

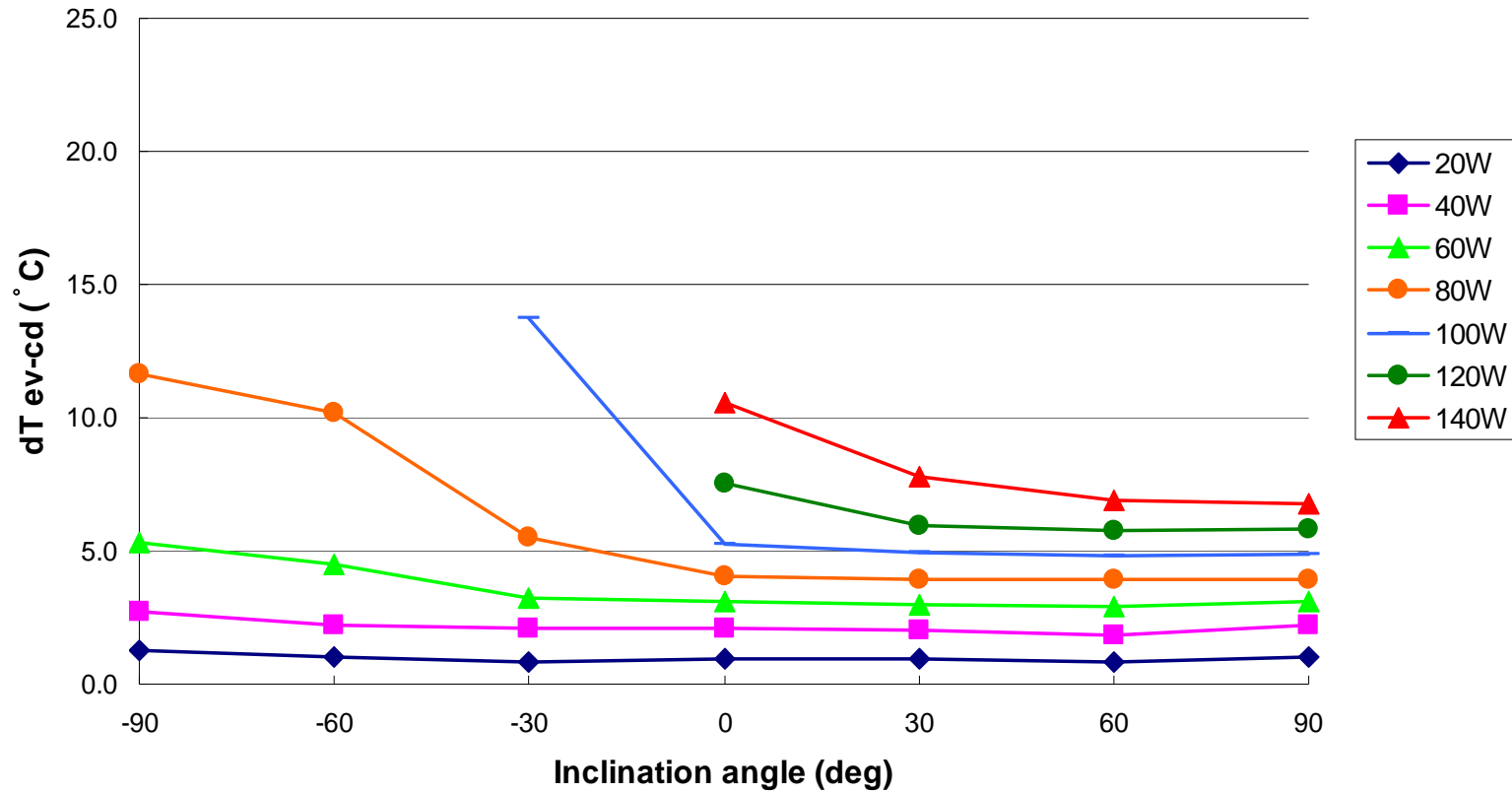
Heat Pipe Test Report

Manufacturer		Enertron					Test conditions				Test date	4/17/2014				
Wick structure/ Working fluid		Sintered Powder Metal/ Water					Effective area (m ²)		7.85E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block					
Pipe specification		C110 Copper 0.3mm wall thickness					Coolant temp (°C)		35							
Diameter		±0.05 mm		10			Contact length of ev/cd (mm)		55							
Length		±0.10 mm		200			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness		±0.05 mm		n/a												
Bend angle		±1 deg		n/a												
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)							
									ev	cd	eb1	eb2	cb1	38		
90	20	25.46	1.00	0.05	36924	1.15	0.06	32108	38.50	37.50	38.50	38.50	37.40	37.30		
	40	50.93	2.20	0.05	33567	2.40	0.06	30770	42.05	39.85	42.10	42.00	39.70	39.60		
	60	76.39	3.10	0.05	35733	3.45	0.06	32108	45.05	41.95	45.00	45.00	41.60	41.50		
	80	101.86	3.93	0.05	37629	4.60	0.06	32108	48.18	44.25	48.10	48.30	43.70	43.50		
	100	127.32	4.90	0.05	37677	5.80	0.06	31831	51.58	46.68	51.50	52.00	46.00	45.90		
	120	152.79	5.80	0.05	38197	6.90	0.06	32108	54.33	48.53	54.40	54.80	47.80	47.60		
	140	178.25	6.80	0.05	38010	8.05	0.06	32108	57.60	50.80	57.70	58.20	50.00	49.80		
60	20	25.46	0.83	0.04	44756	0.95	0.05	38867	38.60	37.78	38.60	38.60	37.70	37.60		
	40	50.93	1.83	0.05	40465	2.30	0.06	32108	41.73	39.90	41.90	41.90	39.70	39.50		
	60	76.39	2.90	0.05	38197	3.40	0.06	32580	44.93	42.03	45.00	45.00	41.70	41.50		
	80	101.86	3.93	0.05	37629	4.50	0.06	32821	47.98	44.05	47.90	48.20	43.60	43.50		
	100	127.32	4.83	0.05	38263	5.65	0.06	32676	51.40	46.58	51.30	51.80	46.00	45.80		
	120	152.79	5.75	0.05	38529	6.75	0.06	32821	54.30	48.55	54.20	54.90	47.90	47.70		
	140	178.25	6.90	0.05	37459	8.25	0.06	31329	57.53	50.63	57.60	58.20	49.80	49.50		
30	20	25.46	0.95	0.05	38867	1.10	0.06	33567	38.65	37.70	38.70	38.70	37.60	37.60		
	40	50.93	2.03	0.05	36468	2.30	0.06	32108	41.93	39.90	42.00	42.00	39.70	39.70		
	60	76.39	2.95	0.05	37550	3.45	0.06	32108	45.15	42.20	45.20	45.30	41.90	41.70		
	80	101.86	3.95	0.05	37391	4.65	0.06	31763	48.25	44.30	48.40	48.50	43.90	43.70		
	100	127.32	4.95	0.05	37297	5.80	0.06	31831	51.65	46.70	51.70	51.90	46.10	45.90		
	120	152.79	5.98	0.05	37078	7.05	0.06	31425	54.60	48.63	54.70	55.10	48.00	47.70		
