



# MWS

• MKT • axial terminals • very high voltage



### Main applications

High DC voltage applications, voltage multipliers, medical equipments

### Dielectric

Polyester

### Electrodes

Vacuum deposited metal layers

### Coating

UL 510 / CSA TIL I-26 polyester tape wrapping; UL 94 V-0 resin end fill (flame retardant execution)

### Construction

Extended metallized film (refer to general technical information) with internal series connection. Non inductive type

### Terminals

Tinned copper wire (lead-free)

### Reference standard

IEC 60384/16, IEC 60068, RoHS compliant

### Climatic category

55/100/56 (IEC 60068/1), FMD (DIN 40040)

### Operating temperature range (case)

-55°...+105°C

### Nominal Capacitance (Cn) µF

1500pF to 0,56µF, in compliance with IEC 60063, E6 series. Refer to article table

### Capacitance tolerance (at 1kHz)

±10% (code=K), ±5% (code=J), ±20% (code=M). Other tolerances upon request

### Capacitance temperature coefficient

Refer to General Technical Information

### Long term stability (at 1kHz)

Capacitance variation  $\leq \pm 2\%$  after a period of 2 years at standard environmental conditions

### Rated voltage (Ur) (Vdc) at 85°C

2500, 4000, 6300, 10000 Vdc

### Max. DC voltage up to +70°C

2750, 4400, 7000, 11500 Vdc

### Permissible AC voltage at 60Hz (Vac)

500, 750, 1200, 1600 Vac

### Category voltage (Uc)

$U_c = U_r$  at +85°C;  $U_c = 0,8 \times U_r$  at +100°C

### Temperature derated voltage

For  $T > +85^\circ\text{C}$ ,  $U_r$  must be decreased 1,25% for every °C exceeding +85°C

### Self inductance

$\leq 1\text{nH/mm}$  of capacitor and leads length used for connection

### Maximum pulse rise time V/µs

Refer to article table. The pulse characteristic  $K_o$  depends on the voltage waveform. In any case the value given in the article table must not be exceeded.

### Dissipation factor (DF), max.

$\text{tg}\delta \times 10^{-4}$ , measured at  $25 \pm 5^\circ\text{C}$

Freq.	$C_n \leq 0.1 \mu\text{F}$	$C_n > 0.1 \mu\text{F}$
1kHz	80	80
10kHz	150	150
100kHz	300	-

### Insulation resistance ( $R_{INS}$ )

Measured between terminals, at  $25 \pm 5^\circ\text{C}$ , after 1 minute of electrification at 100Vdc  
 $R_{INS} \geq 100 \text{ G}\Omega$

### Test voltage between terminals (Ut)

$1,6 \times U_r$  (DC) applied for 2s at  $25 \pm 5^\circ\text{C}$  (1 minute for type test)

### Damp heat test (steady state)

#### Test conditions:

Temperature =  $+40 \pm 2^\circ\text{C}$   
Relative humidity =  $93 \pm 2\%$   
Test duration = 56 days

#### Performance:

Capacitance change  $\leq \pm 5\%$   
DF change  $\leq 0.0050$  at 1kHz  
 $R_{INS} \geq 50\%$  of initial limit value

### Endurance test

#### Test conditions:

Temperature =  $+85 \pm 2^\circ\text{C}$   
Test duration = 2000h  
Voltage applied =  $1,25 \times U_r$  (DC)

#### Performance:

Capacitance change  $\leq \pm 5\%$   
DF change  $\leq 0.0030$  at 10kHz  
 $R_{INS} \geq 50\%$  of initial limit value

### Resistance to soldering heat test

#### Test conditions:

Solder bath temperature =  $+260 \pm 5^\circ\text{C}$   
Dipping time (with heat screen) =  $10 \pm 1\text{s}$

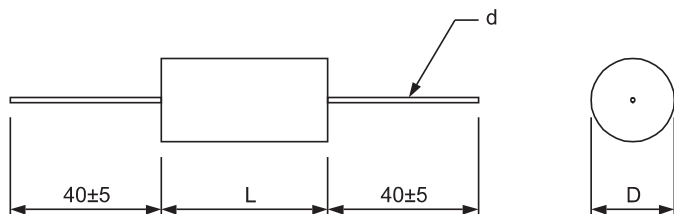
#### Performance:

Capacitance change  $\leq \pm 2\%$   
DF change  $\leq 0.0030$  at 10kHz  
 $R_{INS} \geq 50\%$  of initial limit value



# MWS

• MKT • axial terminals • very high voltage



Dimensional tolerances (mm)

L	L±	D±
27.0	2.0	2.0
32.0	2.0	2.0
38.0	2.5	2.5
44.0	2.5	2.5
47.0	2.5	2.5
60.0	3.0	3.0

MWS article table (different values available upon request)

