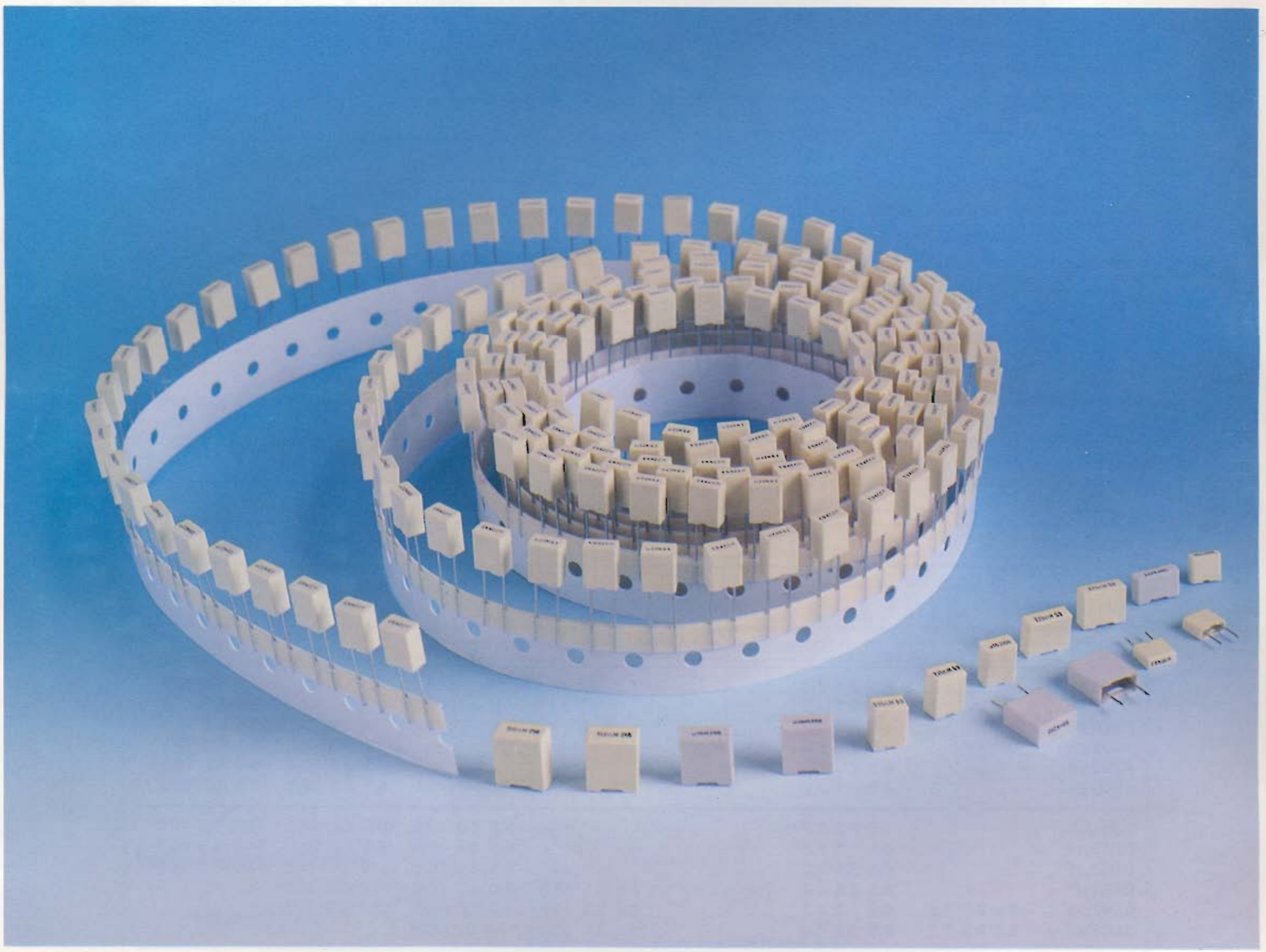
Metallized polyester film capacitors



TESLA Lanškroun, a.s.

MKT Capacitors TC 350 - TC 356

Application

In electronic equipment where components are mounted close to each other. The capacitors satisfy the IEC Publ. 384 - 2.

