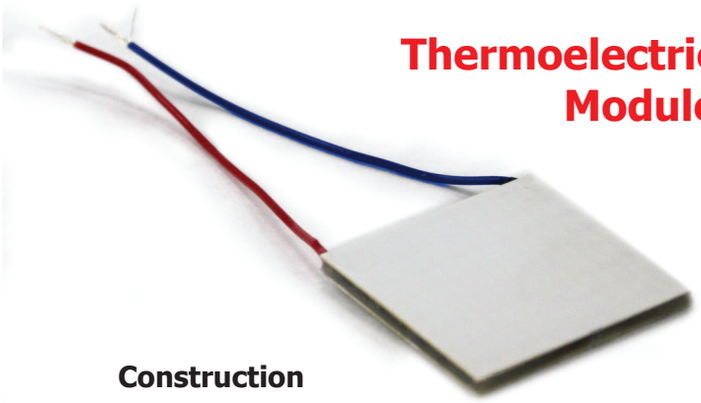
Thermoelectric Module



The thermoelectric Module (TEM) is a solid semiconductor thermoelectric device. Its operation is based on the Peltier effect. For containers of limited dimensions TEM provides and maintains volume temperature below ambient temperature.

Construction

N- and P-type semiconductor elements are connected in a specific sequence and soldered between two ceramic plates. Direct voltage, applied to the TEM's leads, provides heat absorption on the surface of one of the ceramic plates and heat emanation at the opposite plate. Thus, the effect of heat pump is achieved. The temperature difference between the opposite sides of TEM may reach up to 70 °C.

Type	Paramertres					Thick-ness, mm
	I_{max}, A	U_{max}, B	Q_{max}, W	ΔT_{max}, K	R, Ом	
One stage TEMs						
TEM 31-1,4-1,6 20,0 x 20,0	6	4	≥13	≥70	0,5	3,4
TEM 71-1,4-1,6 30,0 x 30,0	6	9	≥29	≥70	1,2	3,4
TEM 127-1,4-1,6 38,0 x 38,0	6	16	≥53	≥70	2,2	3,4
TEM 127-1,4-1,6 40,0 x 40,0	6	16	≥53	≥70	2,2	4,0
TEM 2 x 63-1,4-1,6* 40,0 x 40,0	6	8 x 2	≥27,0x2	≥70	1,1	3,4
TEM 199-1,4-1,6 50,0 x 50,0	6	25	≥84	≥70	3,5	3,4
TEM 127-2,0-1,2 51,0 x 51,0	16	16	≥148	≥69	0,8	3,1
ТЭМ 127-1,0-1,2 30,0 x 30,0	3,6	14,2	≥34	≥70	3,2	3,1
ТЭМ 127-1,0-1,6 30,0 x 30,0	2,6	13,5	≥25	≥70	4,3	3,5
ТЭМ 127-1,0-2,0 30,0 x 30,0	2,1	13,2	≥20	≥70	5,4	3,9
ТЭМ 127-1,0-2,5 30,0 x 30,0	1,6	12,2	≥16	≥70	6,7	4,4
ТЭМ 127-1,4-1,2 40,0 x 40,0	7,1	14,5	≥67	≥70	1,7	3,6
ТЭМ 127-1,4-2,5 40,0 x 40,0	3,6	15,0	≥33	≥70	3,4	4,9
ТЭМ 241-1,0-1,6 40,0 x 40,0	2,6	26,0	≥48	≥70	8,2	3,5
ТЭМ 161-1,2-1,5 40,0 x 40,0	4,1	18,0	≥50	≥70	3,6	3,4
ТЭМ 199-1,4-1,2 50,0 x 50,0	7,1	22,5	≥100	≥70	2,6	3,1
ТЭМ 127-2,0-1,6 51,0 x 51,0	11,1	14,5	≥100	≥70	1,1	3,4
ТЭМ 72-3,0-1,4 51,0 x 51,0	11,6	3,5	≥85	≥50	0,24	4,15
ТЭМ 219-1,4-1,6 54,0 x 54,0	5,6	26,0	≥89	≥70	3,93	3,5
ТЭМ 241-1,4-1,2 54,4 x 54,4	7,1	27,5	≥120	≥70	3,1	3,1
Two stage TEMs						
2TEM 72/127-2 40,0 x 40,0	5	16	≥34	≥70	2,6	7,3
2TEM 128/127-1 40,0 x 40,0	6	16	≥35	≥70	2,4	7,1
2TEM 72/127-3 40,0 x 40,0	7,5	20	≥36	≥70	2,0	7,8

RIF Corporation manufactures according to your request a TEM having heat transfer surfaces from 20x20mm^2 up to 51x51mm^2 with the current maximum from 2 up to 100A and a maximum ΔT of about 70 K.