	140	178.25	7.78	0.06	33243	8.95	0.06	28879	58.73	50.95	58.70	59.40	50.40	49.80		
0	20	25.46	0.95	0.05	38867	1.20	0.06	30770	38.68	37.73	38.80	38.80	37.70	37.50		
	40	50.93	2.08	0.05	35589	2.45	0.06	30142	41.93	39.85	42.10	42.00	39.70	39.50		
	60	76.39	3.13	0.05	35447	3.65	0.06	30348	45.18	42.05	45.20	45.30	41.70	41.50		
	80	101.86	4.03	0.05	36695	4.80	0.06	30770	48.33	44.30	48.40	48.60	43.90	43.50		
	100	127.32	5.28	0.05	34999	5.85	0.06	31559	51.83	46.55	51.90	52.20	46.10	46.30		
	120	152.79	7.55	0.06	29344	8.40	0.07	26374	56.18	48.63	56.20	56.70	48.40	47.70		
	140	178.25	10.60	0.08	24384	11.05	0.08	23391	61.25	50.65	61.60	61.40	50.70	50.20		

Heat Pipe Test Report (cont.)															
Manufacturer			Enertron			Test conditions				Test date		4/17/2014			
Wick structure/ Working fluid			Sintered Powder Metal/ Water			Effective area (m ²)		7.85E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block					
Pipe specification			C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter		±0.05 mm	10		Contact length of ev/cd (mm)		55								
Length		±0.10 mm	200		At 90° the evaporator is directly below the condenser; 0° is horizontal.										
Flatten thickness		±0.05 mm	n/a												
Bend angle		±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
									ev	cd	eb1	eb2	cb1	38	
-30	20	25.46	0.82	0.04	44756	1.05	0.05	35166	38.43	37.60	38.50	38.50	37.60	37.30	
	40	50.93	2.10	0.05	35166	2.40	0.06	30770	41.65	39.55	41.70	41.80	39.50	39.20	
	60	76.39	3.22	0.05	34348	3.75	0.06	29539	44.93	41.70	44.90	45.20	41.50	41.10	
	80	101.86	5.53	0.07	26732	5.95	0.07	24823	49.63	44.10	50.00	49.20	43.90	43.40	
	100	127.32	13.75	0.14	13427	14.40	0.14	12821	59.65	45.90	64.00	56.00	46.40	44.80	
-60	20	25.46	1.03	0.05	36023	1.30	0.06	28403	38.73	37.70	38.80	38.80	37.70	37.30	
	40	50.93	2.20	0.05	33567	2.70	0.07	27351	42.15	39.95	42.20	42.30	39.80	39.30	
	60	76.39	4.50	0.08	24616	4.85	0.08	22840	46.53	42.03	46.90	46.00	42.00	41.20	
	80	101.86	10.20	0.13	14480	11.20	0.14	13187	54.18	43.98	57.30	52.00	44.20	42.70	
-90	20	25.46	1.25	0.06	29539	1.40	0.07	26374	39.03	37.78	39.00	39.00	37.80	37.40	
	40	50.93	2.70	0.07	27351	3.10	0.08	23822	42.68	39.98	42.80	42.60	39.90	39.30	
	60	76.39	5.33	0.09	20802	6.00	0.10	18462	47.33	42.00	48.60	46.40	42.00	41.00	
	80	101.86	11.65	0.15	12678	17.75	0.22	8321	55.40	43.75	69.30	52.70	44.10	42.40	

