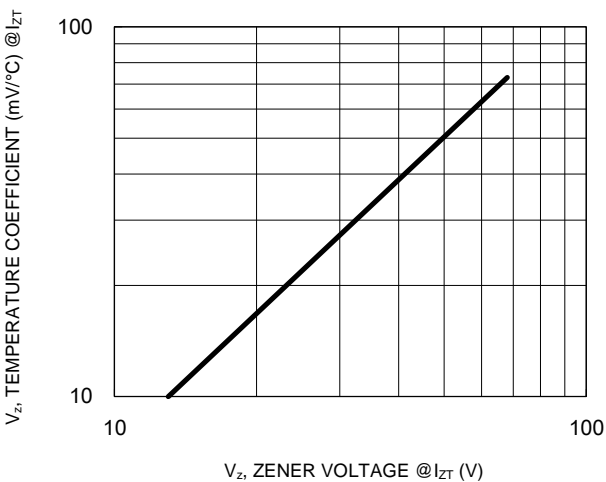
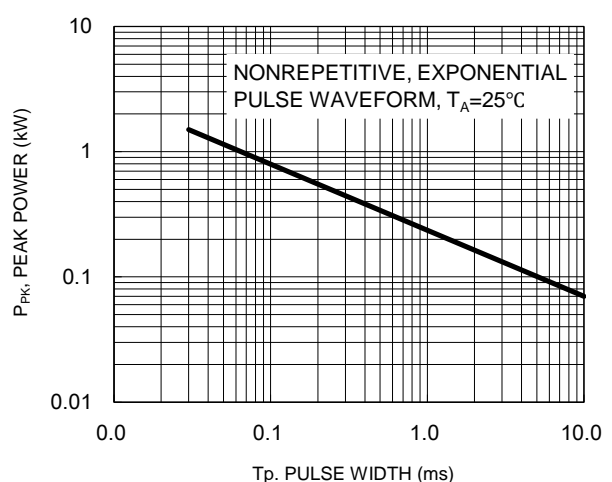


Fig.6 Typical Pulse Rating Curve



CHARACTERISTICS CURVES

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

Fig.7 Pulse Waveform

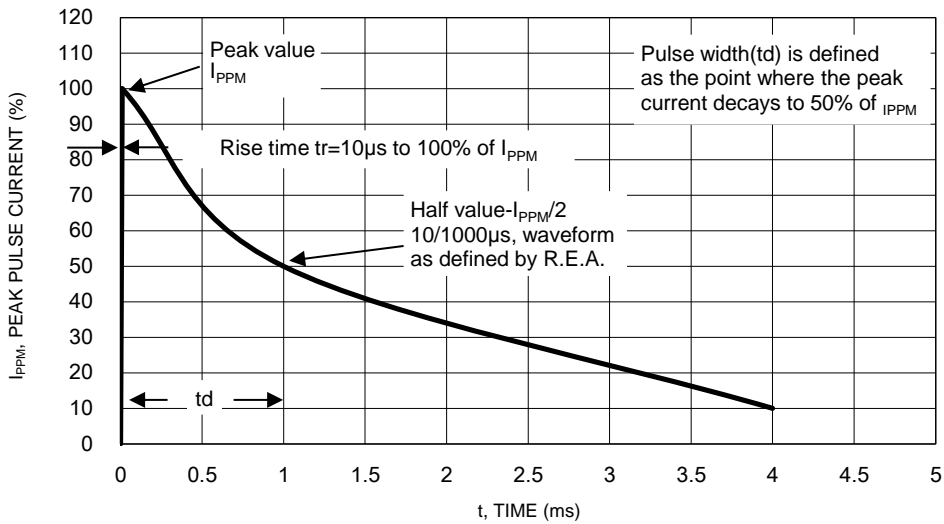
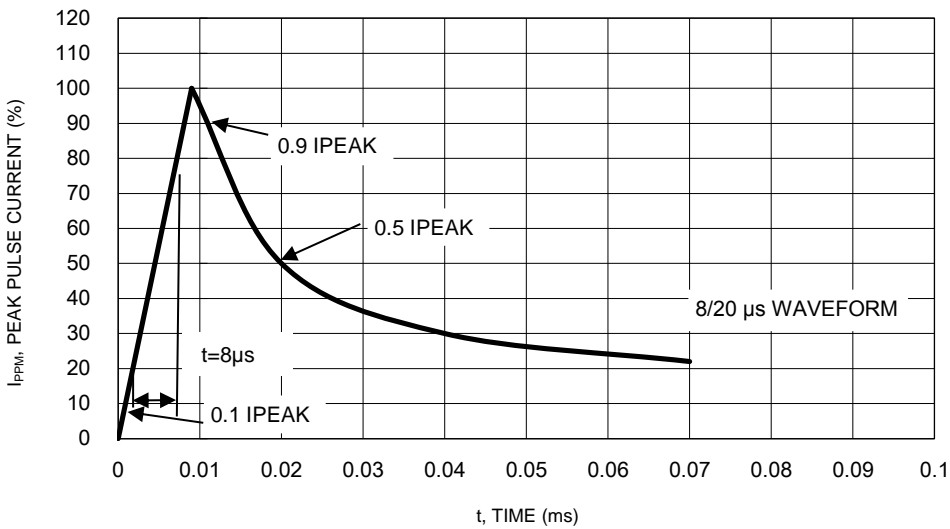
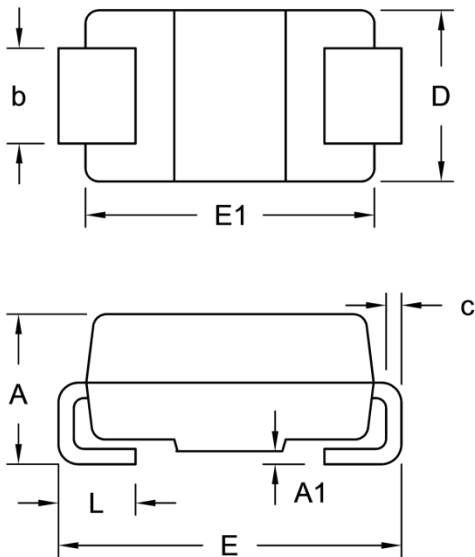


