



Preliminary

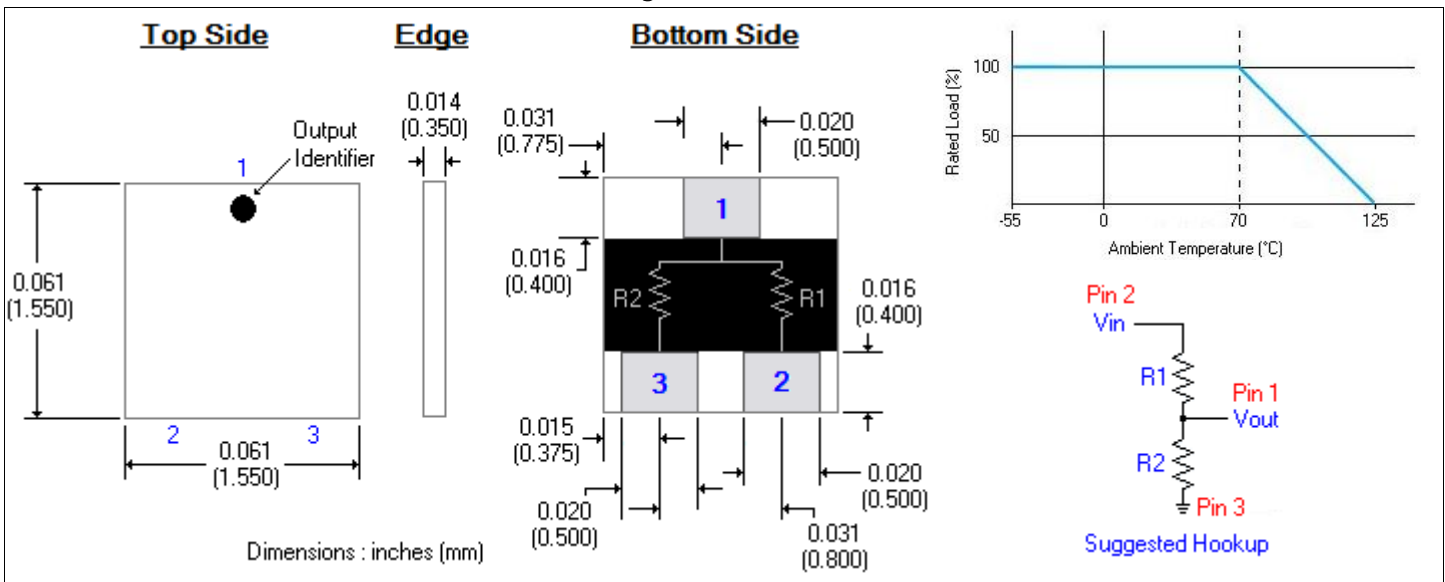


Product Family: Precision Chip Resistor Networks
Part Number Series: FR2 Series

	<p>Construction:</p> <ul style="list-style-type: none"> High Purity Alumina Substrate Ni alloy thin-film resistive element Non-wrapped electrodes (bottom only) 100% matte tin over Ni terminations (RoHS compliant & Pb Free) 	<p>Features:</p> <ul style="list-style-type: none"> 0606 English size (1616 Metric) 2 resistors/package Resistance tolerances to 0.05% Ratio tolerances to 0.02% TCR to ± 25 ppm/$^{\circ}$C TCR tracking to ± 2ppm/$^{\circ}$C
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Description:

These highly stable precision resistor networks are designed to replace two discrete 0402 English size resistors used for voltage division in SSD designs. The miniaturized package has a smaller courtyard requirement than two discrete 0402 English size resistors. Tight resistor ratio and TCR tracking tolerances provide for excellent performance for applications that require very close resistor matching.