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 10mm x 200mm sintered powder metal wick / water

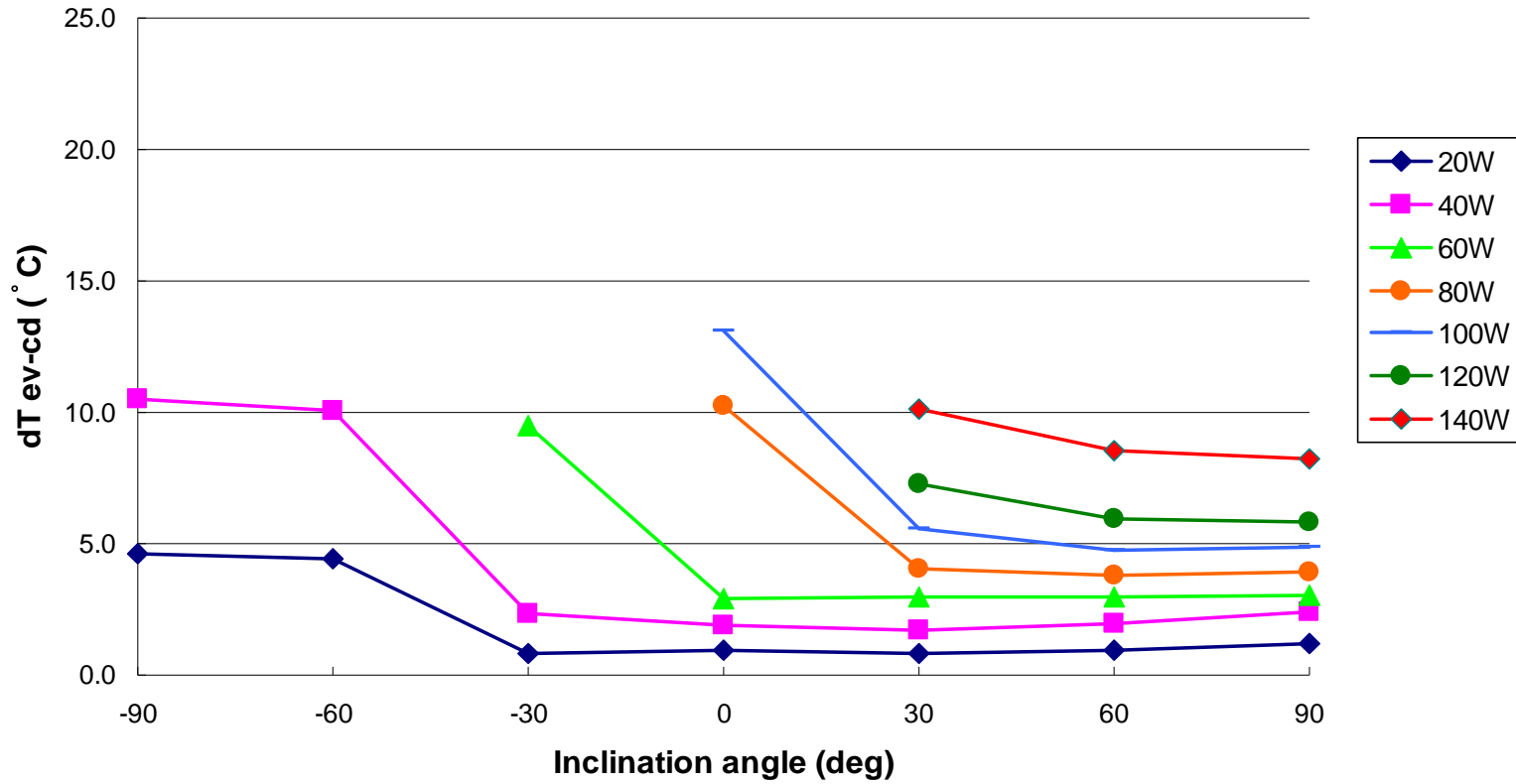


Heat Pipe Test Report

Manufacturer		Enertron					Test conditions			Test date	4/13/2014				
Wick structure/ Working fluid		Sintered Powder Metal/ Water					Effective area (m ²)		7.85E-05	Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block					
Pipe specification		C110 Copper 0.3mm wall thickness					Coolant temp (°C)		35						
Diameter		±0.05 mm	10			Contact length of ev/cd (mm)		55							
Length		±0.10 mm	250			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness		±0.05 mm	n/a												
Bend angle		±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
									ev	cd	eb1	eb2	cb1	38	
90	20	25.46	1.18	0.06	42261	1.40	0.07	35469	39.43	38.25	39.50	39.50	38.40	37.80	
	40	50.93	2.40	0.06	41380	2.65	0.07	37476	43.10	40.70	43.30	43.20	41.00	40.20	
	60	76.39	3.03	0.05	49246	4.00	0.07	37242	46.63	43.60	47.10	47.00	43.60	42.50	
	80	101.86	3.93	0.05	50605	5.20	0.07	38197	50.50	46.58	50.90	51.00	46.50	45.00	
	100	127.32	4.85	0.05	51192	6.35	0.06	39099	53.98	49.13	54.40	54.70	49.10	47.30	
	120	152.79	5.80	0.05	51369	7.85	0.07	37954	57.53	51.73	58.30	58.50	51.60	49.50	
	140	178.25	8.20	0.06	42390	10.65	0.08	32638	63.25	55.05	64.00	64.50	54.60	52.60	
60	20	25.46	0.92	0.05	53683	1.15	0.06	43179	39.15	38.23	39.20	39.20	38.30	37.80	
	40	50.93	1.95	0.05	50930	2.65	0.07	37476	43.08	41.13	43.30	43.40	41.20	40.20	
	60	76.39	3.00	0.05	49656	4.00	0.07	37242	46.63	43.63	47.00	47.00	43.60	42.40	
	80	101.86	3.80	0.05	52270	5.10	0.06	38946	50.35	46.55	50.90	50.80	46.40	45.10	
	100	127.32	4.73	0.05	52546	6.35	0.06	39099	53.88	49.15	54.40	54.70	49.10	47.30	