Voltage at +85°C		Cn μF	Dimensions (mm)			du/dt V/μs	K <sub>0</sub> V <sup>2</sup> /μs	ICEL CODE <sup>(1)</sup> -
Ur (Vdc)	Urms (Vac) <sup>(2)</sup>		D	L	d			
2500	500	0,0047	6,5	27	0,6	200	1000000	MWS2251470*G
2500	500	0,0068	7,5	27	0,8	200	1000000	MWS2251680*G
2500	500	0,01	9	27	0,8	200	1000000	MWS2252100*G
2500	500	0,015	11	27	0,8	200	1000000	MWS2252150*G
2500	500	0,022	12,5	27	0,8	200	1000000	MWS2252220*G
2500	500	0,033	12,5	32	0,8	125	625000	MWS2252330*J
2500	500	0,047	15	32	0,8	125	625000	MWS2252470*J
2500	500	0,068	18	32	1	125	625000	MWS2252680*J
2500	500	0,1	16	47	1	70	350000	MWS2253100*O
2500	500	0,15	19	47	1	70	350000	MWS2253150*O
2500	500	0,22	23	47	1	70	350000	MWS2253220*O
2500	500	0,33	28,5	47	1	70	350000	MWS2253330*O
2500	500	0,47	35	47	1	70	350000	MWS2253470*O
2500	500	0,56	38,5	47	1,2	70	350000	MWS2253560*O
4000	750	0,0015	6,5	27	0,6	550	4400000	MWS2401150*G
4000	750	0,0022	7,5	27	0,8	550	4400000	MWS2401220*G
4000	750	0,0033	9	27	0,8	550	4400000	MWS2401330*G
4000	750	0,0047	10,5	27	0,8	550	4400000	MWS2401470*G
4000	750	0,0068	12,5	27	0,8	550	4400000	MWS2401680*G
4000	750	0,01	15	27	0,8	550	4400000	MWS2402100*G
4000	750	0,015	13	32	0,8	300	2400000	MWS2402150*J
4000	750	0,022	16,5	32	1	300	2400000	MWS2402220*J
4000	750	0,033	20	32	1	300	2400000	MWS2402330*J
4000	750	0,047	17,5	44	1	175	1400000	MWS2402470*N
4000	750	0,068	20,5	44	1	175	1400000	MWS2402680*N
4000	750	0,1	25	44	1	175	1400000	MWS2403100*N
4000	750	0,15	31	44	1	175	1400000	MWS2403150*N
4000	750	0,22	38,5	44	1,2	175	1400000	MWS2403220*N
6300	1200	0,0015	8,5	38	0,8	800	10000000	MWS2631150*L
6300	1200	0,0022	10,5	38	0,8	800	10000000	MWS2631220*L
6300	1200	0,0033	12,5	38	0,8	800	10000000	MWS2631330*L
6300	1200	0,0047	14,5	38	0,8	800	10000000	MWS2631470*L
6300	1200	0,0068	13	47	0,8	400	5000000	MWS2631680*O
6300	1200	0,01	15,5	47	1	400	5000000	MWS2632100*O
6300	1200	0,015	19	47	1	400	5000000	MWS2632150*O
6300	1200	0,022	23	47	1	400	5000000	MWS2632220*O
6300	1200	0,033	27,5	47	1	400	5000000	MWS2632330*O
6300	1200	0,047	33,5	47	1	400	5000000	MWS2632470*O
6300	1200	0,068	40	47	1,2	400	5000000	MWS2632680*O
10000	1600	0,0015	12,5	60	0,8	1200	24000000	MWS3101150*T
10000	1600	0,0022	14,5	60	0,8	1200	24000000	MWS3101220*T

<sup>(1)</sup> Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20%

<sup>(2)</sup> Not suitable for across the line application



**MWS**

• MKT • axial terminals • very high voltage

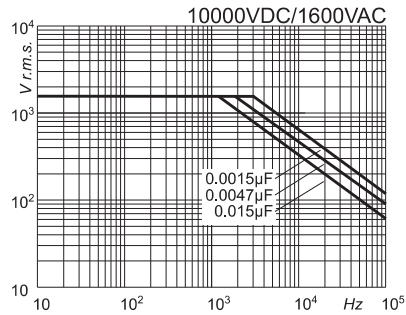
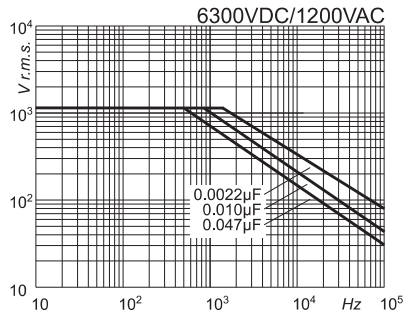
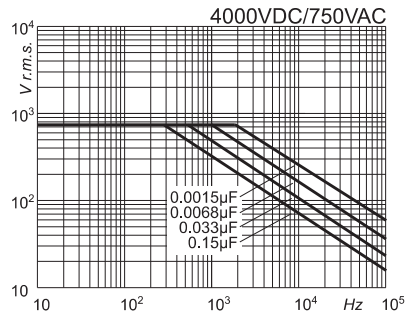
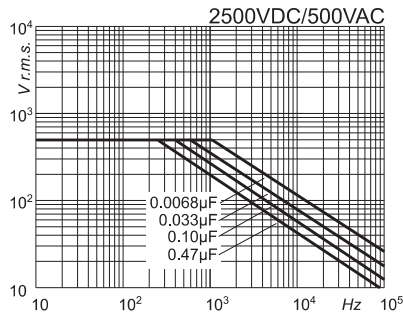


Voltage at +85°C		Cn μF	Dimensions (mm)			du/dt V/μs	K <sub>0</sub> V <sup>2</sup> /μs	ICEL CODE <sup>(1)</sup> -
Ur (Vdc)	Urms (Vac) <sup>(2)</sup>		D	L	d			
10000	1600	0,0033	19	60	1	1200	24000000	MWS3101330*T
10000	1600	0,0047	22	60	1	1200	24000000	MWS3101470*T
10000	1600	0,0068	25,5	60	1	1200	24000000	MWS3101680*T
10000	1600	0,01	30	60	1	1200	24000000	MWS3102100*T
10000	1600	0,015	36	60	1	1200	24000000	MWS3102150*T
10000	1600	0,018	40	60	1	1200	24000000	MWS3102180*T

<sup>(1)</sup> Change the \* symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20%

<sup>(2)</sup> Not suitable for across the line application

**Permissible AC voltage versus frequency (sinusoidal waveform) for ΔT=+10°C  
Referred to the largest length execution among available ones**



**Warning: this specification must be completed with the data given in the "General technical information" chapter**