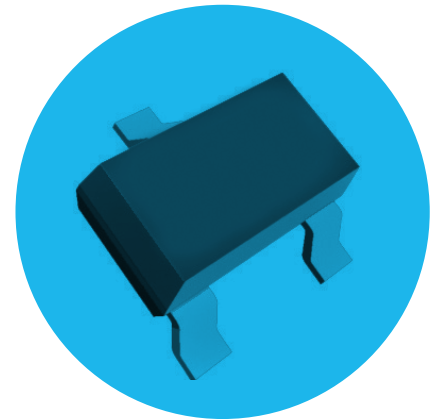


SOT23 Surface Mount Voltage Divider

DIV23 Series

- Replaces legacy SOT23 Series for new designs
- Precision ratio tolerances to $\pm 0.05\%$
- Superior alternative to matched sets
- Ultra-stable TaNSil[®] resistors on silicon substrate
- RoHS Compliant and Sn/Pb terminations available



 All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

| | |
|---|---|
| Element Resistance Range | 10 to 200K Ω |
| Total Resistance Range | 20 to 400K Ω |
| Absolute Tolerance | To $\pm 0.1\%$ |
| Ratio Tolerance to R1 | To $\pm 0.05\%$ |
| Absolute TCR | To $\pm 25\text{ppm}/^\circ\text{C}$ |
| Tracking TCR | To $\pm 2\text{ppm}/^\circ\text{C}$ |
| Element Power Rating @ 70 $^\circ\text{C}$ | 125mW |
| Package Power Rating @ 70 $^\circ\text{C}$ | 250mW |
| Rated Operating Voltage (not to exceed $\sqrt{P \times R}$) | 100 Volts |
| Operating Temperature | -55 $^\circ\text{C}$ to +125 $^\circ\text{C}$ |
| Noise | <-30dB |

Environmental Data

| Test Per MIL-PRF-83401 | Typical Delta R | Max Delta R |
|---------------------------|-----------------|--------------|
| Thermal Shock | $\pm 0.02\%$ | $\pm 0.1\%$ |
| Power Conditioning | $\pm 0.03\%$ | $\pm 0.1\%$ |
| High Temperature Exposure | $\pm 0.03\%$ | $\pm 0.05\%$ |
| Short-time Overload | $\pm 0.02\%$ | $\pm 0.05\%$ |
| Low Temperature Storage | $\pm 0.03\%$ | $\pm 0.05\%$ |
| Life | $\pm 0.05\%$ | $\pm 0.1\%$ |

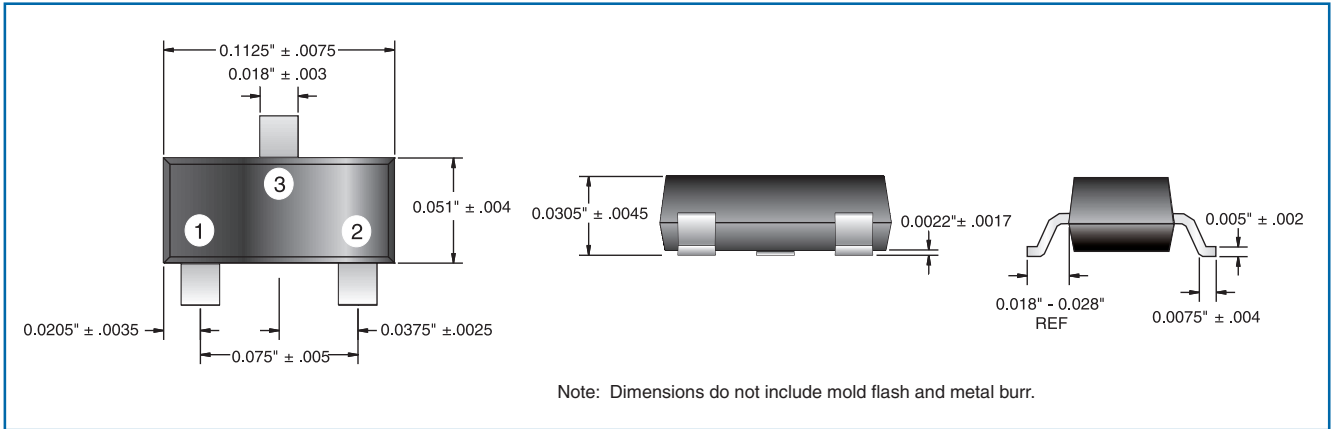
Manufacturing Capability

| Element Resistance | Available Absolute Tolerances | Available Ratio Tolerances | Best Absolute TCR | Tracking TCR |
|-------------------------------|-------------------------------|----------------------------|------------------------------------|-----------------------------------|
| 10 Ω - 25 Ω | F G J K | D F G | $\pm 100\text{ppm}/^\circ\text{C}$ | $\pm 25\text{ppm}/^\circ\text{C}$ |
| 25.1 Ω - 50 Ω | D F G J K | C D F G | $\pm 50\text{ppm}/^\circ\text{C}$ | $\pm 10\text{ppm}/^\circ\text{C}$ |
| 51 Ω - 500 Ω | C D F G J K | B C D F G | $\pm 25\text{ppm}/^\circ\text{C}$ | $\pm 2\text{ppm}/^\circ\text{C}$ |
| 501 Ω - 100K Ω | B C D F G J K | A B C D F G | $\pm 25\text{ppm}/^\circ\text{C}$ | $\pm 2\text{ppm}/^\circ\text{C}$ |
| 101K Ω - 200K Ω | B C D F G J K | B C D F G | $\pm 25\text{ppm}/^\circ\text{C}$ | $\pm 2\text{ppm}/^\circ\text{C}$ |