	120	152.79	5.98	0.05	49864	7.90	0.07	37714	57.65	51.68	58.30	58.60	51.80	49.30	
	140	178.25	8.55	0.06	40654	10.40	0.07	33423	63.03	54.48	63.80	64.40	55.10	52.30	
30	20	25.46	0.82	0.04	60190	0.95	0.05	52270	39.05	38.23	39.10	39.20	38.30	38.10	
	40	50.93	1.73	0.04	57573	2.55	0.06	38946	42.88	41.15	43.00	43.20	41.00	40.10	
	60	76.39	3.20	0.05	46553	3.85	0.06	38693	46.85	43.65	47.00	47.10	43.50	42.90	
	80	101.86	4.08	0.05	48742	5.40	0.07	36782	47.98	43.90	48.40	48.50	43.90	42.20	
	100	127.32	5.58	0.06	44535	7.10	0.07	34969	51.63	46.05	52.10	52.40	46.10	44.20	
	120	152.79	7.28	0.06	40954	8.85	0.07	33665	55.15	47.88	55.70	55.90	47.90	46.00	
	140	178.25	9.05	0.06	38408	11.10	0.08	31315	59.40	50.35	60.20	60.60	50.60	48.00	
0	20	25.46	0.92	0.05	53683	1.20	0.06	41380	37.93	37.00	38.00	38.10	37.00	36.70	
	40	50.93	1.88	0.05	52967	2.50	0.06	39725	41.45	39.58	41.60	41.80	39.70	38.70	
	60	76.39	2.93	0.05	50930	3.95	0.07	37714	44.73	41.80	44.90	45.30	41.80	40.50	
	80	101.86	10.25	0.13	19378	12.15	0.15	16348	54.55	44.30	57.60	53.10	44.70	41.70	
	100	127.32	13.13	0.13	18917	14.45	0.14	17182	59.00	45.88	62.60	56.70	46.60	43.80	
-30	20	25.46	0.82	0.04	60190	1.05	0.05	47292	38.18	37.35	38.10	38.40	37.60	36.80	
	40	50.93	2.33	0.06	42715	2.90	0.07	34246	41.70	39.38	42.00	42.00	39.50	38.70	
	60	76.39	9.50	0.16	15681	10.65	0.18	13988	51.60	42.10	55.30	49.40	42.60	40.80	
-60	20	25.46	4.45	0.22	11159	4.90	0.25	10134	42.35	37.90	43.90	41.40	38.10	37.40	
	40	50.93	10.05	0.25	9882	10.85	0.27	9153	49.88	39.83	53.00	47.80	40.20	38.90	
-90	20	25.46	4.63	0.23	10737	5.15	0.26	9642	42.43	37.80	44.10	41.70	38.20	37.30	
	40	50.93	10.48	0.26	9481	11.45	0.29	8674	50.15	39.68	53.50	48.40	40.30	38.70	

Heat pipe performance (dT vs Inclination angles at various heat loads)

