

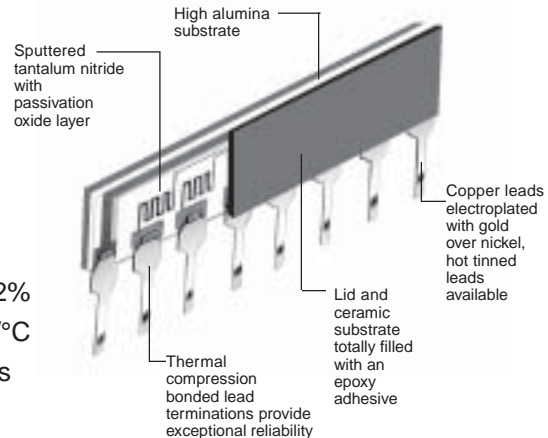
TaNFilm® Precision SIP Network Commercial and Mil Qualified

ISO-9001
Registered



4700 SERIES

- Inherent reliability
- MIL-PRF-83401 qualified
- Absolute tolerance to $\pm 0.05\%$ - ratio accuracy to $\pm 0.02\%$
- Absolute TCR to ± 10 ppm/ $^{\circ}\text{C}$ - ratio tracking to ± 2 ppm/ $^{\circ}\text{C}$
- Bonded leads not susceptible to solder reflow problems
- Custom configurations available



The IRC 4700 Series is the ultimate combination of precision performance, reliability, and long term stability in a low profile, TaNFilm® SIP package. Rugged welded lead construction combined with the inherent passivation

characteristics of tantalum nitride insure superior ongoing performance over the installed life of the part. Visit our website to view a graphical demonstration of IRC's TaNFilm reliability and performance features.

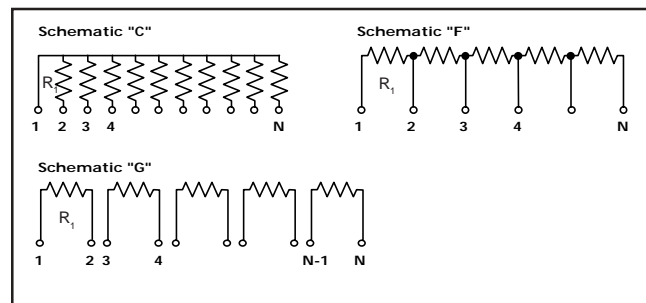
SPECIFICATIONS:

Resistance Ranges (ohms)	Mil Qualified Schematic C: 100 to 100K Schematic G: 100 to 100K Commercial Schematic C: 49.9 to 200K Schematic F: 20 to 150K Schematic G: 20 to 400K Higher and lower resistance values available
Standard Resistance Tolerance ($\pm\%$)	0.05, 0.1, 0.25, 0.5, 1.2 (.02 available)
Available Ratio Tolerance	to $\pm .01$
Temperature Coefficient {TCR (ppm/ $^{\circ}\text{C}$)}	Mil Qualified: $\pm 50, \pm 100, \pm 300$ Commercial: Available to 10 ppm
TCR Tracking	5ppm/ $^{\circ}\text{C}$ (except Schematic C below 500 ohms 20 ppm/ $^{\circ}\text{C}$) 2 ppm/ $^{\circ}\text{C}$ available
Voltage Rating	100V (not to exceed $\sqrt{\text{PXR}}$)
Temperature Range	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
Noise Level	Less than -30 db
Lead Material	Gold Plated Copper (hot tin/lead available)
Substrate Material	99.6% pure alumina ceramic
Construction	Lid and ceramic substrate totally filled with an epoxy adhesive

POWER RATING AT 70 $^{\circ}\text{C}$:

Schematic	Element	Wattage		
		Network		
		6 Pin	8 Pin	10 Pin
C, F (commercial or military)	0.12W	0.60W	0.84W	1.08W
G - military	0.12W	0.60W	0.80	1.0W
G - commercial	0.20W	0.36W	0.48W	0.60W

STANDARD CIRCUITS:

