

SEMTECH

5 WATT VOLTAGE REGULATOR

1N4954

SX6.8

thru

thru

1N4984

SX120

January 16, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

**AXIAL LEADED, HERMETICALLY SEALED,
5 WATT VOLTAGE REGULATORS**

**QUICK REFERENCE
DATA**

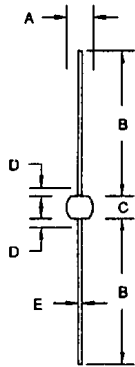
- Low dynamic impedance
 - Hermetically sealed in Metoxillite fused metal oxide
 - 5 Watt applications
 - Low reverse leakage currents
 - Small package
- $V_z \text{ nom} = 6.8 - 120V$
 - $I_z = 39.5 - 700\text{mA}$
 - $Z_z = 0.75 - 70\Omega$
 - $I_R = 2 - 150\mu A$

ELECTRIAL SPECIFICATIONS (@ 25°C UNLESS OTHERWISE SPECIFIED)

| Device Type | Breakdown Voltage $V_{BR} @ I_z \text{ TEST}$ | | | Zener Test Current $I_z \text{ TEST}$ | Zener Imped. Z_z | Reverse Current @ $V_R \text{ TEST}$ | | Temp. Coeff. of $V_{(BR)}$ α_{Vz} | Maximum Reverse Current I_R |
|--------------|--|-------|-------|--|-----------------------|---|--------------------|--|----------------------------------|
| | nom | min | max | | | I_R | $V_R \text{ TEST}$ | | |
| | Volts | Volts | Volts | mA | Ohms | μA | Volts | %/°C | mA |
| 1N4954 SX6.8 | 6.8 | 6.46 | 7.14 | 175 | 0.75 | 150 | 5.2 | .05 | 700 |
| 1N4955 SX7.5 | 7.5 | 7.13 | 7.87 | 175 | 0.75 | 100 | 5.7 | .06 | 630 |
| 1N4956 SX8.2 | 8.2 | 7.79 | 8.61 | 150 | 0.75 | 50 | 6.2 | .06 | 580 |
| 1N4957 SX9.1 | 9.1 | 8.65 | 9.55 | 150 | 1.0 | 25 | 6.9 | .06 | 520 |
| 1N4958 SX10 | 10 | 9.50 | 10.50 | 125 | 1.5 | 25 | 7.6 | .07 | 475 |
| 1N4959 SX11 | 11 | 10.45 | 11.55 | 125 | 1.5 | 10 | 8.4 | .07 | 430 |
| 1N4960 SX12 | 12 | 11.40 | 12.60 | 100 | 1.5 | 10 | 9.1 | .07 | 395 |
| 1N4961 SX13 | 13 | 12.35 | 13.65 | 100 | 2.0 | 10 | 9.9 | .08 | 365 |
| 1N4962 SX15 | 15 | 14.25 | 15.75 | 75 | 2.5 | 5 | 11.4 | .08 | 315 |
| 1N4963 SX16 | 16 | 15.20 | 16.80 | 75 | 2.5 | 5 | 12.2 | .08 | 294 |
| 1N4964 SX18 | 18 | 17.10 | 18.90 | 65 | 2.5 | 5 | 13.7 | .085 | 264 |
| 1N4965 SX20 | 20 | 19.0 | 21.0 | 65 | 2.5 | 2 | 15.2 | .085 | 237 |
| 1N4966 SX22 | 22 | 20.9 | 23.1 | 50 | 2.5 | 2 | 16.7 | .085 | 216 |
| 1N4967 SX24 | 24 | 22.8 | 25.2 | 50 | 3.0 | 2 | 18.2 | .09 | 198 |
| 1N4968 SX27 | 27 | 25.7 | 28.3 | 50 | 3.0 | 2 | 20.6 | .09 | 176 |
| 1N4969 SX30 | 30 | 28.5 | 31.5 | 40 | 3.0 | 2 | 22.8 | .09 | 158 |
| 1N4970 SX33 | 33 | 31.4 | 34.6 | 40 | 4.0 | 2 | 25.1 | .095 | 144 |
| 1N4971 SX36 | 36 | 34.2 | 37.8 | 30 | 5.0 | 2 | 27.4 | .095 | 132 |
| 1N4972 SX39 | 39 | 37.1 | 40.9 | 30 | 5.0 | 2 | 29.7 | .095 | 132 |
| 1N4973 SX43 | 43 | 40.9 | 45.1 | 30 | 6.0 | 2 | 32.7 | .095 | 110 |
| 1N4974 SX47 | 47 | 44.7 | 49.3 | 25 | 7.0 | 2 | 35.8 | .095 | 100 |
| 1N4975 SX51 | 51 | 48.5 | 53.5 | 25 | 8.0 | 2 | 38.8 | .095 | 92 |
| 1N4976 SX56 | 56 | 53.2 | 58.8 | 20 | 9.0 | 2 | 42.6 | .095 | 84 |
| 1N4977 SX62 | 62 | 58.9 | 65.1 | 20 | 10.0 | 2 | 47.1 | .100 | 76 |
| 1N4978 SX68 | 68 | 64.6 | 71.4 | 20 | 15.0 | 2 | 51.7 | .100 | 70 |
| 1N4979 SX75 | 75 | 71.3 | 78.7 | 20 | 20.0 | 2 | 56.0 | .100 | 63 |
| 1N4980 SX82 | 82 | 77.9 | 86.1 | 15 | 30.0 | 2 | 62.2 | .100 | 58 |
| 1N4981 SX91 | 91 | 86.5 | 95.5 | 15 | 35.0 | 2 | 69.2 | .100 | 52.5 |
| 1N4982 SX100 | 100 | 95.0 | 105.0 | 12 | 40.0 | 2 | 76.0 | .100 | 47.5 |
| 1N4983 SX110 | 110 | 104.5 | 115.0 | 12 | 55.0 | 2 | 83.6 | .100 | 43 |
| 1N4984 SX120 | 120 | 114.0 | 126.0 | 10 | 70.0 | 2 | 91.2 | .100 | 39.5 |