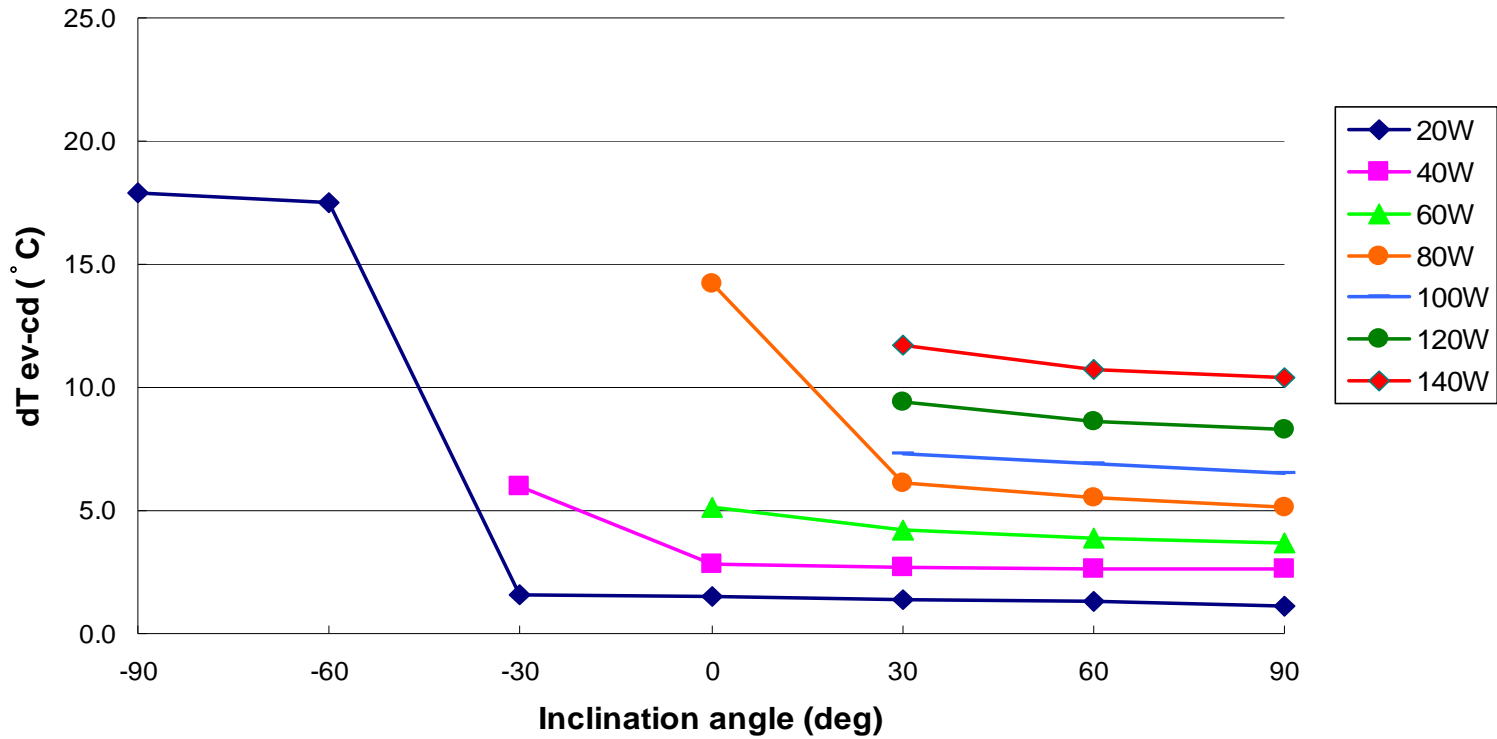
Heat pipe tested: 10mm x 250mm sintered powder metal wick / water



