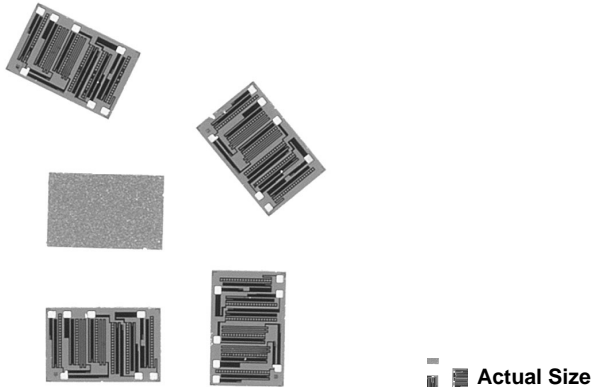


Custom Resistor Arrays, User Trim



A precision Thin Film resistor for hybrid applications where final resistor value will require active laser trim. Trimmable chip resistors are provided on 99.6% Alumina substrates with gold wirebond pads. A trim range of 75Ω to 500KΩ is available.

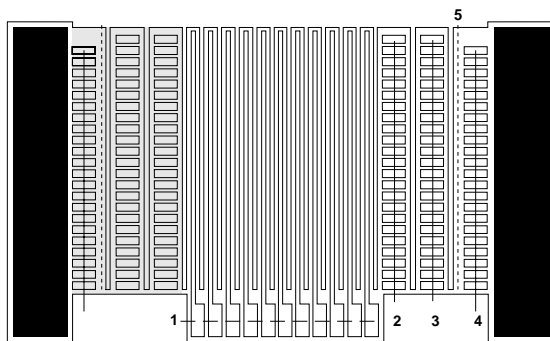
FEATURES

- Final resistor tolerance and stability is a function of end user trim capabilities
- Visual inspection per MIL-STD-883, Method 2032 for Class H devices.

TYPICAL PERFORMANCE

TCR	25
TOL	1.0

SCHEMATIC AND PATTERN



CHIP SIZE	WIRE BOND PAD SIZE	TRIMMABLE TOLERANCE	SQUARES AVAILABLE
75 x 50 mils x 15 thick	7 x 40 mils	± 1.0%	100 min, 2200 Max.

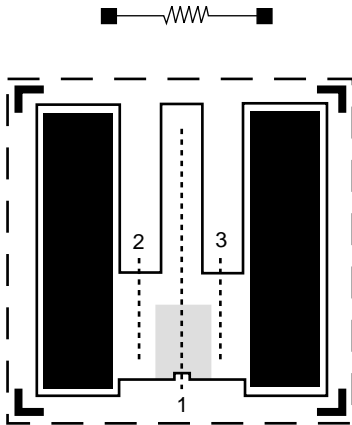
TRIMMING INFORMATION

CUT	TYPE		Δ SQUARE	RESOLUTION
1	Coarse	Shunts	1848 sq.	5-7%
2	Coarse	Ladder	168 sq.	2-3%
3	Coarse	Ladder	112 sq.	1%
4	Medium	Ladder	20 sq.	0.5%
5	Fine	Side-bar	1 sq.	0.1%

ORDERING INFORMATION

PART NUMBER	RESISTANCE RANGE
103-466-1	2,500Ω to 50KΩ
103-466-2	5,000Ω to 100KΩ
103-466-3	12KΩ to 250KΩ
103-466-4	24KΩ to 500KΩ

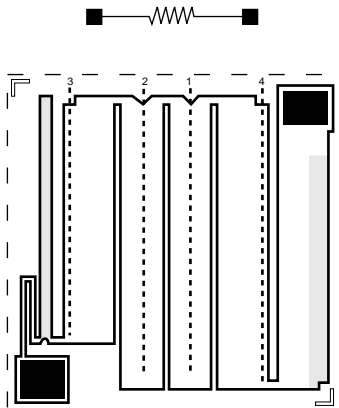
NOTE: Vishay will supply the chip resistors trimmed to the minimum value with a tolerance of 0 to -1%. Vishay trim areas are shaded (■) in the layouts shown above.

SCHEMATIC AND PATTERN CONTD


CHIP SIZE	WIRE BOND PAD SIZE	TRIMMABLE TOLERANCE	SQUARES AVAILABLE
50 x 50 mils x 15 thick	10 x 40 mils	± 1.0%	1.25 Min., 27.35 Max.

