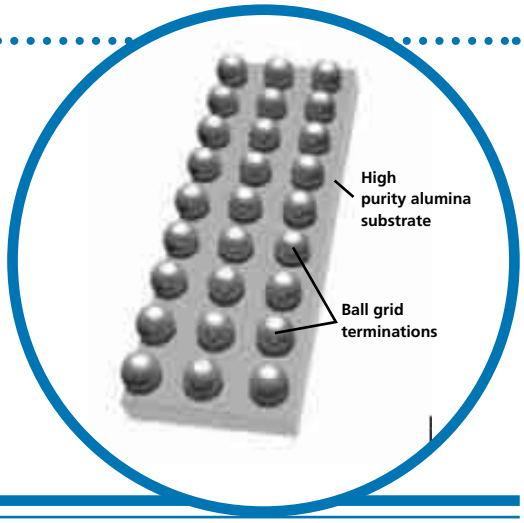
Ceramic Ball Grid Termination Arrays

CHC Series

- **Superior TaNFilm® resistors on ceramic substrate**
- **High density networks on a reduced footprint**
- **Excellent high frequency performance**
- **Standard tolerances to ±1%**
- **RoHS compliant terminations available**



IRC's Chipscale on ceramic CHC offers high performance terminal solutions in a small surface mount package. Sn/Pb solder balls placed on a ceramic substrate permit very low parasitic inductance and capacitance. This improves speeds, lowers propagation delays, and reduces ground bounce. IRC's proven tantalum nitride thin film technology can handle the most demanding applications.

For all of your high density, small footprint termination needs, use IRC's CHC Termination arrays.

Electrical Data

Package	Resistance Range (Ω)	Absolute Tolerances	Absolute TCR	Package Power Rating 70°C*	Element Power Rating 70°C*	Operating Temperature
CB0565A	10R to 4.7K	±1%, ±2%	±100ppm/°C	0.6W	0.1W	-40°C to +85°C
	10R to 10.0K	±5%				
CB0565B	10R to 2.2K	±1%, ±2%				
	10R to 4.7K	±5%				
CD0865A	10R to 4.7K	±1%, ±2%	±100ppm/°C	1.2W		
	10R to 10.0K	±5%				
CD0865B	10R to 2.2K	±1%, ±2%				
	10R to 4.7K	±5%				
CD1065A	10R to 4.7K	±1%, ±2%	±100ppm/°C	1.6W		
	10R to 10.0K	±5%				
CD1065B	10R to 2.2K	±1%, ±2%				
	10R to 4.7K	±5%				
CC0910A	10R to 4.7K	±1%, ±2%	±100ppm/°C	1.2W		
	10R to 10.0K	±5%				
CC0910B	10R to 2.2K	±1%, ±2%				
	10R to 4.7K	±5%				
CD0910A	10R to 4.7K	±1%, ±2%	±100ppm/°C	1.2W		
	10R to 10.0K	±5%				
CD0910B	10R to 2.2K	±1%, ±2%				
	10R to 4.7K	±5%				

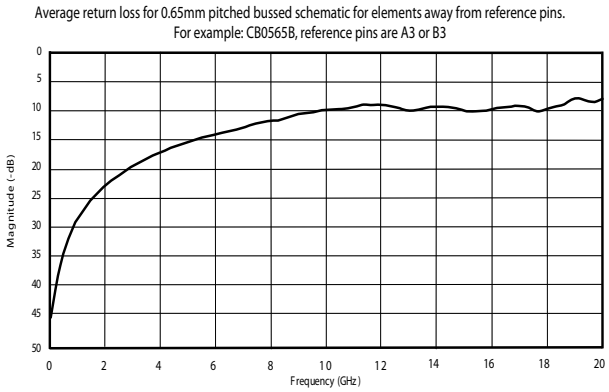
*Rated power is from 0°C to 70°C derated linearly to 0W at 85°C.

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.

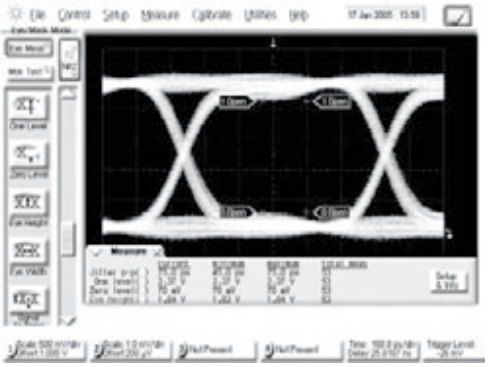
Return Loss Data (50Ω Nominal)