Heat Pipe Test Report															
Manufacturer			Enertron			Test conditions			Test date		4/10/2014				
Wick structure/ Working fluid			Sintered Powder Metal/ Water			Effective area (m ²)		7.85E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block					
Pipe specification			C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter ±0.05 mm			10			Contact length of ev/cd (mm)		55							
Length ±0.10 mm			300			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness ±0.05 mm			n/a												
Bend angle ±1 deg			n/a												
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
									ev	cd	eb1	eb2	cb1	cb2	
90	20	25.46	1.10	0.06	56717	1.20	0.06	51991	38.50	37.40	38.20	38.20	36.80	37.20	
	40	50.93	2.60	0.07	47991	2.65	0.07	47086	42.20	39.60	41.80	42.20	39.20	39.50	
	60	76.39	3.90	0.07	47991	4.10	0.07	45650	45.70	41.80	45.50	45.70	41.20	41.80	
	80	101.86	5.10	0.06	48932	5.45	0.07	45790	48.70	43.60	48.80	49.00	43.10	43.80	
	100	127.32	6.50	0.07	47991	6.90	0.07	45209	52.70	46.20	52.30	53.10	45.70	45.90	
	120	152.79	8.30	0.07	45100	9.40	0.08	39823	57.00	48.70	56.40	57.40	47.40	47.60	
	140	178.25	10.38	0.07	42094	11.55	0.08	37811	61.95	51.58	63.00	61.10	50.30	50.70	
60	20	25.46	1.30	0.07	47991	1.30	0.06	47991	38.60	37.30	38.10	38.40	36.70	37.20	
	40	50.93	2.60	0.07	47991	2.65	0.07	47086	42.00	39.40	41.60	41.80	38.80	39.30	
	60	76.39	3.70	0.06	50585	3.95	0.07	47384	45.40	41.70	45.10	45.30	41.00	41.50	
	80	101.86	4.90	0.06	50930	5.30	0.07	47086	48.70	43.80	48.40	48.70	42.90	43.60	
	100	127.32	6.90	0.07	45209	8.10	0.08	38512	53.20	46.30	52.90	53.50	45.00	45.20	
	120	152.79	8.40	0.07	44563	9.90	0.08	37811	57.00	48.60	56.60	57.40	47.00	47.20	
	140	178.25	10.70	0.08	40815	11.60	0.08	37648	61.95	51.25	63.00	61.00	50.60	50.20	
30	20	25.46	1.40	0.07	44563	1.45	0.07	43027	38.50	37.10	38.20	38.30	36.50	37.10	
	40	50.93	2.70	0.07	46214	2.70	0.07	46214	42.20	39.50	41.80	41.90	38.90	39.40	
	60	76.39	4.00	0.07	46792	4.35	0.07	43027	45.80	41.80	45.70	45.60	41.00	41.60	
	80	101.86	6.10	0.08	40911	6.95	0.09	35907	50.10	44.00	50.00	50.20	43.00	43.30	
	100	127.32	7.30	0.07	42732	8.90	0.09	35050	53.90	46.60	53.80	54.20	45.00	45.20	
	120	152.79	9.40	0.08	39823	10.95	0.09	34186	58.20	48.80	58.00	57.90	46.90	47.10	
	140	178.25	11.70	0.08	37327	12.60	0.09	34660	63.15	51.45	64.90	61.30	50.80	50.20	
0	20	25.46	1.40	0.07	44563	1.65	0.08	37811	38.70	37.30	38.60	38.60	36.70	37.20	
	40	50.93	2.80	0.07	44563	3.25	0.08	38393	42.40	39.60	42.50	42.60	38.90	39.70	
	60	76.39	5.10	0.09	36699	6.50	0.11	28795	48.10	43.00	48.00	47.70	41.00	41.70	
	80	101.86	14.20	0.18	17574	20.23	0.25	12339	60.05	45.85	66.00	60.00	42.65	42.90	
-30	20	25.46	6.00	0.30	10398	6.65	0.33	9382	45.95	39.95	47.60	43.40	38.10	39.60	
	40	50.93	17.50	0.44	7130	18.03	0.45	6922	54.75	37.25	55.85	53.30	36.10	37.00	
-60	20	25.46	17.90	0.90	3485	18.10	0.91	3447	55.15	37.25	56.15	53.35	36.30	37.00	
-90	20	25.46	17.50	0.88	3565	18.03	0.90	3461	63.10	37.58	64.10	61.10	37.40	37.20	

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 10mm x 300mm sintered powder metal wick / water

