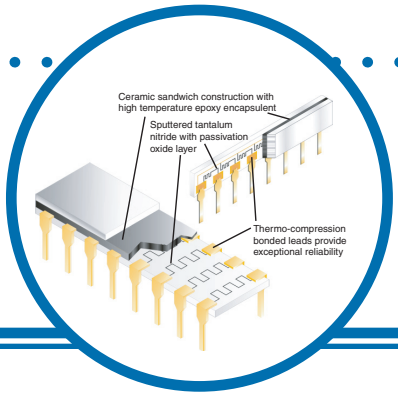
TaNFilm® High Temperature DIP and SIP Networks

TT electronics
IRC Advanced Film Division

1900HT / 4700HT SERIES

- Inherent reliability
- Custom configurations available
- Bonded leads not susceptible to solder reflow problems
- Absolute tolerence to ±0.1% - ratio accuracy to ±0.05%
- Absolute TCR to ±25 ppm/°C - ratio tracking to ±5ppm/°C



The IRC 1900HT and 4700HT Series is the ultimate combination of precision performance, reliability, and long term stability in a low profile, TaNFilm® DIP and SIP packages. The rugged welded lead construction combined with the inherent passivation characteristics of tantalum nitride film insure superior continuous performance in high temperature applications over the installed life of the part.

Electrical Data

Package Type	Size	Schematic	Ohmic Range	Package Power	Element Power	Rated Voltage (not to exceed rated power)	Temperature Range
DIP	14	Isolated Schematic A	100Ω to 100KΩ	1.12W	0.08W	100V	-55°C to +200°C
		Bussed Schematic B	1.00KΩ to 50KΩ				
	16	Isolated Schematic A	100Ω to 100KΩ	1.28W			
		Bussed Schematic B	1.00KΩ to 50KΩ				
SIP	6	Isolated Schematic G	50Ω to 50KΩ	0.24W	0.08W	50V	
		Bussed Schematic C	2.00KΩ to 25KΩ				
	8	Isolated Schematic G	50Ω to 50KΩ	0.32W			
		Bussed Schematic C	2.00KΩ to 25KΩ				

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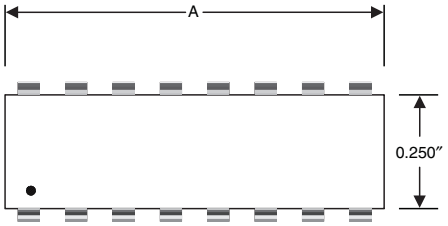
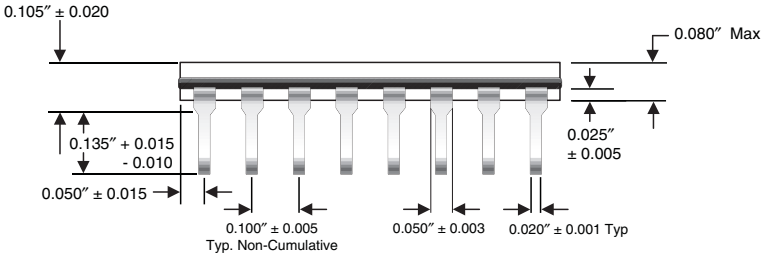
Physical Data

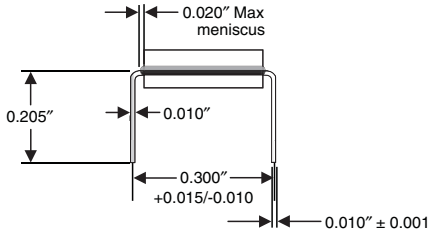
1900HT DIP Series



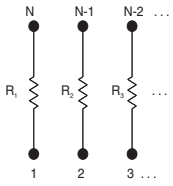
# OF LEADS	DIM A
14	0.700" ± 0.020
16	0.800" ± 0.020

LEAD MATERIAL:
CDA 110 COPPER ½ HARD (EIP)
PLATED 30-50 µIN. NICKEL
25µIN MINIMUM GOLD

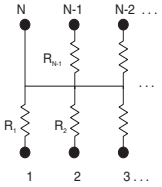




Schematic A



Schematic B



N = Number of pins

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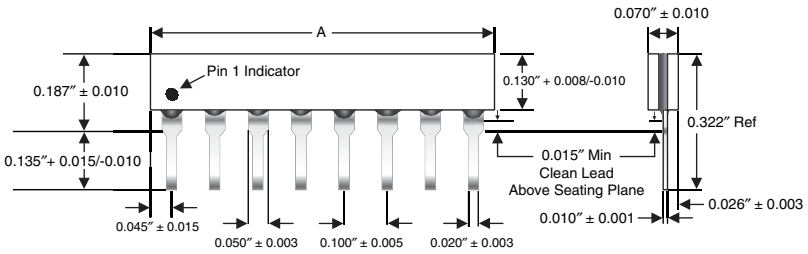
Physical Data (continued)

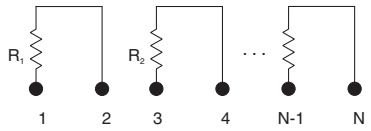
4700HT SIP Series



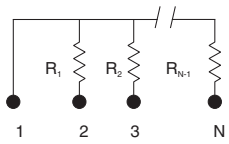
# OF LEADS	DIM A
6	0.580" ± 0.015
8	0.780" ± 0.015

LEAD MATERIAL:
CDA 110 COPPER ½ HARD (EIP)
PLATED 30-50 µIN. NICKEL
25µIN MINIMUM GOLD

Schematic G



Schematic C

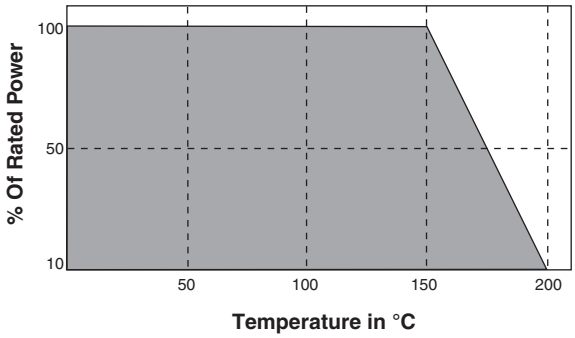


N = Number of pins

Environmental Data

Environmental Test MIL-PRF-55342	Performance	
	Typical	Maximum
Thermal Shock	±0.02%	±0.10%
Short Time Overload	±0.02%	±0.05%
High Temperature Exposure	±0.03%	±0.10%
Effects of Solder	±0.01%	±0.10%
Moisture Resistance	±0.03%	±0.10%
Life (1000 hours, 200°C, no load)	±0.08%	±1.0%
Life (1000 hours, 150°C, rated power)	±0.02%	±0.05%

Power Derating Curve



Ordering Data

Package Prefix SIP - 4789HT - 03 - 1001 F B

DIP = 1900HT Series; SIP = 4700HT SIP Series

Model

1987HT = 14-pin DIP bussed schematic B
1989HT = 14-pin DIP isolated schematic A
1998HT = 16-pin DIP bussed schematic B
1999HT = 16-pin DIP isolated schematic A

4761HT = 6-pin SIP bussed schematic C
4769HT = 6-pin SIP isolated schematic G
4781HT = 8-pin SIP bussed schematic C
4789HT = 8-pin SIP isolated schematic G

Optional Ratio Tolerance to R_1
F=±1.0%; D=±0.5%; C=±0.25%;
B = ±0.1%; A = ±0.05%

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

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

Absolute TCR
01 = ±100ppm/°C; 02 = ±50ppm/°C; 03 = ±25ppm/°C