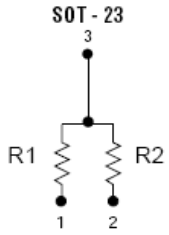
# MODEL SS103VD

## Voltage divider circuit
## Thin film resistor network
## RoHS compliant available


## FEATURES

| | |
|---|---|
| Precision Nichrome Resistors on Silicon | Passivation coating provides protection in humid environments |
| Industry Standard Packaging | 3 lead SOT23 |
| Ratio Tolerances | < ± 0.05% |
| TCR Tracking Tolerances | < ± 5 ppm/°C |

## ELECTRICAL[1]

| | |
|---|---|
| Standard Resistance Range | 1K ohms to 100K ohms |
| Resistor Tolerances | ± 0.25% |
| Ratio Tolerances | ± 0.05% |
| TCR | Reference TCR table |
| Operating Temperature Range | -55°C to +125°C |
| Interlead Capacitance | < 2 pF |
| Insulation Resistance | ≥ 10,000 Megohms |
| Maximum Operating Voltage | 100 Vdc or √ PR |
| Noise, Maximum (MIL-STD-2002, Method 308) | -25 dB |
| Maximum Package Power @ 70°C | 0.2 Watts |

## ENVIRONMENTAL (MIL-R-83401)

| | |
|---|---|
| Thermal Shock plus Power Conditioning | ΔR 0.25% |
| Short Time Overload | ΔR 0.1% |
| Moisture Resistance | ΔR 0.2% |
| Mechanical Shock | ΔR 0.25% |
| Vibration | ΔR 0.25% |
| Low Temperature Operation | ΔR 0.1% |
| High Temperature Exposure | ΔR 0.1% |
| Resistance to Solder Heat | ΔR 0.05% |
| Marking Permanency | Per MIL-STD-202, Method 215 |
| Storage Temperature Range | -55°C to +125°C |

[1] *Specifications subject to change without notice.*

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## MECHANICAL

| | |
|---|---|
| Lead Plating | 80/20 Tin Lead (Standard)<br>100 matte Tin (RoHS) |
| Lead Material | Copper Alloy |
| Lead Configuration | Gull Wing |
| Lead Coplanarity | 0.003” (0.102 mm) |
| Substrate Material | Silicon |
| Resistor Material | Passivated Nichrome |
| Body Material | Molded Epoxy |
| Package Type | SOT-23 3 leads |

## DIVIDER RATIO

| **Resistance Code** | Ratio (R2/R1) | R1 (ohms) | R2 (ohms) |
|---|---|---|---|
| 01 | 1.613 | 12.4K | 20K |
| 02 | 10 | 10K | 100K |
| 03 | 4 | 5K | 20K |
| 05 | 1 | 20K | 20K |
| 06 | 9 | 11.3K | 101.7K |
| 07 | 2 | 10K | 20K |
| 08 | 3 | 3.333K | 10K |
| 09 | 2 | 5K | 10K |
| 10 | 1 | 10K | 10K |
| 11 | 2 | 1K | 2K |
| 12 | 2 | 50K | 100K |

## RESISTANCE TOLERANCES

| **Accuracy Code at 25°C** | CA | CB | D | F | FA | G | J |
|---|---|---|---|---|---|---|---|
| Absolute Resistance Tolerances (%) | ± 0.25 | ± 0.25 | ± 0.5 | ± 1.0 | ± 1.0 | ± 2.0 | ± 5.0 |
| Ratio Tolerances (R1 Ref) (%) | ± 0.05 | ± 0.1 | ± 0.1 | ± 1.0 | ± 0.05 | N/A | N/A |

## TEMPERATURE COEFFICIENT OF RESISTANCE (TCR)

| **TCR Code (-55°C to 125°C)** | Q | P | S | L |
|---|---|---|---|---|
| Absolute (ppm/°C) | ± 25 | ± 50 | ± 100 | ± 200 |
| Tracking (R1 Ref) (ppm/°C) | ± 5 | ± 5 | N/A | N/A |

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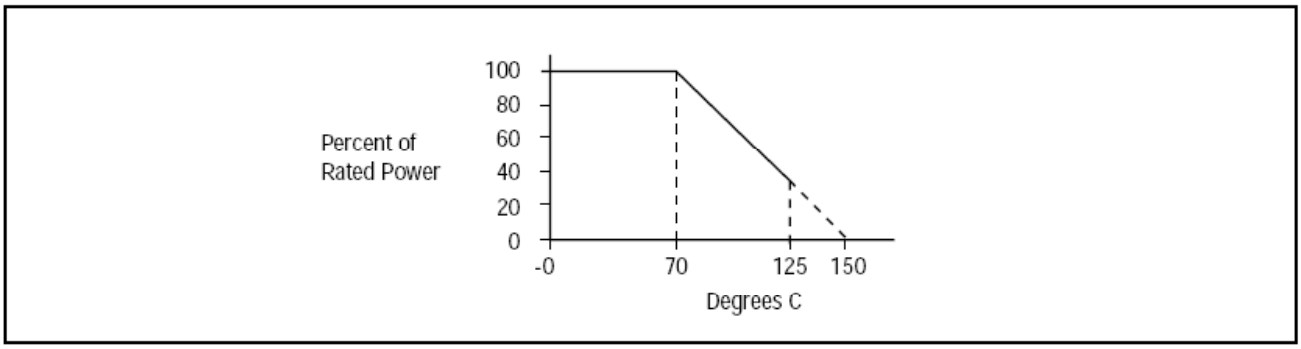
## POWER DERATING CURVE

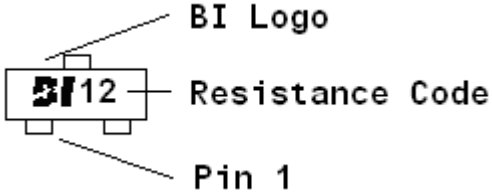



## ORDERING INFORMATION[2]

**S S1 03 VD 05 F S LF 13**

- Model Series: S = Passivated Nichrome on Silicon
- Package Type: S1 = SOT-23
- Pin Count: 03=3 Leads
- Circuit Type: VD=Voltage Divider
- Resistance Code: Divider ratio table
- Tolerance Code: Resistance tolerance table
- TCR Code: TCR table
- Lead Finish: No Code=SnPb, LF=Lead Free (RoHS)
- Packaging Option (Qty/reel): 7=7" Tape & Reel (1000 pcs), 13 = 13" Tape & Reel (3000 pcs)

## TYPICAL MARKING




[2] *Contact our customer service for custom designs and features.*