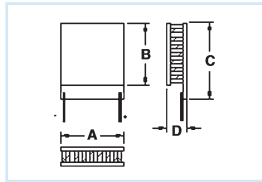


PolarTEC™

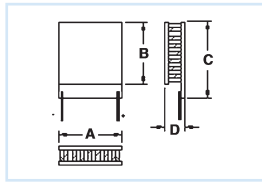
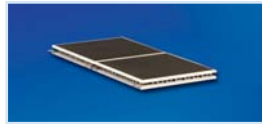
- Porch-style ceramic for increased heat dissipation
- Strong porch-style lead attachments
- Full range of size, power, and cooling capacities



PART NO.	Th=25°C				N	DIMENSIONS				WIRE (152mm)
	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	ΔTMAX (°C)		A	B	C	D	
PT6,7,F2,3030,TA,W6	29	6.0	8.1	65	71	30	30	34	3.8	18 AWG
PT4,12,F2,3030,TA,W6	33	3.9	14.4	65	127	30	30	34	3.2	24 AWG
PT4,12,F2,4040,TA,W6	32	3.7	14.4	67	127	40	40	44	4.1	18 AWG
PT6,12,F2,4040,TA,W6	52	6.0	14.4	65	127	40	40	44	3.8	18 AWG
PT8,12,F2,4040,TA,W6	72	8.5	14.4	64	127	40	40	44	3.3	18 AWG

UltraTEC™

- High heat-pumping capacity within small surface area
- High efficiency
- Strong, porch-style lead attachment
- Increased temperature differences (DT)
- Large hot side ceramic for extra heat dissipation

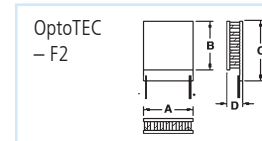
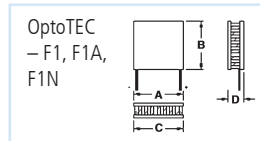
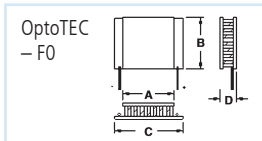
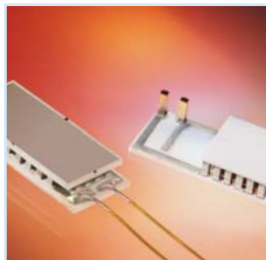


PART NO.	Th=25°C				N	DIMENSIONS				WIRE (152mm)
	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	ΔTMAX (°C)		A	B	C	D ⁽²⁾	
UT8,12,F2,3030,TA,W6	69	7.9	14.4	69	127	30	30	34	2.6	20 AWG
UT11,12,F2,3030,TA,W6	95	11.0	14.4	69	127	30	30	34	2.4	22 AWG
UT15,12,F2,4040,TA,W6	126	14.6	14.4	69	127	40	40	44	2.8	20 AWG

OptoTEC™

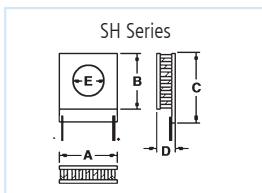
- Pb-free construction solders up to 271°C; pre-tinning available for packaging temperatures ranging from 93°C - 232°C
- Aluminum Nitride, Alumina or Beryllia
- Custom sizes, power densities, and ceramic patterns
- Wire bondable posts, metallized pads, and wires