TRIMMING INFORMATION				
CUT	TYPE		Δ SQUARE	RESOLUTION
1	Coarse	Top-hat	18.7 sq.	2%
2	Fine	Top-hat	3.7 sq.	1%
3	Fine	Top-hat	3.7 sq.	1%

ORDERING INFORMATION	
PART NUMBER	RESISTANCE RANGE
103-463-1	75 ohms to 1,200 ohms
103-463-2	175 ohms to 3,000 ohms
103-463-3	300 ohms to 5,000 ohms



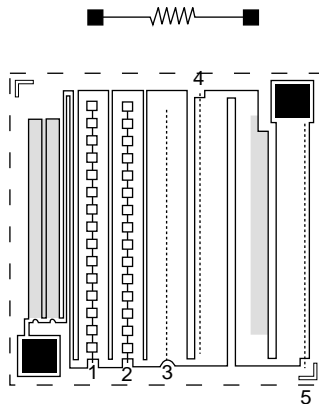
CHIP SIZE	WIRE BOND PAD SIZE	TRIMMABLE TOLERANCE	SQUARES AVAILABLE
50 x 50 mils x 15 thick	5 x 6 mils	± 1.0%	74 Min., 168 Max.

TRIMMING INFORMATION				
CUT	TYPE		Δ SQUARE	RESOLUTION
1	Coarse	Top-hat	32 sq.	1%
2	Coarse	Top-hat	32 sq.	1%
3	Fine	Side-bar	1 sq.	0.1%
4	Fine	Side-bar	1 sq.	0.1%

ORDERING INFORMATION	
PART NUMBER	RESISTANCE RANGE
103-464-1	5,000Ω to 8,000Ω
103-464-2	10,000Ω to 20,000Ω
103-464-3	20,000Ω to 35,000Ω

NOTE: Vishay will supply the chip resistors trimmed to the minimum value with a tolerance of 0 to -1%. Vishay trim areas are shaded (■) in the layouts shown above.

SCHEMATIC AND PATTERN CONTD



CHIP SIZE	WIRE BOND PAD SIZE	TRIMMABLE TOLERANCE	SQUARES AVAILABLE
50 x 50 mils x 15 thick	5 x 5 mils	± 1.0%	198 Min., 358 Max.

TRIMMING INFORMATION				
CUT	TYPE		Δ SQUARE	RESOLUTION
1	Coarse	Ladder	50 sq.	2-3%
2	Coarse	Ladder	50 sq.	2-3%
3	Medium	Top-hat	28 sq.	1%
4	Fine	Side-bar	1 sq.	0.1%
5	Fine	Side-bar	1 sq.	0.1%

ORDERING INFORMATION	
PART NUMBER	RESISTANCE RANGE
103-465-1	10,000Ω to 17,000Ω
103-465-2	23,000Ω to 40,000Ω
103-465-3	45,000Ω to 75,000Ω

NOTE: Vishay will supply the chip resistors trimmed to the minimum value with a tolerance of 0 to -1%. Vishay trim areas are shaded (■) in the layouts shown above.

STANDARD ELECTRICAL SPECIFICATIONS		
TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	TAMELOX®	
Absolute TCR	± 25ppm/°C	- 55°C to + 125°C
Absolute Tolerance:	± 1.0%	+ 25°C
Power Rating:	50mW	per element @ + 70°C
Stability: ΔR Ratio	Less than 0.1% Max. ΔR/R (0.05% typical)	2,000 hrs. @ + 70°C
Voltage Coefficient	5ppm/Volt	
Working Voltage	100V Max. all sizes	
Operating Temperature Range	- 55°C to + 125°C	
Storage Temperature Range	- 55°C to + 150°C	
Noise	- 35dB	
Shelf Life Stability	100ppm	1 year @ + 25°C

MECHANICAL SPECIFICATIONS	
Resistive Element	Tamelox®
Pads	Gold Wirebond
Substrate Material	Alumina
Trim range	75Ω to 500KΩ

LASER REQUIREMENTS	
Spot Size	≤ 1 mil
Focal Length	± 2 mil
Position Resolution	≤ 0.25 mil
Preferred Laser Type	Q-Switch Y.A.G.
Step Increment	≤ 0.25

If these standard chips will not meet your requirements, contact Applications Engineering as we may be able to fulfill your requirements with a custom layout.

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