Typical Return Loss For CC0910B-01-50R0-F

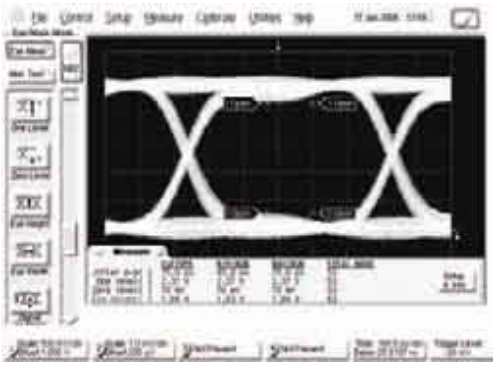


Typical Return Loss For CD1065B-01-50R0-F

Eye Diagram Data

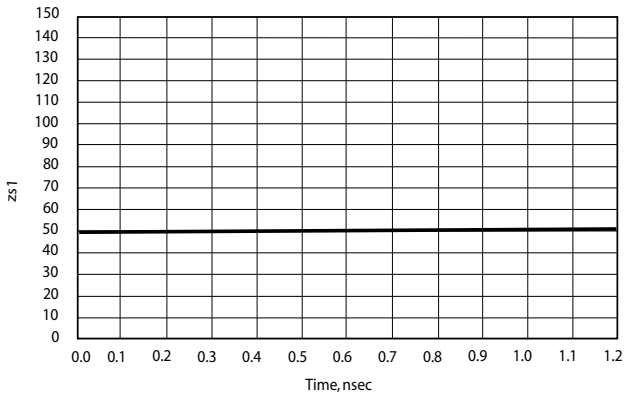


Ideal Terminator

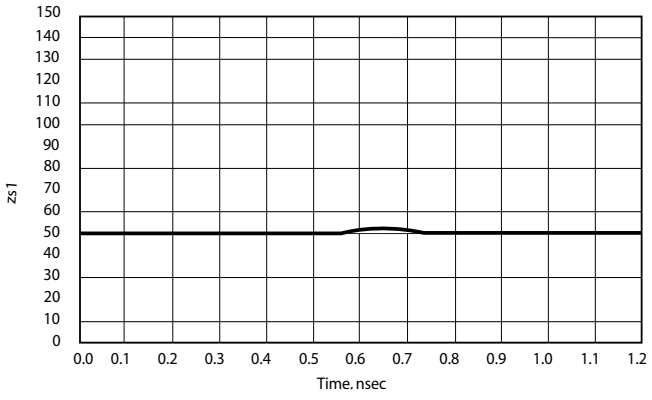


IRC CHC-CC0910B-01-50R0-F Terminator

Impedance Response Data



Ideal 50Ω Terminator
Impedance response to 100psec rising edge

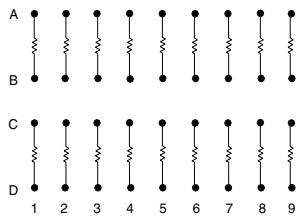


IRC CHC-CC0910B-01-50R0-F Terminator
Impedance response to 100psec rising edge

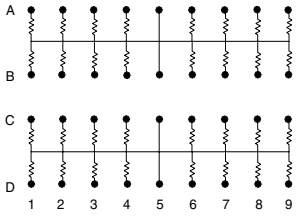
Environmental Data

Environmental Test	Specification	Typical	Maximum
Thermal shock	MIL-PRF-83401	±0.01%	±0.02%
Low temperature operation	MIL-PRF-83401	±0.01%	±0.05%
Short time overload	MIL-PRF-83401	±0.01%	±0.05%
High temperature exposure	MIL-PRF-83401	±0.03%	±0.05%
Effects of solder	MIL-PRF-83401	±0.01%	±0.05%
Moisture resistance	MIL-STD-202, Method 206 65°C, 45% RH, with bias	±0.02%	±0.01%
Life	MIL-PRF-83401	±0.01%	±0.02%

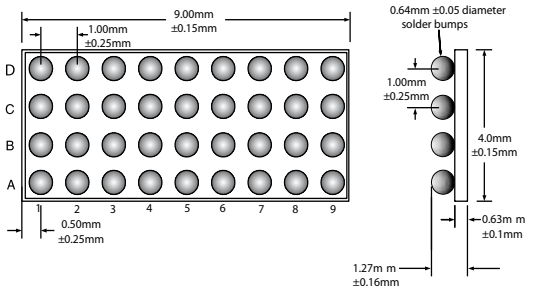
Physical Data and Schematic Diagrams for 1.0mm Pitch Series

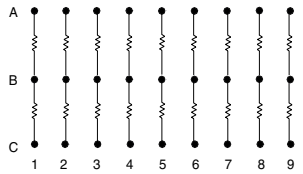


CD0910A isolated schematic
(view from top)

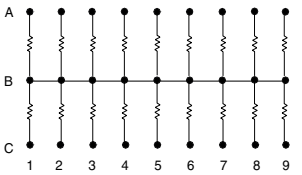


CD0910B bussed schematic
(view from top)

