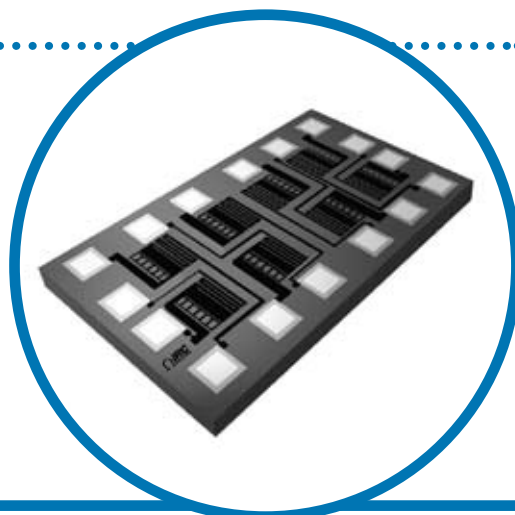


Wire Bondable Resistor Network Arrays

Chip Network Array Series

- Absolute tolerances to $\pm 0.1\%$
- Tight TCR tracking to $\pm 5\text{ppm}/^\circ\text{C}$
- Ratio match tolerances to $\pm 0.05\%$
- Ultra-stable tantalum nitride resistors



IRC's TaNSil[®] network array resistors are ideally suited for applications that demand a small footprint. The small wire bondable chip package provides higher component density, lower resistor cost and high reliability.

The tantalum nitride film system on silicon provides precision tolerance, exceptional TCR tracking and low cost. Excellent performance in harsh, humid environments is a trademark of IRC's self-passivating TaNSil[®] resistor film.

For applications requiring high performance resistor networks in a low cost, wire bondable package, specify IRC network array die.

Electrical Data

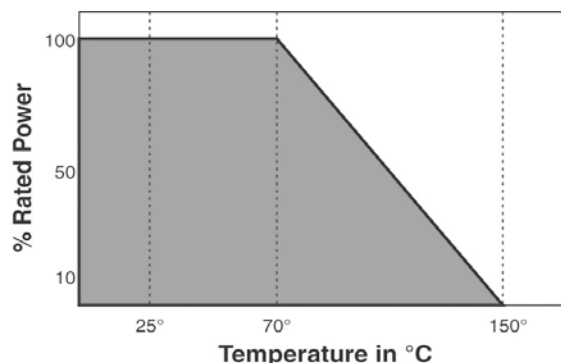
	Isolated	Bussed
Resistance Range	10 Ω to 2.5M Ω	10 Ω to 1.25M Ω
Absolute Tolerance	to $\pm 0.1\%$	
Ratio Tolerance to R1	to $\pm 0.05\%$	to $\pm 0.1\%$
Absolute TCR	to $\pm 25\text{ppm}/^\circ\text{C}$	
Tracking TCR	to $\pm 5\text{ppm}/^\circ\text{C}$	
Element Power Rating	100mW @ 70 $^\circ\text{C}$	50mW @ 70 $^\circ\text{C}$
Package Power Rating	8-Pad 400mW @ 70 $^\circ\text{C}$ 16-Pad 800mW @ 70 $^\circ\text{C}$ 24-Pad 1.0W @ 70 $^\circ\text{C}$	
Rated Operating Voltage (not to exceed $\sqrt{P \times R}$)	100V	
Operating Temperature	-55 $^\circ\text{C}$ to +150 $^\circ\text{C}$	
Noise	<-30dB	
Substrate Material	Oxidized Silicon (10K \AA SiO ₂ minimum)	
Substrate Thickness	0.016" \pm 0.001 (0.406mm \pm 0.01)	
Bond Pad Metallization	Aluminum	10K \AA minimum
	Gold	15K \AA minimum
Backside	Silicon (gold available)	
Passivation	Silicon Dioxide or Silicon Nitride	

TCR/Inspection Code Table

Absolute TCR	Commercial Code	MIL Inspection Code*
$\pm 300\text{ppm}/^\circ\text{C}$	00	04
$\pm 100\text{ppm}/^\circ\text{C}$	01	05
$\pm 50\text{ppm}/^\circ\text{C}$	02	06
$\pm 25\text{ppm}/^\circ\text{C}$	03	07

*Notes: Product supplied to Class H of MIL-PRF 38534 include 100% visual inspection

Power Derating Data



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.