Description

Capacitors made from metallized polyester film are placed inside a rectangular case from a self - extinguishing material. Epoxide resin sealing. These capacitors feature a depressed inductance and a self - healing effect. Tinned copper leads. The marking is placed on the upper side of the case. Capacitors are packed in boxes (marking TC 35.) or on tape (marking TC 35.T).

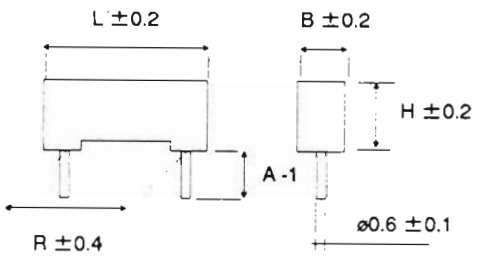
Electrical properties

Nominal capacitance	See table
Tolerance on nominal capacitance:	± 20% , ± 10 % , ± 5 % .
IEC - Category:	55/100/56
Dissipation factor (tg δ) measured at 1 kHz:	≤0.008
Category voltage: up to +85 °C:	$U_C = 1.0\ U_n$
at +100 °C:	$U_C = 0.8 U_n$

Nominal capacitance and dimensions

Type	TC 350	TC 351	TC 352	TC 353	TC 354	TC 355	TC356
U_n [V-]	63	100	63	100	250	400	630
U_{max}[V_{rms}]	40	63	40	63	160	200	220
Pitch R[mm]	5	5	7.5	7.5	7.5	7.5	7.5
C_n	Dimensions H x B x L [mm]						
1 000 pF		6.5 2.5 7.2					6.5 3.5 10.5
1 500 pF		6.5 2.5 7.2					6.5 3.5 10.5
2 200 pF		6.5 2.5 7.2					6.5 3.5 10.5
3 300 pF		6.5 2.5 7.2					6.5 3.5 10.5
4 700 pF		6.5 2.5 7.2				6.5 3.5 10.5	9.0 4.0 10.5
6 800 pF		6.5 2.5 7.2				6.5 3.5 10.5	9.0 4.0 10.5
0.01 µF		6.5 2.5 7.2			6.5 3.5 10.5	9.0 4.0 10.5	11.0 5.0 10.5
0.015 µF		6.5 2.5 7.2			6.5 3.5 10.5	9.0 4.0 10.5	12.0 6.0 10.5
0.022 µF		6.5 2.5 7.2			6.5 3.5 10.5	11.0 5.0 10.5	12.0 6.0 10.5
0.033 µF		6.5 2.5 7.2		6.5 3.5 10.5	9.0 4.0 10.5	11.0 5.0 10.5	
0.047 µF	6.5 2.5 7.2	6.5 3.0 7.2		6.5 3.5 10.5	9.0 4.0 10.5	12.0 6.0 10.5	
0.068 µF	6.5 2.5 7.2	8.5 3.5 7.2		6.5 3.5 10.5	11.0 5.0 10.5		
0.1 µF	6.5 3.0 7.2	8.5 3.5 7.2	6.5 3.5 10.5	9.0 4.0 10.5	11.0 5.0 10.5		
0.15 µF	8.5 3.5 7.2	9.5 4.5 7.2	6.5 3.5 10.5	9.0 4.0 10.5	12.0 6.0 10.5		
0.22 µF	8.5 3.5 7.2	10.0 5.0 7.2	9.0 4.0 10.5	9.0 4.0 10.5			
0.33 µF	9.5 4.5 7.2	11.0 6.0 7.2	9.0 4.0 10.5	11.0 5.0 10.5			
0.47 µF	11.0 6.0 7.2		11.0 5.0 10.5	12.0 6.0 10.5			
0.68 µF	11.0 6.0 7.2		11.0 5.0 10.5				
1.0 µF			12.0 6.0 10.5				

Note: The capacitors can be produced in range E12



Lead length:

A = 6 mm - packed in boxes
A = 18 mm - packed on tape.