INTERNAL SOLDERING TEMP.			PART NO.	Th=25°C					Th=75°C					DIMENSIONS					
138	232	271		QMAX ⁽¹⁾	IMAX	VMAX	ΔTMAX (°C)			QMAX ⁽¹⁾	VMAX	ΔTMAX (°C)			N	A	B	C	D ₁
OT	-	-	08,04,F0,0203,11,W2.25	0.22	0.8	0.5	67	-	-	0.24	0.57	84	-	-	4	1.8	3.4	3.4	2.4
OT	-	-	08,08,F0,0305,11,W2.25	0.44	0.8	0.9	67	-	-	0.49	1.12	84	-	-	8	3.3	3.3	4.9	2.4
OT	-	-	08,18,F2,0505,11,W2.25	0.97	0.8	2.2	67	-	-	1.09	2.59	84	-	-	18	5	5	6.7	2.4
OT	-	-	12,12,F0,0406,11,W2.25	0.97	1.2	1.5	67	-	-	1.09	1.72	84	-	-	12	4.2	6.2	6.2	2.7
OT	-	HOT	12,18,F2A,0606,11,W2.25	1.46	1.2	2.1	67	-	64	1.72	2.50	84	-	81	18	6.0	6.2	7.2	2.7
OT	-	-	08,32,F2,0707,11,W2.25	1.72	0.8	3.9	67	-	-	1.95	4.60	84	-	-	32	6.6	6.6	8.3	2.4
OT	-	-	15,30,F2A,0610,11,W2.25	3.03	1.5	3.6	67	-	-	3.50	4.2	84	-	-	30	6.2	10.3	12.3	2.1
OT	-	-	08,66,F0,1009,11,W2.25	3.60	0.8	7.9	67	-	-	4.4	9.2	84	-	-	66	9.8	8.9	11.4	2.4
OT	ET	-	20,30,F2A,0610,11,W2.25	4.0	2.0	3.6	67	67	-	4.7	4.2	84	84	-	30	6.2	10.3	12.3	1.8
-	-	HOT	20,31,F2A,0909,11,W2.25	4.2	2.0	3.5	-	-	64	4.7	4.5	-	-	81	31	8.8	8.8	11.0	2.2
-	ET	-	20,31,F1A,0909,11,W2.25	4.2	2.0	3.5	-	67	-	4.7	4.5	-	84	-	31	8.8	8.8	8.8	2.2
-	ET	-	19,35,F1N,0612,11,W2.25**	4.64	1.9	4.2	-	65	-	5.28	4.9	-	81	-	35	6.0	12.2	6.0	-
-	-	HOT	12,65,F2A,1312,11,W2.25	5.34	1.2	7.8	-	-	64	5.9	9.3	-	-	81	65	13.2	12.1	13.2	2.7
OT	-	-	15,66,F0,1211,11,W2.25	6.7	1.5	8.0	67	-	-	7.5	9.5	84	-	-	66	12.3	11.3	14.4	2.4
-	-	HOT	20,65,F2A,1312,11,W2.25	8.76	2.0	7.8	-	-	64	9.90	9.3	-	-	81	65	13.2	12.1	13.2	2.2
OT	-	-	20,66,F0,1211,11,W2.25	8.80	2.0	7.8	67	-	-	10.0	9.5	84	-	-	66	12.1	11.1	14.2	2.5



Center Hole

- Features center hole for transmission of light, wires, probes or other hardware through the TEC
- Round or square configurations available

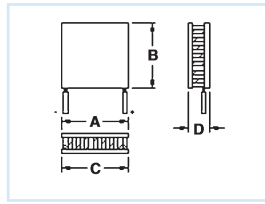


PART NO.	Th=25°C				N	DIMENSIONS				
	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	ΔTMAX (°C)		A	B	C	D ⁽²⁾	E
RH14,14,10,L1,W4.5	3.7	3.9	1.7	68	14	26	26	26	4.7	14.0
RH14,14,06,L1,W4.5	5.7	6.0	1.7	67	14	26	26	26	3.8	14.0
RH14,32,06,L1,W4.5	12.9	6.0	3.9	67	32	44	55	55	3.8	27.0
SH10,23,06,L1,W4.5	4.7	3.0	2.8	67	23	15	15	15	3.6	7.2
SH08,28,05,L1,W4.5	4.9	2.6	3.9	67	28	14.7	10.3	14.7	3.1	4.4
SH10,125,05,L1,W4.5	32.9	3.9	15.2	67	125	30	30	30	3.2	3.6
SH14,125,10,L1,W4.5	32.9	3.9	15.2	68	125	40	40	40	4.7	4.7
SH14,125,06,L1,W4.5	50.7	6.0	15.2	67	125	40	40	40	3.8	4.7
SH14,125,045,L1,W4.5	67.7	8.5	15.2	65	125	40	40	40	3.3	4.7

Notes: 1) QMax rated value at $\Delta T = 0^\circ$, Imax and Vmax, Th = 25°C; 2) Thickness for non-metallized versions only. All modules are lead-free. For wiring options contact Laird Technologies.

CP Series

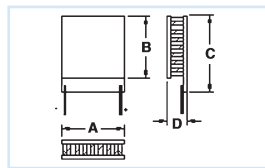
- Low-cost, high-performance
- Designed for higher current, larger heat pumping applications
- Standard for consumer product and industrial cooling
- Ideal for instrumentation, consumer applications, commercial, and military applications



PART NO.	Th=25°C				N	DIMENSIONS (mm)			
	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	ΔTMAX (°C)		A	B	C	D ⁽²⁾
CP08,31,06,L1,W4.5	4.4	2.1	3.8	67	31	12	12	12	3.4
CP10,31,08,L1,W4.5	5.3	2.5	3.8	67	31	15	15	15	4
CP10,31,05,L1,W4.5	8.2	3.9	3.8	67	31	15	15	15	3.2
CP08,63,06,L1,W4.5	9	2.1	7.6	67	63	12	25	12	3.4
CP10,63,06,L1,W4.5	12.7	3	7.6	67	63	15	30	15	3.6
CP10,71,06,L,W4.5	14.4	3	8.6	67	71	23	23	23	3.6
CP10,63,05,L1,W4.5	16.6	3.9	7.6	67	63	15	30	15	3.2
CP08,127,06,L1,W4.5	18.1	2.1	15.4	67	127	25	25	25	3.4
CP14,35,045,L1,W4.5	19	8.5	4.2	65	35	15	30	15	3.3
CP10,127,08,L1,W4.5	21.4	2.5	15.4	67	127	30	30	30	4
CP10,127,06,L1,W4.5	25.7	3	15.4	67	127	30	30	30	3.6
CP14,71,06,L1,W4.5	28.7	6	8.6	67	71	30	30	30	3.8
CP10,127,05,L1,W4.5	33.4	3.9	15.4	67	127	30	30	30	3.2
CP14,71,045,L1,W4.5	38.5	8.5	8.6	65	71	30	30	30	3.3
CP14,127,06,L1,W4.5	51.4	6	15.4	67	127	40	40	40	3.8