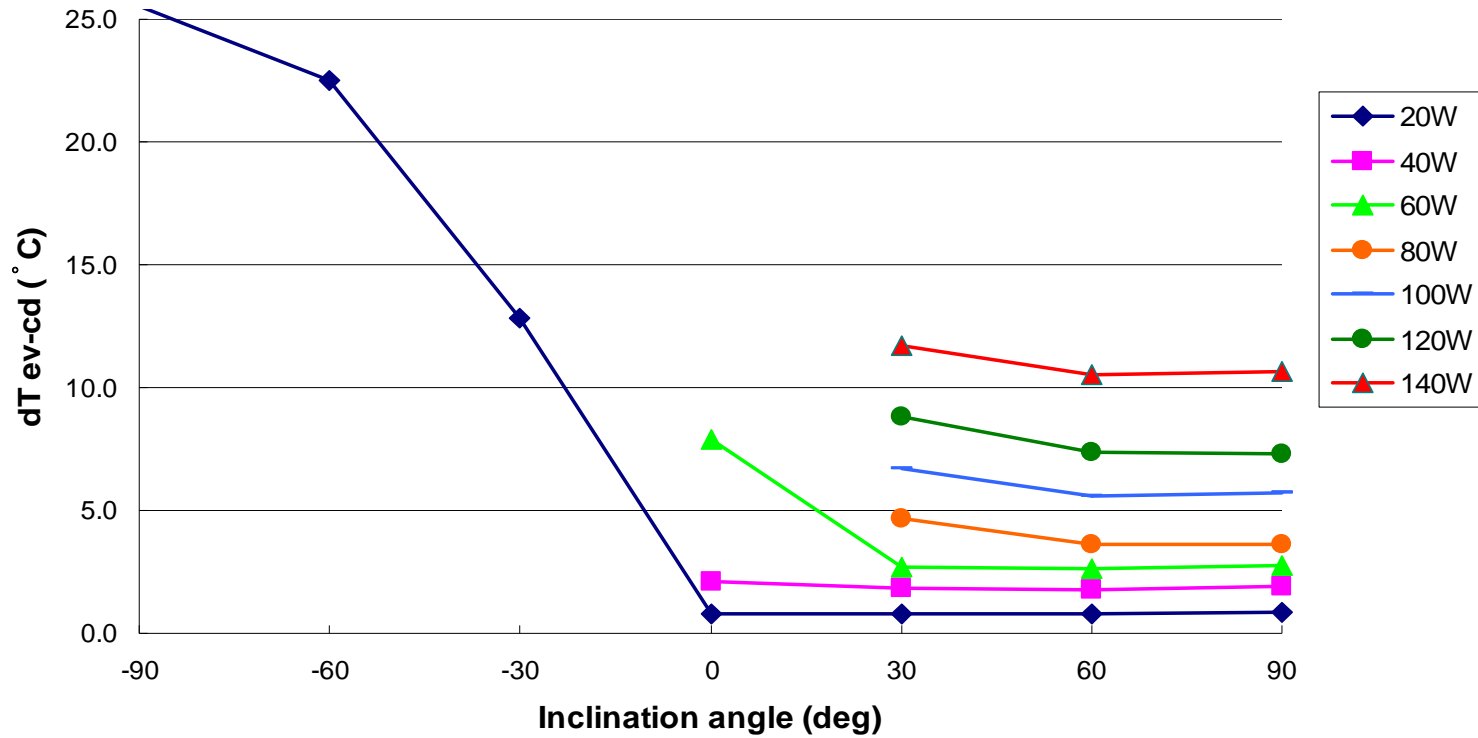


Heat Pipe Test Report

Manufacturer		Enertron					Test conditions			Test date	4/4/2014						
Wick structure/ Working fluid		Sintered Powder Metal/ Water					Effective area (m ²)		7.85E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block						
Pipe specification		C110 Copper 0.3mm wall thickness					Coolant temp (°C)		35								
Diameter		±0.05 mm		10			Contact length of ev/cd (mm)		55								
Length		±0.10 mm		350			At 90° the evaporator is directly below the condenser; 0° is horizontal.										
Flatten thickness		±0.05 mm		n/a													
Bend angle		±1 deg		n/a													
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)								
									ev	cd	eb1	eb2	cb1	cb2			
90	20	25.46	0.88	0.04	85853	1.05	0.05	71544	39.33	38.45	39.40	39.40	38.40	38.30			
	40	50.93	1.88	0.05	80129	2.25	0.06	66774	44.28	42.40	44.40	44.40	42.20	42.10			
	60	76.39	2.75	0.05	81950	3.35	0.06	67273	48.78	46.03	49.00	49.00	45.70	45.60			
	80	101.86	3.63	0.05	82892	4.45	0.06	67525	50.75	47.13	51.00	51.20	46.80	46.50			
	100	127.32	5.75	0.06	65323	6.65	0.07	56482	55.10	49.35	55.30	55.80	48.80	49.00			
	120	152.79	7.28	0.06	61956	8.35	0.07	53979	59.00	51.73	59.60	59.50	51.00	51.40			
	140	178.25	10.68	0.08	49237	11.35	0.08	46330	65.48	54.80	66.40	64.80	53.90	54.60			
60	20	25.46	0.80	0.04	93901	1.00	0.05	75121	39.03	38.23	39.10	39.00	38.20	37.90			
	40	50.93	1.78	0.04	84644	2.10	0.05	71544	43.00	41.23	43.00	43.10	41.10	40.80			
	60	76.39	2.65	0.04	85043	3.25	0.05	69343	46.68	44.03	46.80	47.00	43.80	43.50			
	80	101.86	3.63	0.05	82892	4.50	0.06	66774	50.40	46.78	50.70	50.90	46.50	46.10			
	100	127.32	5.58	0.06	67373	6.55	0.07	57344	54.95	49.38	55.30	55.60	49.00	48.80			
	120	152.79	7.55	0.06	59699	8.55	0.07	52717	57.90	50.35	58.50	58.20	50.00	49.60			
	140	178.25	10.50	0.08	50081	11.15	0.08	47161	63.78	53.28	64.80	62.90	52.90	52.50			
30	20	25.46	0.80	0.04	93901	0.90	0.04	83468	38.88	38.08	38.90	38.80	38.10	37.80			
	40	50.93	1.68	0.04	89697	2.05	0.05	73289	42.45	40.78	42.60	42.60	40.70	40.40			
	60	76.39	2.73	0.05	82702	3.40	0.06	66283	46.15	43.43	46.30	46.50	43.20	42.80			
	80	101.86	4.68	0.06	64275	5.40	0.07	55645	50.40	45.73	50.70	50.70	45.50	45.10			
	100	127.32	6.73	0.07	55852	7.30	0.07	51453	54.63	47.90	55.20	54.30	47.70	47.20			
	120	152.79	8.83	0.07	51074	9.40	0.08	47950	58.75	49.93	59.90	57.80	49.90	49.00			
	140	178.25	11.73	0.08	44848	12.40	0.09	42407	64.48	52.75	66.50	62.60	52.60	51.70			
0	20	25.46	0.78	0.04	96930	0.95	0.05	79075	38.45	37.68	38.50	38.50	37.60	37.50			
	40	50.93	2.08	0.05	72406	2.50	0.06	60097	42.28	40.20	42.40	42.50	40.10	39.80			
	60	76.39	7.90	0.13	28527	8.45	0.14	26670	50.55	42.65	52.90	48.70	43.00	41.70			
-30	20	25.46	12.08	0.60	6221	12.60	0.63	5962	50.00	37.93	51.40	49.30	38.00	37.50			
-60	20	25.46	22.53	1.13	3335	24.00	1.20	3130	60.23	37.70	61.50	61.10	37.40	37.20			
-90	20	25.46	25.53	1.28	2943	25.30	1.27	2969	63.10	37.58	64.10	61.10	37.40	37.20			