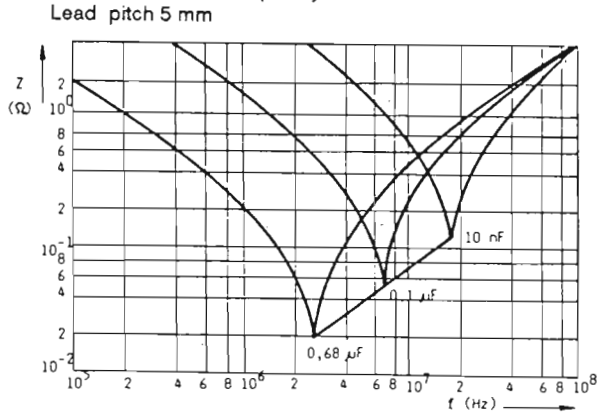
Insulation resistance, time constant between terminals (+20 °C)

Type	TC350-TC353	TC354-TC356
U_n [V_{dc}]	63,100	250 ... 630
C_n [μF]	Ris[Ω], τ[s] min.	
≤ 0.33	15000 MΩ	30000 MΩ
>0.33	5000 s	10000 s

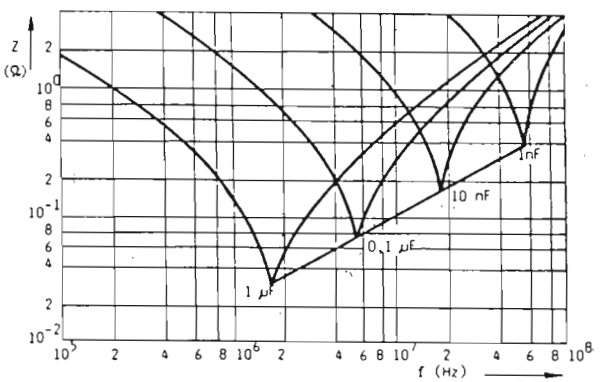
Pulse rise time (typical)

Lead pitch R[mm]		5	7.5
Type	U_n[Vdc]	(du/dt)max. [V/μs]	
TC 350	63	8	
TC 351	100	10	
TC 352	63		5
TC 353	100		6
TC 354	250		15
TC 355	400		30
TC 356	630		40