ThermaTEC™

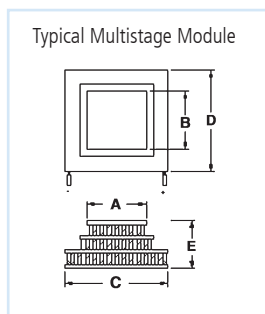
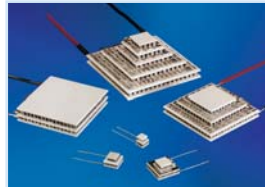
- High-temperature cooling
- Unique patented technology works up to +225°C
 - Full range of size, power, and cooling capacities
 - Superior cycling capacity
 - Solid state reliability
 - Strong, porch-style lead attachment
 - Generates power from waste heat



PART NO.	Th=25°C				N	DIMENSIONS (mm)			
	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	ΔTMAX (°C)		A	B	C	D ⁽²⁾
HT4,6,F2,2143,TA,W6	16.0	3.7	7.2	64	63	21	38	43	4.1
HT4,7,F2,3030,TA,W6	18.0	3.7	8.1	67	71	30	30	34	4.1
HT2,12,F2,3030,TA,W6	20.0	2.3	14.4	63	127	30	30	34	3.6
HT9,3,F2,2525,11,TA,W6	20.0	9.6	3.6	66	31	25	25	29	4.9
HT3,12,F2,3030,TA,W6	24.0	2.8	14.4	63	127	30	30	34	3.2
HT4,12,F2,4040,TA,W6	32.0	3.7	14.4	64	127	40	40	44	4.1
HT4,12,F2,3030,TA,W6	33.0	3.9	14.4	63	127	30	30	34	3.2
HT8,7,F2,3030,TA,W6	39.0	8.5	8.1	63	71	30	30	34	3.3
HT6,12,F2,4040,TA,W6	51.0	6.0	14.4	63	127	40	40	44	3.6
HT8,12,F2,4040,TA,W6	72.0	8.5	14.4	63	127	40	40	44	3.3

Multi-stage

- Ideal for large temperature differentials (ΔT) up to 131°C
- Standard designs meet most multi-stage requirements
- Custom designs available to meet any multi-stage application



PART NO.	Th=25°C				DIMENSIONS (mm)				
	ΔTMAX (°C)	QMAX ⁽¹⁾ (WATTS)	IMAX (AMPS)	VMAX (VOLTS)	A	B	C	D	E ⁽²⁾
MS2,010,06,06,11,11,11,W8	92	0.35	1.1	0.9	3.2	3.2	3.9	3.9	4.2
MS2,024,06,06,11,11,11,W8	92	0.81	1.1	2.2	4.1	4.1	6.1	6.1	4.6
MS2,049,10,10,15,15,11,W8	87	3.4	2.1	3.8	11.5	11.5	15	15	6.6
MS2,049,14,14,15,15,11,W8	87	6.6	4.0	3.8	15	15	20	20	7.2
MS2,107,10,10,12,12,11,W8	89	9.2	3	9.2	22.6	22.6	22.6	22.6	6.25
MS2,190,10,10,12,12,11,W8	87	16.4	2.8	15.7	30	30	30	30	6.5
MS2,192,14,20,11,18,11,W8	87	39.9	6.7	15.6	40	40	40	40	8.1
MS2,192,14,20,15,25,11,W8	88	27.3	4.4	16	40	40	40	40	8.1
MS3,070,20,25,11,W8	118	3	6.5	6.5	14	8	36	36	16
MS3,119,14,15,11,W8	100	7.5	3.9	8	15	15	30	30	10.4
MS3,119,20,15,11,W8	100	14.9	8	8.2	22	22	44	44	12.9
MS3,231,10,15,11,W8	104	6.9	1.9	15.5	15	15	30	30	9.5
MS4,115,14,15,11,W8	122	2.6	3.5	7.6	14.5	4.5	33	24	13.8
MS4,129,10,15,11,W8	115	1.9	1.8	8.2	8	8	23	23	12.5
MS5,257,10,15,11,W8	123	2	1.5	14.5	8	8	30	30	15.4

Notes: 1) QMax rated value at ΔT = 0°, Imax and Vmax, Th = 25°C; 2) Thickness for non-metallized versions only. All modules are lead-free. For wiring options contact Laird Technologies.