Manufacturing Capabilities Data

Absolute TCR (\pm ppm/ $^{\circ}$ C)	Isolated schematic A				Bussed schematic B			
	Ohmic range (Ω)	Available tolerances	Available ratio tolerances	Best TCR tracking (\pm ppm/ $^{\circ}$ C)	Ohmic range (Ω)	Available tolerances	Available ratio tolerances	Best TCR tracking (\pm ppm/ $^{\circ}$ C)
300	10 - 25	FGJ	FG	50	10 - 25	FGJ	FG	200
	26 - 50	DFGJ	CDF	10	26 - 50	FGJ	DFG	100
	51 - 200	CDFGJ	CDFG	5	51 - 100	DFGJ	CDFG	50
	201 - 2.5M	BCDFGJ	ABCDG	5	101 - 200	DFGJ	BCDFG	25
					201 - 500	BCDFGJ	BCDFG	20
					501 - 1.25M	BCDFGJ	ABCDG	5
100	26 - 50	DFGJ	CDFG	10	26 - 50	FGJ	DFG	100
	51 - 200	CDFGJ	CDFG	5	51 - 100	DFGJ	CDFG	50
	201 - 2.5M	BCDFGJ	ABFG	5	101 - 200	DFGJ	BCDFG	25
					201 - 500	BCDFGJ	BCDFG	20
					501 - 350K	BCDFGJ	ABCDG	5
50	26 - 50	DFGJ	CDFG	10	51 - 100	DFGJ	CDFG	50
	51 - 200	CDFGJ	CDFG	5	101 - 200	DFGJ	BCDFG	25
	201 - 2.5M	BCDFGJ	ABFG	5	201 - 500	BCDFGJ	BCDFG	20
					501 - 1.25M	BCDFGJ	ABCDG	5
25	51 - 200	CDFGJ	CDFG	5	201 - 500	BCDFGJ	BCDFG	20
	201 - 2.5M	BCDFGJ	ABFG	5	501 - 1.25M	BCDFGJ	ABCDG	5

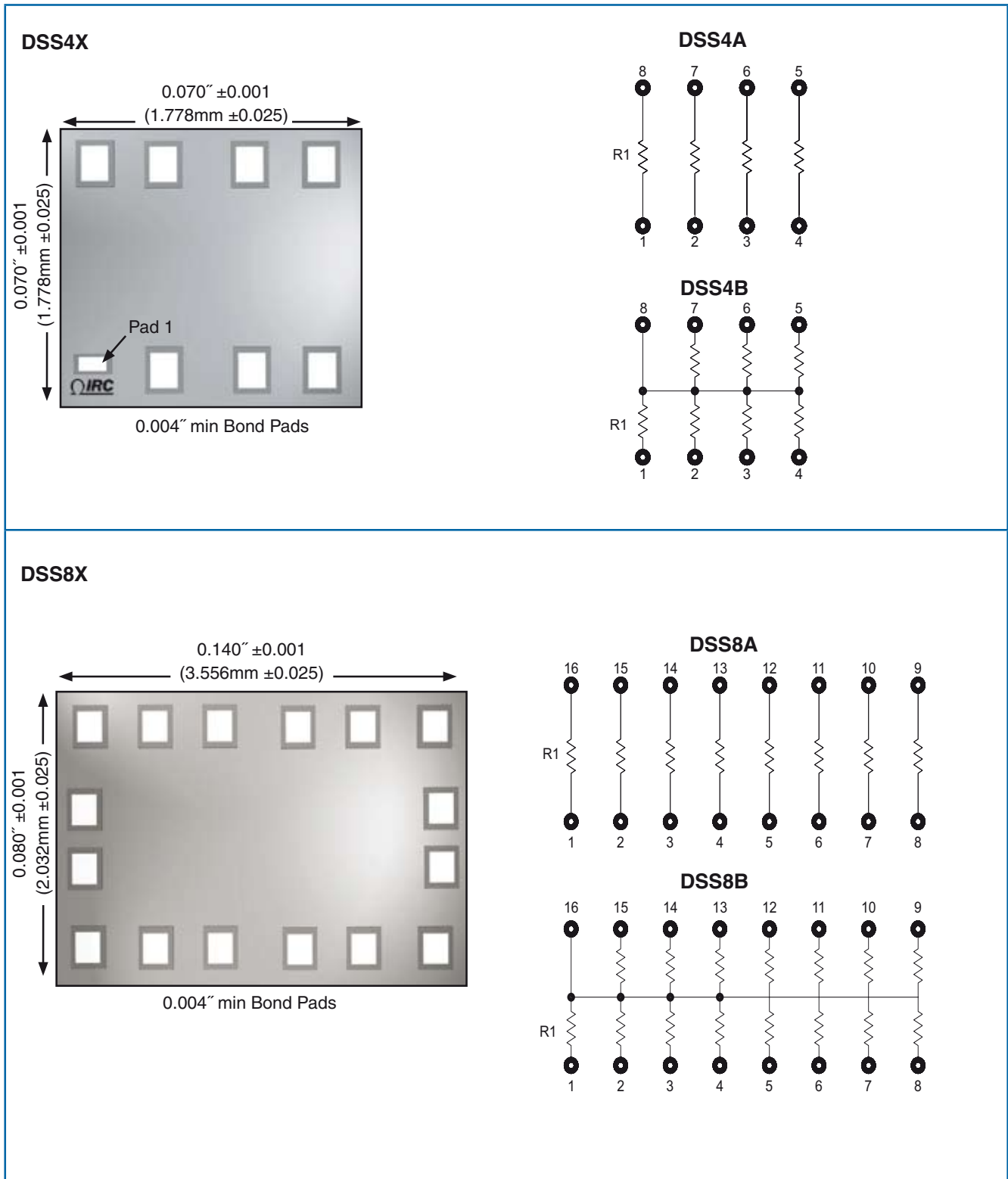
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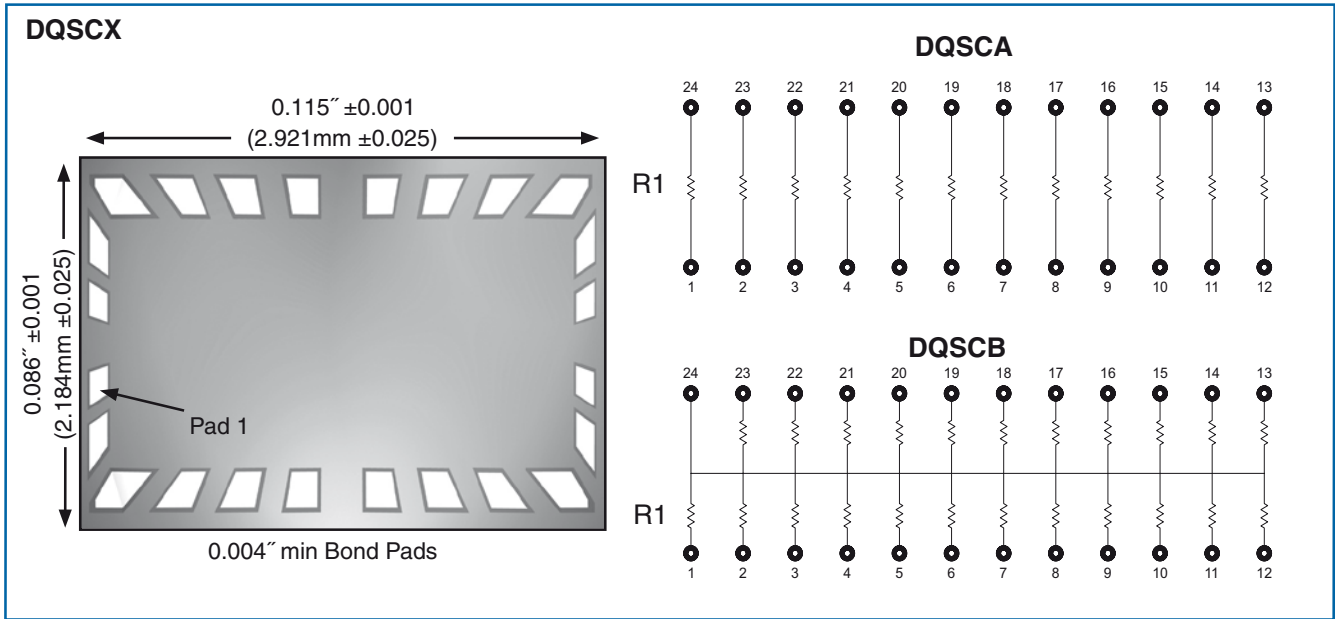
Physical Data