Impedance versus frequency.
Lead pitch 5 mm



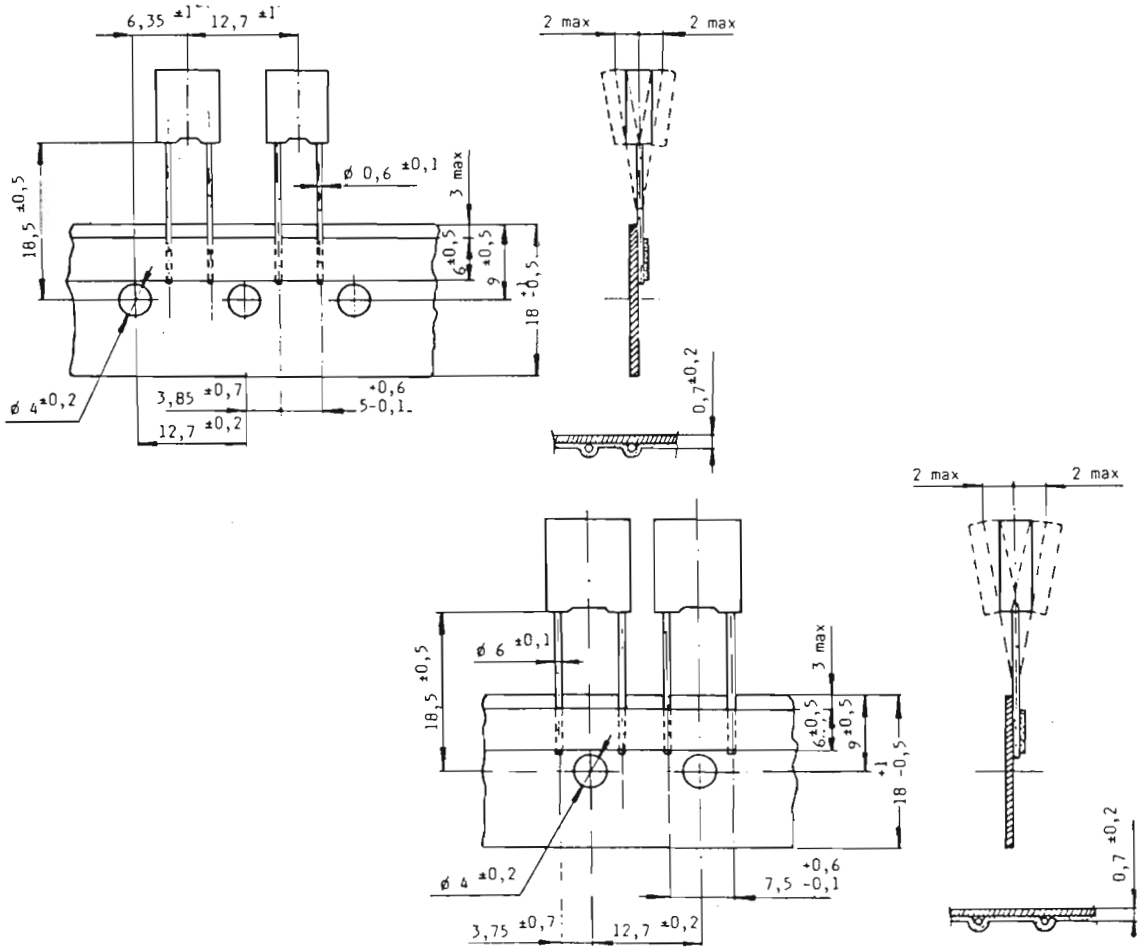
Lead pitch 7.5 mm



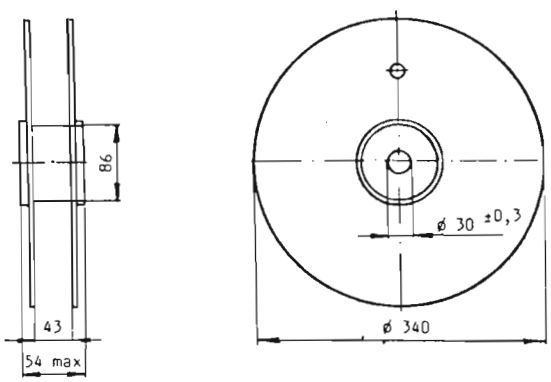
Mechanical properties

Solderability:	Method 1 IEC Publ. 384 Part 1 acc. clause 4.15
Resistance to soldering heat:	Metode 1A, duration 5 s. IEC Publ. 384 Part 1 acc. clause 4.14
Vibrations:	Test Fc acc. IEC 68-2-6 Frequency range: 10 Hz to 55 Hz, Amplitude 0.75 mm or 98 m/s^2, Method B4
Bumps:	Test Eb acc. IEC 68-2-29 4000 bumps with 390 m/s^2, Pulse duration 6ms

Packaging of capacitors for automatic insertion machine (acc. IEC Publ. 286 - 2)



Dimension of reels and number of capacitors per reel



Component thickness (dim. B)	Components per reel
2.5	2000
3.0	2000
3.5	1500
4.0	1500
4.5	1000
5.0	1000
6.0	1000

TESLA Lanškroun, a.s.
563 24 Lanškroun
Czechoslovakia

phone: +42 467 8799
telex: 196 542 tela c
fax: +42 467 2777

Addition of table: Nominal capacitance and dimensions

Type	TC 357	TC 358	TC 359
U_n [V-]	50 V	250 V	400 V
U_{max} [V_{rms}]	30 V	160 V	200 V
Pitch R [mm]	5	5	5
C_n	Dimensions BxHxL [mm]		
1 nF			2,5 6,5 7,2
1,5 nF			2,5 6,5 7,2
2,2 nF			2,5 6,5 7,2
3,3 nF			2,5 6,5 7,2
4,7 nF			2,5 6,5 7,2
5,6 nF			2,5 6,5 7,2
6,8 nF		2,5 6,5 7,2	3,0 6,5 7,2
10 nF		2,5 6,5 7,2	3,5 7,5 7,2
15 nF		2,5 6,5 7,2	4,5 9,5 7,2
22 nF		3,0 6,5 7,2	4,5 9,5 7,2
33 nF		3,5 7,5 7,2	5,0 10 7,2
47 nF		4,5 9,5 7,2	6,0 11 7,2
68 nF		4,5 9,5 7,2	
100 nF	2,5 6,5 7,2	6,0 11 7,2	
150 nF	3,0 6,5 7,2		
220 nF	3,5 8,5 7,2		
330 nF	3,5 8,5 7,2		
470 nF	4,5 9,5 7,2		
680 nF	5,0 10 7,2		
1 µF	6,0 11 7,2		