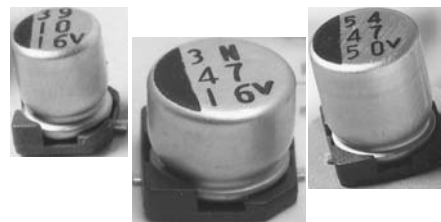


### FEATURES

- Cylindrical leadless type for surface mounting.
- Wide temperature -40°C ~ +125°C with economical pricing.
- Wide CV range.
- Solvent resistant (2 minutes).
- Designed for automatic mounting and reflow soldering.



### PART NUMBERING

Part Number Example: MXLL-016/221M8X10TR13F									
MXLL	-	016	/	221	M	8X10	TR	13	F
Type		Rated DC Voltage		Capacitance Code (μF)*	Tolerance Code	Size	Package Code**	Reel Size	RoHs Compliant
* Capacitance Code: First two digits represent significant figure, third digit represents multiplier (number of zeros).									
** Package Code: TR = Tape & Reel.									

### SPECIFICATIONS

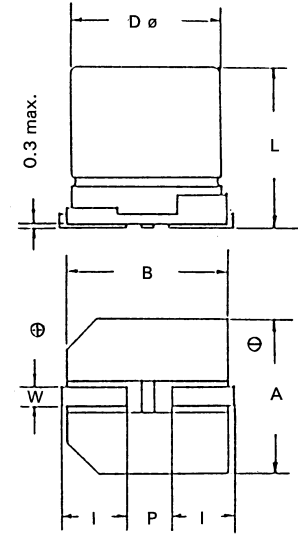
Performance Characteristics							
Operating Temperature Range	-40°C ~ +125°C.						
Temperature Characteristics (120Hz)	Impedance Ratio						
	Rated Voltage (WVDC)	6.3	10	16	25	35	50
	Z (-40°C) / Z (+20°C)	4	3	2	2	2	2
	Z (-55°C) / Z (+20°C)	8	6	4	4	3	3
Voltage Range	6.3VDC ~ 50VDC.						
Surge Voltage (20°C, 120Hz)	VDC	8.0	13	20	32	44	63
Capacitance Range	33μF ~ 1500μF.						
Capacitance Tolerance	±20%.						
Maximum Dissipation Factor (20°C, 120Hz)	Rated Voltage (WVDC)	6.3	10	16	25	35	50
	DF %	30	24	20	16	14	14
Maximum Leakage Current (20°C) (after 2 minutes)	0.01CV or 3μA, whichever is greater.						
Load Life Test (125°C, 1500 hours)	Capacitance Change	Within ±25% of initial measured value.					
	DF	Less than 300% of specific value.					
	Leakage Current	Less than specified value.					

### STANDARD PRODUCT TABLE (dØ X L(mm))

Capacitance (μF)	WVDC					
	6.3	10	16	25	35	50
33						8 x 10.5
47					8 x 10.5	10 x 10.5
100				8 x 10.5	10 x 10.5	12.5 x 14
150					12.5 x 14	12.5 x 14
220			8 x 10.5	10 x 10.5	12.5 x 14	
330		8 x 10.5	10 x 10.5	12.5 x 14		
470	8 x 10.5	10 x 10.5	12.5 x 14			
680	10 x 10.5	12.5 x 14	12.5 x 14			
1000	12.5 x 14	12.5 x 14				
1500	12.5 x 14					

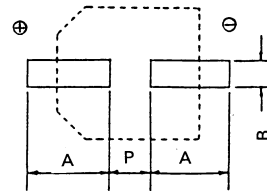
**DIMENSIONS (mm)**

Case Size	dØ ± 0.5	L Max.	A ± 0.2	B ± 0.2	I ± 0.2	W	P ± 0.2
8 x 10.5	8.0	10.8	8.3	8.3	2.9	0.7 ~ 1.0	3.2
10 x 10.5	10.0	10.8	10.3	10.3	3.2	0.7 ~ 1.0	4.6
12.5 x 14	12.5	14	12.8	12.8	4.4	0.7 ~ 1.0	4.6



**RECOMMENDED LAND PATTERN (mm)**

Case Size	A	B	P
8 x 10.5	4.15	1.9	2.8
10 x 10.5	4.4	1.9	4.3
12.5 x 14	5.6	2.1	4.3



**MAXIMUM RIPPLE (mA rms @ 120Hz & 105°C)**

Capacitance (µF)	WVDC					
	6.3	10	16	25	35	50
33						100
47					110	160
100				110	190	210
150					250	220
220			120	200	280	
330		120	210	270		
470	140	210	290			
680	210	300	300			
1000	330	320				
1500	350					

**MAXIMUM ESR (Ω @ 120Hz & 20°C)**

Capacitance (µF)	WVDC					
	6.3	10	16	25	35	50
33						7.05
47					4.95	4.95
100				2.65	2.32	2.32
150					1.55	1.55
220			1.51	1.21	1.06	
330		1.21	1.01	0.81		
470	1.06	0.85	0.71			
680	0.73	0.59	0.49			
1000	0.50	0.40				
1500	0.33					

**RIPPLE CURRENT CORRECTION FACTOR**

Frequency (Hz)	50 - f < 100	100 - f < 1K	1K - f < 10K	10K - f
Correction Factor	1.0	1.0	1.2	1.45