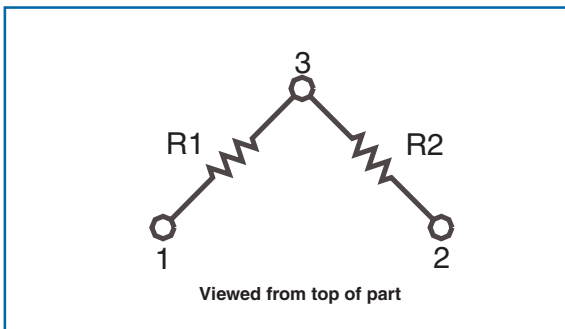
General Note

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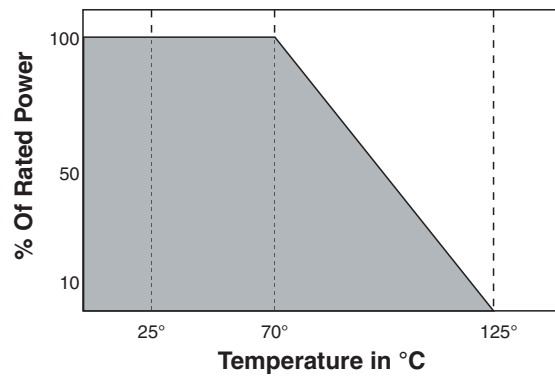
Physical Data



Schematic Data



Power Derating Data



General Note

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Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: D23-1K0-3K3FB (25ppm/°C, R1=1 kilohm, R2=3.3 kilohms, absolute tolerance ±1%, ratio tolerance ±0.1%, Pb-free)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 2 | 3 | - | 1 | K | 0 | - | 3 | K | 3 | F | B |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | |

| 1 Type | 2 Absolute TCR | 3 Value R1 | 4 Value R2 | 5 Absolute Tolerance | 6 Ratio Tolerance | 7 Termination & Packing |
|----------------|--------------------|---|---------------|-------------------------|----------------------|---|
| D23 = DIV23 | Omit for ±25ppm/°C | E24 = 3/4 characters E96 = 3/4 characters R = ohms K = kilohms | | B = ±0.1% | A = ±0.05% | Omit for Pb-free, Standard pack PB = SnPb finish, Standard pack 1000/reel |
| | 02 = ±50ppm/°C | | | C = ±0.25% | B = ±0.1% | |
| | 01 = ±100ppm/°C | | | D = ±0.5% | C = ±0.25% | |
| | 00 = ±250ppm/°C | | | F = ±1% | D = ±0.5% | |
| | | | | G = ±2% | F = ±1% | |
| | | | J = ±5% | G = ±2% | | |
| | | | K = ±10% | | | |

Note that this is equivalent to the legacy part number **SOT23-3K3-1K0FB** in which positions of R1 and R2 were transposed.

USA (IRC) Part Number: SOT-DIV23LF-03-1001-3301-FB (25ppm/°C, R1=1 kilohm, R2=3.3 kilohms, absolute tolerance ±1%, ratio tolerance ±0.1%, Pb-free)

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | O | T | - | D | I | V | 2 | 3 | L | F | - | 0 | 3 | - | 1 | 0 | 0 | 1 | - | 3 | 3 | 0 | 1 | - | F | B |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | | | |

| 1 Family | 2 Model | 3 Termination | 4 Absolute TCR | 5 Value R1 | 6 Value R2 | 7 Absolute Tolerance | 8 Ratio Tolerance | Packing |
|-------------|------------|--------------------------|-------------------|---|---------------|-------------------------|----------------------|---------|
| SOT | DIV23 | Omit for SnPb (60/40) | 03 = ±25ppm/°C | 3 digits + multiplier R = ohms for values <100 ohms | B = ±0.1% | A = ±0.05% | 1000/reel | |
| | | | 02 = ±50ppm/°C | | | C = ±0.25% | | |
| | | | 01 = ±100ppm/°C | | | D = ±0.5% | | |
| | | LF = Pb-free (100%Sn) | 00 = ±250ppm/°C | F = ±1% | | D = ±0.5% | | |
| | | | | G = ±2% | | F = ±1% | | |
| | | | | J = ±5% | | G = ±2% | | |
| | | | K = ±10% | | | | | |

Note that this is equivalent to the legacy part number **SOT-SOT23LF-03-3301-1001-FB** in which positions of R1 and R2 were transposed.

General Note

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