Product Dimensions, Schematic and Derating

Part Numbering: Ex: FR2BA8000/3479ER5 (refer to electrical specifications table for notes on offerings)

Package Type	Absolute Resistance Tolerance	Resistance Ratio Tolerance	Resistance Values	Absolute TCR Tolerance	TCR Tracking Tolerance	Tape and Reel Qty
FR2	<p>A = 0.05%</p> <p>B = 0.10%</p> <p>C = 0.25%</p> <p>D = 0.50%</p>	<p>Q = 0.02%</p> <p>A = 0.05%</p> <p>B = 0.10%</p> <p>C = 0.25%</p> <p>D = 0.50%</p> <p>Z = NONE</p>	<p>XXXX / XXXX</p> <p>R1 value / R2 value</p> <p>All 4 digits are significant figures and no multiplier is used. For values <100Ω, "R" is used to designate the decimal position. Multiple values are separated by a slash (/).</p> <p>e.g. 1000 = 1,000Ω</p> <p>0100 = 100Ω</p> <p>8000/3479 = 8,000Ω/3,479Ω</p>	E = ± 25 ppm/ $^{\circ}$ C	<p>R = ± 2ppm/$^{\circ}$C</p> <p>M = ± 5ppm/$^{\circ}$C</p>	<p>5 = 500/reel</p> <p>A = 1,000/reel</p>

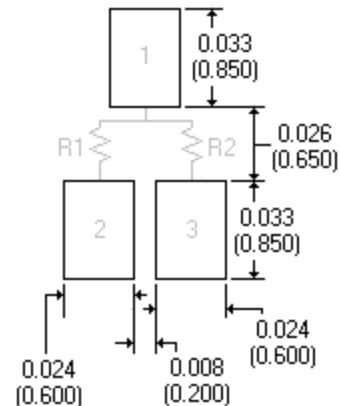
Electrical Specifications:

Parameter	FR2 Series		
English Size	0606		
Metric Size	1616		
Resistance Range (Ω)	100 ~ <300	300 ~ <2k	2k ~ 9,999 Ω
	Refer to standard offerings table below		
Absolute Tolerance	B = 0.10% D = 0.50%		A = 0.05% B = 0.10% D = 0.50%
Ratio Tolerance	Q = 0.02% (Ratio = 1 to10) A = 0.05% (Ratio = 1 to100)		
Absolute TCR	P = ± 25 ppm/ $^{\circ}$ C		
Tracking TCR	R = ± 2 ppm/ $^{\circ}$ C (Ratio = 1 to 3) M = ± 5 ppm/ $^{\circ}$ C (Ratio = 1 to 100)		
Power Rating	63mW/element , 125mW/package		
	Derating from 100% power at 70 $^{\circ}$ C to 0% power at 125 $^{\circ}$ C		
Operating Temp	-55~125 $^{\circ}$ C		
Packaging	5 = 500 pcs/reel A = 1,000 pcs/reel		

Standard Resistance Combinations:

The table below shows standard offerings for the resistor combinations. These resistor combinations are based on an input voltage of 3.3 volts. Other resistance combinations may be available by contacting the factory. Initial setup costs may apply.

Voltage Input	Voltage Output	R1	R2
3.3 volts	1.00 V	8,000 Ω	3,479 Ω
	1.20 V	8,000 Ω	4,572 Ω
	1.35 V	8,000 Ω	5,539 Ω
	1.50 V	8,000 Ω	6,667 Ω
	1.80 V	6,667 Ω	8,000 Ω
	2.50 V	2,560 Ω	8,000 Ω

Recommended Land Pattern:**Formula:**

$$V_{out} = \frac{R_2}{R_1 + R_2} \times V_{in}$$

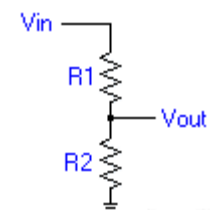
Example:

$$V_{out} = \frac{3479}{8000 + 3479} \times 3.3$$

$$V_{out} = \frac{3479}{11479} \times 3.3$$

$$V_{out} = 0.303 \times 3.3$$

$$V_{out} = 1.0 \text{ volts}$$



Suggested Hookup