Fig.8 Pulse Waveform



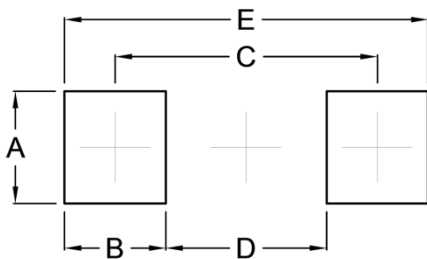
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.99 | 2.50 | 0.078 | 0.098 |
| A1 | 0.10 | 0.20 | 0.004 | 0.008 |
| b | 1.27 | 1.58 | 0.050 | 0.062 |
| c | 0.15 | 0.31 | 0.006 | 0.012 |
| D | 2.29 | 2.83 | 0.090 | 0.111 |
| E | 4.95 | 5.33 | 0.195 | 0.210 |
| E1 | 4.06 | 4.60 | 0.160 | 0.181 |
| L | 0.90 | 1.41 | 0.035 | 0.056 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.68 | 0.066 |
| B | 1.52 | 0.060 |
| C | 3.93 | 0.155 |
| D | 2.41 | 0.095 |
| E | 5.45 | 0.215 |

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[1SMA5930](#) [1SMA5941](#) [1SMA5927](#) [1SMA5939](#) [1SMA5934](#) [1SMA5926](#) [1SMA5944](#) [1SMA5933](#) [1SMA5937](#)
[1SMA5929](#) [1SMA5942](#) [1SMA5931](#) [1SMA5928](#) [1SMA5935](#) [1SMA5940](#) [1SMA5945](#) [1SMA5932](#) [1SMA5943](#)
[1SMA5938](#) [1SMA5936](#) [1SMA5956 R3G](#) [1SMA5937 R3G](#) [1SMA5929 R3G](#) [1SMA5934 R3G](#) [1SMA5928 R3G](#)
[1SMA5946](#) [1SMA5947](#) [1SMA5948](#) [1SMA5949](#) [1SMA5950](#) [1SMA5951](#) [1SMA5952](#) [1SMA5953](#) [1SMA5954](#)
[1SMA5955](#) [1SMA5956](#)