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| DIM" | MM | | INCHES | | NOTE |
|------|------|------|--------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 2.16 | 3.56 | .085 | .140 | - |
| B | 25.4 | 33.0 | 1.00 | 1.30 | - |
| C | 3.56 | 4.70 | .140 | .185 | - |
| D | - | .80 | - | .030 | 1 |
| E | .91 | 1.07 | .036 | .042 | - |

NOTES:
1. LEAD DIAMETER UNCONTROLLED OVER THIS REGION.

OPERATING TEMP -198.3°C to +200°C
STORAGE TEMP -198.3°C to +200°C

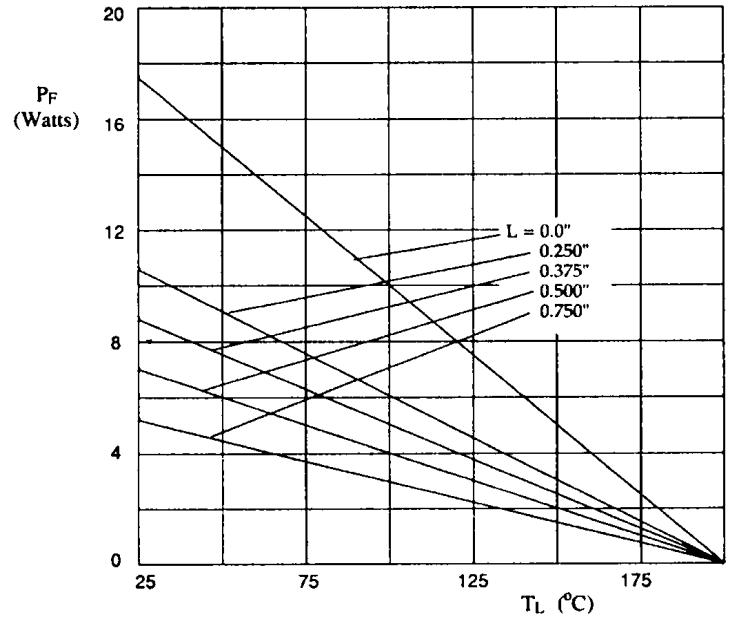


Figure 1. Maximum power versus lead temperature.

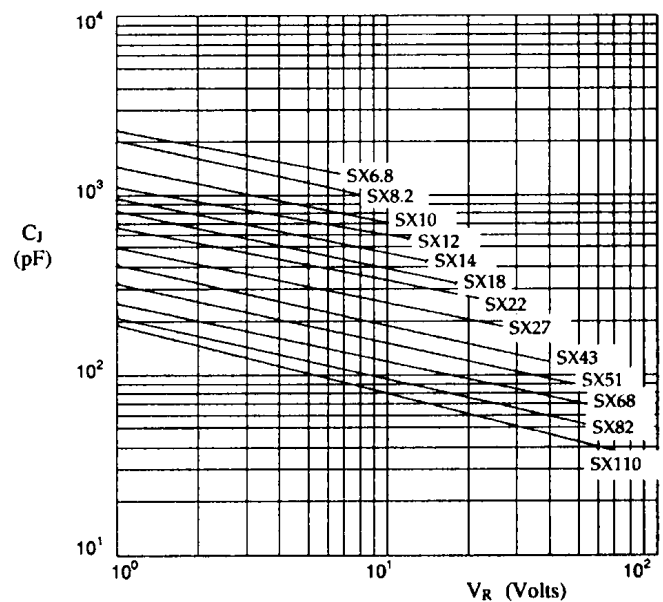
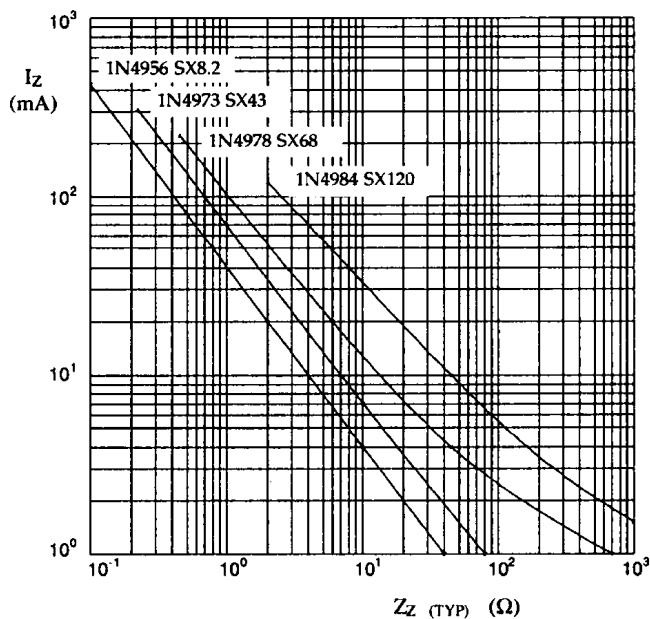


Fig 3. Typical junction capacitance versus reverse voltage.