

1.9

$$L = 2 \text{ mm}$$

$$t = 40 \mu\text{s}$$

$$C = 6,28 \text{ C}$$

$J = ?$

$$J = \frac{I}{S}$$

$$S = \left(\frac{1}{2} L\right)^2 \pi$$

$$I = \frac{Q}{t}$$

~~Q = I \cdot t~~

$$I = \frac{6,28 \text{ C}}{40 \mu\text{s}} = 0,157 \text{ A}$$

$$S = \left(\frac{1}{2} \cdot 2 \text{ mm}\right)^2 \pi = 3,1415 \text{ mm}^2$$

$$J = \frac{0,157 \text{ A}}{3,1415 \text{ mm}^2} = \frac{0,157 \text{ A}}{0,0031415 \text{ m}^2} = \frac{157 \text{ A}}{0,0031415 \text{ m}^2} =$$

$$= 49976 \text{ A/m}^2 \approx 5 \cdot 10^4 \text{ A/m}^2$$