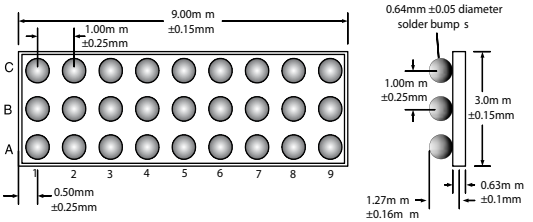




CC0910A isolated schematic
(view from top)

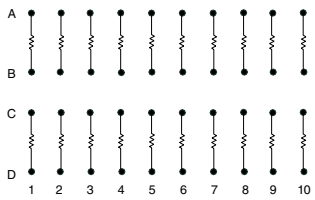


CC0910B bussed schematic
(view from top)

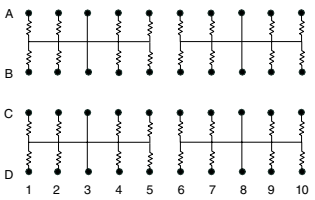


Note: Contact A1 indicator marked with dot on top of part. Coplanarity between solder bumps 0.06mm.

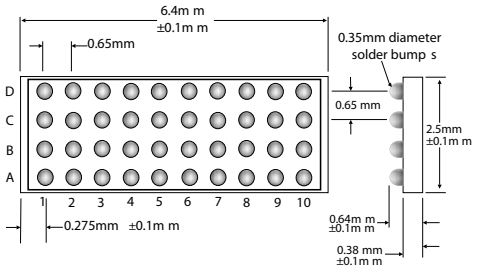
Physical Data and Schematic Diagrams for 0.65mm Pitch Series

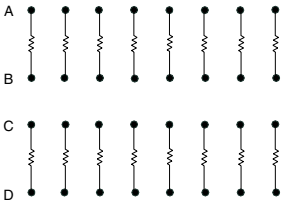


CD1065A isolated schematic
(view from top)

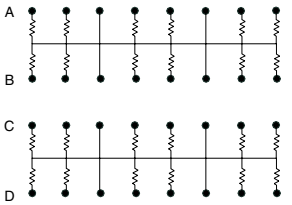


CD1065B bussed schematic
(view from top)

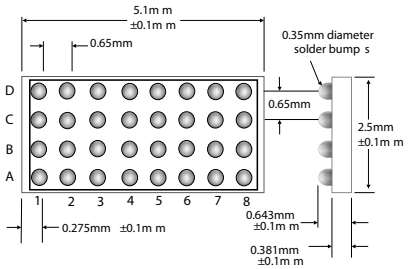


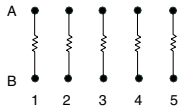


CD0865A isolated schematic
(view from top)

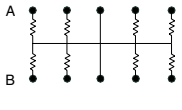


CD0865B bussed schematic
(view from top)

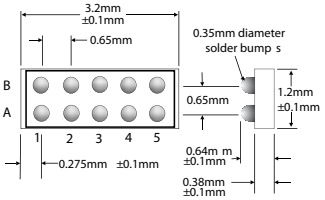




CB0565A isolated schematic
(view from top)



CB0565B bussed schematic
(view from top)



Note: Contact A1 indicator marked with dot on top of part. Coplanarity between solder bumps 0.06mm.

Ordering Data

Prefix ..... CHC - CD0865 A - 01 - 51R1 - J

Model
CB0565 = 2 × 5, 0.65mm pitch array
CD0865 = 4 × 8, 0.65mm pitch array
CD1065 = 4 × 10, 0.65mm pitch array
CC0910 = 3 × 9, 1.0mm pitch array
CD0910 = 4 × 9, 1.0mm pitch array

Schematic
A = Isolated schematic with 60/40 Sn/Pb (0.65mm pitch) or 90/10 Pb/Sn (1.0mm pitch) terminations
ALF = Isolated schematic with RoHS compliant terminations
B = Bussed schematic with 60/40 Sn/Pb (0.65mm pitch) or 90/10 Pb/Sn (1.0mm pitch) terminations
BLF = Bussed schematic with RoHS compliant terminations

Absolute TCR Code
01 = ±100ppm/°C

Four Digit Resistance Code
Standard resistance values
10R0 = 10Ω; 15R0 = 15Ω; 22R0 = 22Ω; 33R0 = 33Ω; 47R0 = 47Ω; 50R0 = 50Ω; 51R1 = 51.1Ω;
75R0 = 75Ω; 1000 = 100Ω; 1001 = 1.00KΩ; 1002 = 10.0KΩ; 2201 = 2.20KΩ; 4701 = 4.70KΩ

Absolute Tolerance Code
J = ±5%; G = ±2%; F = ±1%