General Note

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Physical Data



Environmental Data

Test	Method	Max ΔR	Typical ΔR
Thermal Shock	MIL-STD-202 Method 107 Test condition F	±0.1%	±0.02%
High Temperature Exposure	MIL-STD-883 Method 1008 150°C, 1000 hours	±0.1%	±0.05%
Low Temperature Storage	-55°C, 1000 hours	±0.03%	±0.01%
Life	MIL-STD-202 Method 108 70°C, 1000 hours	±0.5%	±0.01%
Life at Elevated Temperature	MIL-STD-202 Method 108 125°C, 1000 hours	±0.5%	±0.05%

Ordering Data

Prefix **WBD** **DSS8** **B** **01** **1002** **F** **B**

Style
 DSS4 = 8-pad Network
 DSS8 = 6-pad Network
 DQSC = 24-pad Network

Schematic and Termination
 A = Isolated; B = Bussed

TCR/Inspection Code
 Reference TCR/Inspection Code Table

Resistance Code
 4-Digit Resistance Code
 Ex: 1002 = 10KΩ, 50R1 = 50.1Ω

Absolute Tolerance Code
 J = ±5%; G = ±2%; F = ±1%;
 D = ±0.5%; C = ±0.25%; B = ±0.1%

Ratio Tolerance Code (optional)
 G = ±2%; F = ±1%; D = ±0.5%;
 C = ±0.25%; B = ±0.1%; A = 0.05%

Packaging
 Standard packaging is 2" x 2" chip tray. For additional information
 or to discuss your specific requirements, please contact our Applications
 Team using the contact details below.

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