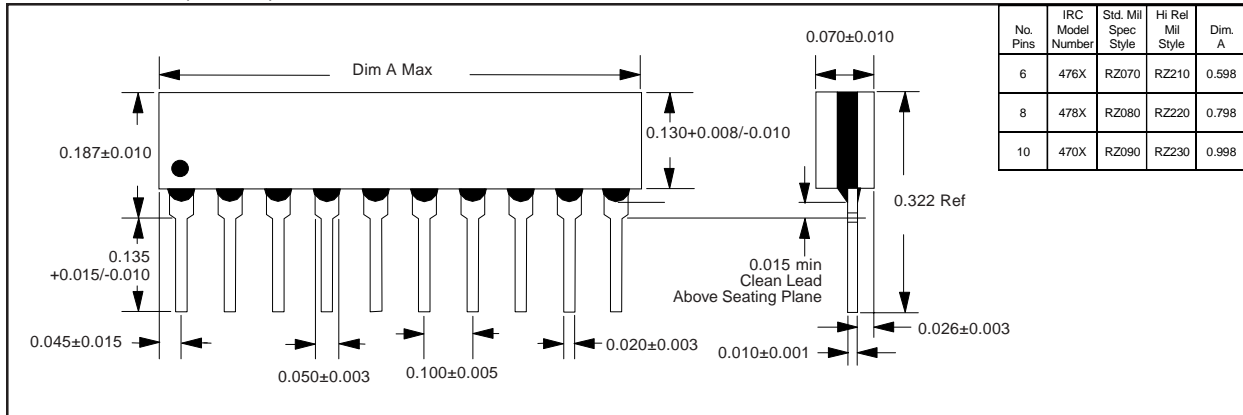


Consult factory for Tighter tolerances and TCR.
Custom circuits and special testing available.

4700 SERIES ENVIRONMENTAL TESTING:

Test Per MIL-PRF-83401	MIL-PRF-83401 Limits (Delta R%)			TaNFilm Test Data (Delta R%)	
	M	K	H	Max	Typica
Thermal Shock and Power Conditioning	0.7	0.7	0.5	0.10	0.02
Low Temperature Operation	0.5	0.25	0.1	0.05	0.02
Short Term Overload	0.5	0.25	0.1	0.1	0.02
Terminal Strength	0.25	0.25	0.1	0.1	0.02
Resistance to Solder Heat	0.25	0.25	0.1	0.1	0.02
Moisture Resistance	0.5	0.5	0.4	0.1	0.02
Shock	0.25	0.25	0.25	0.1	0.02
Vibration	0.25	0.25	0.25	0.1	0.02
Life	2.0	0.5	0.5	0.1	0.02
High Temperature Exposure	1.0	0.5	0.2	0.1	0.02
Low Temperature Storage	0.5	0.25	0.1	0.1	0.02
25°C Double Load	2.0	0.5	0.5	0.05	0.02

DIMENSIONS (Inches):



HOW TO ORDER:

Sample Part No.

SIP - 4781 - 03 - 1001 F B

Model

Model	Pins	Schematic	MIL Type
4761 4761HR	6	C	RZ070 RZ210
4768	6	F	N/A
4769 4769HR	6	G	RZ070 RZ210
4781 4781HR	8	C	RZ080 RZ220
4788	8	F	N/A
4789 4789HR	8	G	RZ080 RZ220
4701 4701HR	10	C	RZ090 RZ230
4708	10	F	N/A
4709 4709HR	10	G	RZ090 RZ230

Optional Ratio Tolerance to R₁
 F=±1.0%; D=±0.5%; C=±0.25%;
 B = ±0.1%; A = ±0.05%; Q= ±0.02%

Absolute Tolerance
 Standard MIL tolerance code
 J = ±5%; G = ±2%; F=±1.0%; D=±0.5%;
 C = ±0.25%; B = ±0.1%; A = ±0.05%

Resistance
 Standard MIL resistance code.
 Example: 1001 = 1000 Ω; 50R0 = 50 Ω

Characteristic (See table below)

Code	Classification	TCR (ppm/°C)	Code	Classification	TCR (ppm/°C)
01	Commercial	100	06	MIL-PRF-83401	50
02	Commercial	50	07	Military Screened	25
03	Commercial	25	10	Commercial	20
04	MIL-PRF-83401	300	11	Commercial	15
05	MIL-PRF-83401	100	10	Commercial	10