

Nichrome Resistor Networks on Silicon Substrates

SS103VD and SFN06VD series

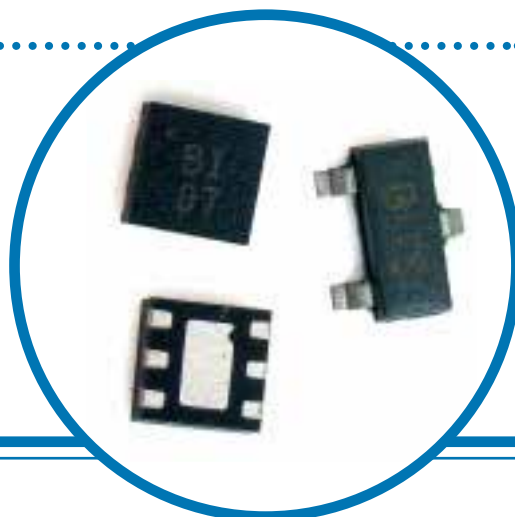
Voltage divider circuit

Thin film resistor network

RoHS compliant

Not Recommended for New Designs

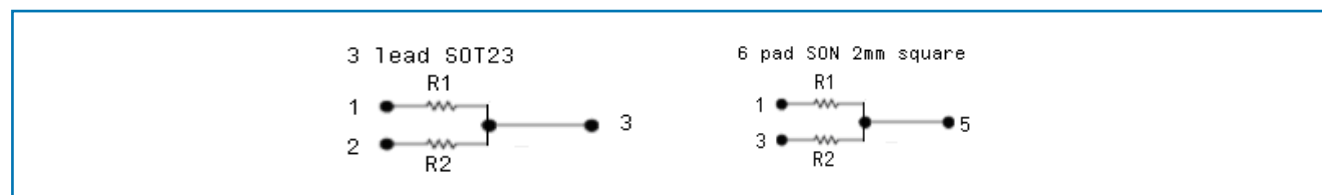
For alternative see SS1 - http://www.irctt.com/file.aspx?product_id=411&file_type=datasheet,
SFN - no alternative



Features

Precision Nichrome Resistors on Silicon	Passivation coating provides protection in humid environments
Industry Standard Packaging	6 pad SON ¹ 2mm square with 0.65 mm pitch (JEDEC MO-229D) 3 lead SOT23 (JEDEC TO-239)
Ratio Tolerances	< ± 0.05%
TCR Tracking Tolerances	< ± 5 ppm/°C

Circuit Schematic



Electrical²

Standard Resistance Range	1K ohm 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 v PR
Noise, Maximum (MIL-STD-2002, Method 308)	-25 dB
Maximum Package Power @ 70°C	0.2 Watts

Resistance Tolerances

Accuracy Code at 25°C	CA	CB	D	FA	F	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	± 0.05	± 1.0	N/A	N/A

1 Small outline no lead (SON) package is also referred to as quad flat no lead (QFN) or dual flat no lead (DFN) packages.

2 Specifications subject to change without notice.

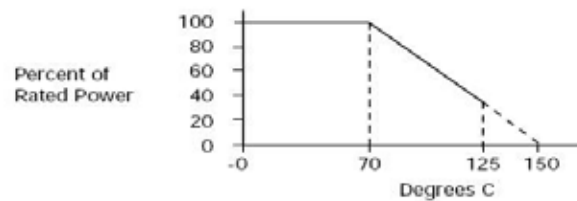
General Note

TT electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT electronics' own data and is considered accurate at time of going to print.

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

Power Derating Curve



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

Mechanical

Lead Plating	100 matte Tin (RoHS)
Lead Material	Copper Alloy
Lead Configurations (SLP/SS1)	No lead, Gull Wing
Lead Coplanarity (SS1 only)	0.003" (0.102 mm)
Substrate Material	Silicon
Resistor Material	Passivated Nichrome
Body Material	Molded Epoxy
Package Types	6 pad SON 2mm square, 3 lead SOT23

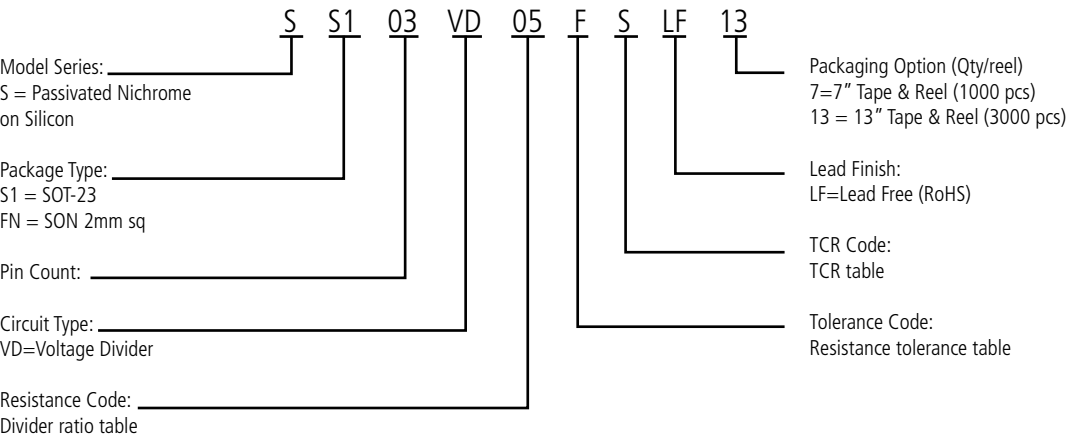
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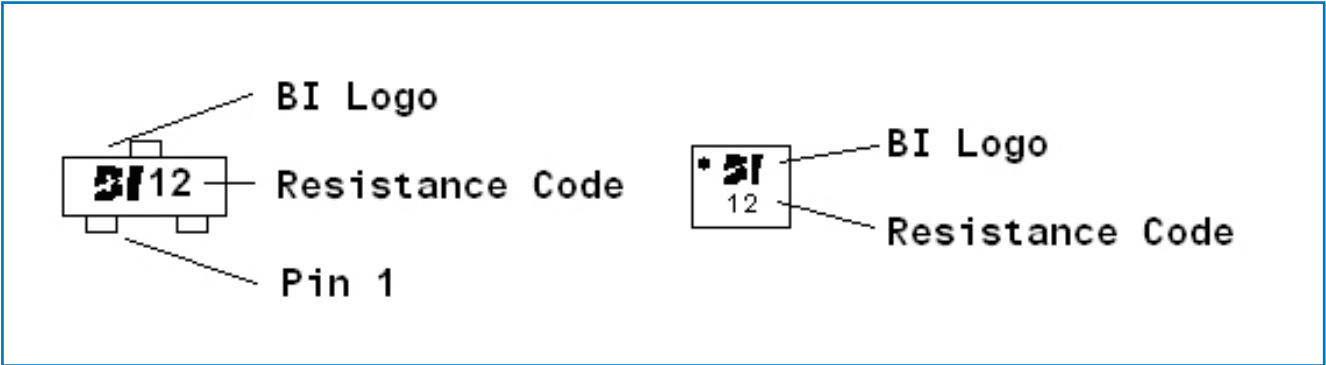
Divider Ratio

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

Ordering Information³



Typical Marking



³ Contact our customer service for custom designs and features.

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