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 10mm x 350mm sintered powder metal wick / water



Heat Pipe Test Report

Manufacturer		Enertron			Test conditions				Test date	4/1/2014						
Wick structure/ Working fluid		Sintered Powder Metal/ Water			Effective area (m ²)		7.85E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block							
Pipe specification		C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35									
Diameter		±0.05 mm	10		Contact length of ev/cd (mm)		55									
Length		±0.10 mm		400		At 90° the evaporator is directly below the condenser; 0° is horizontal.										
Flatten thickness		±0.05 mm		n/a												
Bend angle		±1 deg		n/a												
Inclination Angle (°)	Heat Load (W)	Heat Flux (W/cm ²)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)							
									ev	cd	eb1	eb2	cb1	cb2		
90	20	25.46	1.30	0.07	67580	1.55	0.08	56680	39.08	37.78	39.20	39.20	37.60	37.70		
	40	50.93	2.60	0.07	67580	3.05	0.08	57609	43.35	40.75	43.50	43.50	40.40	40.50		
	60	76.39	3.60	0.06	73211	4.20	0.07	62753	47.30	43.70	47.50	47.50	43.20	43.40		
	80	101.86	4.93	0.06	71353	5.55	0.07	63318	52.15	47.23	52.10	52.40	46.50	46.90		
	100	127.32	6.90	0.07	63662	7.50	0.08	58569	56.88	49.98	56.50	57.20	48.70	50.00		
	120	152.79	8.70	0.07	60589	9.40	0.08	56077	61.53	52.83	61.60	61.50	51.40	52.90		
	140	178.25	12.28	0.09	50100	13.55	0.10	45386	68.65	56.38	70.00	68.00	54.50	56.40		
60	20	25.46	1.15	0.06	76394	1.45	0.07	60589	39.33	38.18	39.50	39.50	38.00	38.10		
	40	50.93	2.43	0.06	72457	2.90	0.07	60589	43.83	41.40	44.00	44.00	41.10	41.10		
	60	76.39	3.50	0.06	75303	4.15	0.07	63509	47.70	44.20	47.90	47.90	43.70	43.80		
	80	101.86	5.23	0.07	67256	5.85	0.07	60071	52.25	47.03	52.20	52.60	46.40	46.70		
	100	127.32	6.70	0.07	65562	7.35	0.07	59764	55.90	49.20	55.70	56.20	48.40	48.80		
	120	152.79	8.43	0.07	62566	9.10	0.08	57925	60.18	51.75	60.30	60.10	50.80	51.40		
	140	178.25	11.20	0.08	54908	12.00	0.09	51248	66.43	55.23	67.00	66.00	54.20	54.80		
30	20	25.46	1.05	0.05	83670	1.15	0.06	76394	39.23	38.18	39.30	39.10	38.10	38.00		
	40	50.93	2.38	0.06	73982	2.75	0.07	63893	43.35	40.98	43.80	43.80	41.40	40.70		
	60	76.39	4.10	0.07	64283	4.55	0.08	57925	47.95	43.85	48.00	48.10	43.50	43.50		
	80	101.86	5.58	0.07	63034	6.05	0.08	58085	52.05	46.48	51.90	52.30	46.00	46.10		
	100	127.32	7.40	0.07	59360	7.95	0.08	55254	56.65	49.25	57.00	56.40	48.70	48.80		
	120	152.79	9.73	0.08	54203	10.30	0.09	51177	61.25	51.53	62.00	60.50	50.90	51.00		
	140	178.25	12.65	0.09	48615	13.50	0.10	45554	67.68	55.03	70.00	65.60	54.30	54.30		
0	20	25.46	1.13	0.06	78092	1.40	0.07	62753	39.40	38.28	39.40	39.60	38.10	38.10		
	40	50.93	3.65	0.09	48139	4.00	0.10	43927	44.55	40.90	44.60	44.70	41.00	40.30		
	60	76.39	23.33	0.39	11299	24.25	0.40	10868	65.93	42.60	70.00	63.00	42.80	41.70		
-30	20	25.46	12.73	0.64	6904	13.25	0.66	6630	50.55	37.83	51.80	50.00	38.10	37.20		
-60	20	25.46	30.20	1.51	2909	30.95	1.55	2839	67.18	36.98	68.00	67.00	37.10	36.00		

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 10mm x 400mm sintered powder metal wick / water

