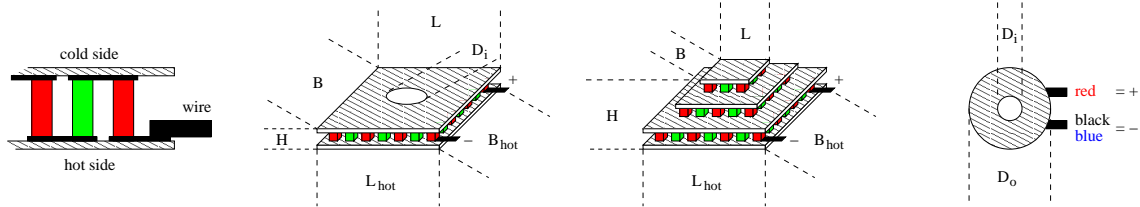


TEC1S-20-20-23/78

industrial standard peltier element



thermal and electrical data:

thermal force:

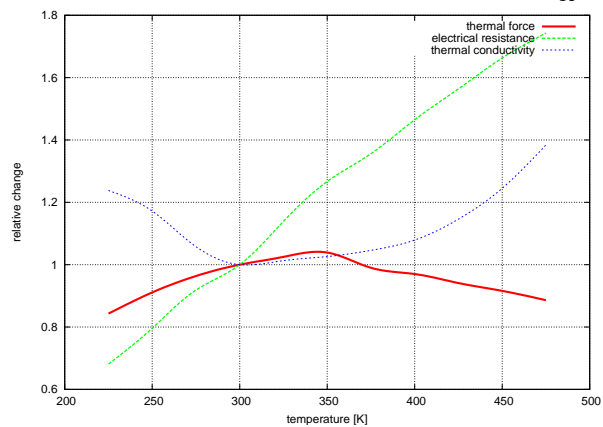
$$\alpha_{300K} = 0.0127 \frac{V}{K}$$

resistance:

$$\rho_{300K} = 0.370 \Omega$$

thermal conductivity:

$$\gamma_{300K} = 0.169 \frac{W}{K}$$



available maximum operating temperatures: T_{max} 80, 120, 150(non-ROHS!), 200 °C
 typical tolerances: $\pm 5\%$

mechanical data:

size of cold side:

$$L \times B \times H = 20.0 \times 20.0 \times 3.40 \text{ mm}$$

size of hot side:

$$L_{hot} \times B_{hot} = 20.0 \times 20.0 \text{ mm}$$

height tolerance:

$$\Delta H = \pm 0.25 \text{ mm}$$

length and width tolerances:

$$\Delta L \text{ and } \Delta B = +0.5 / -0.2 \text{ mm}$$

weight:

$$m = 7 \text{ g}$$

ceramic plates:

BK-100 (grey), BK-96 (white) or AlN (opaque)

location of production:

Russia

experimental data:

typical values at:

		$T_h = 50^\circ C:$	$T_h = 300 K:$
maximum cooling power:	Q_{max}	22.8 W	19.7 W
	at $\Delta T = 0$ and $I_{Q_{max}}$	11.1 A	10.3 A
maximum temperature difference:	ΔT_{max}	77.8 K	69.0 K
	at $Q = 0$ and $I_{\Delta T_{max}}$	8.4 A	7.9 A
	U_{max}	4.1 V	3.8 V

order information:

TEC1S-20-20-23/78-B: max. 80°C
 TEC1S-20-20-23/78-C: max. 120°C
 TEC1S-20-20-23/78-D: max. 150°C
 TEC1S-20-20-23/78-G: max. 200°C

TEC1S-20-20-23/78-BS: sealed, max. 80°C
 TEC1S-20-20-23/78-CS: sealed, max. 120°C
 TEC1S-20-20-23/78-DS: sealed, max. 150°C
 TEC1S-20-20-23/78-GS: sealed, max. 200°C