



## TAD – FOIL to FILM Capacitors “Mustard”-Caps

The TAD film capacitors are manufactured to the same specifications as the mustard yellow capacitors originally made by Mullard™ and Philips™. They were used in many vintage Marshall™, Vox™, Hiwatt™ guitar amplifiers from the UK.

TAD capacitors use the same film, film dielectric and tight sizing as the historic originals. At the same time, the rated voltage was increased to 630 V to improve safety. The use of the original dimensions is an important detail, as the dimensions have an impact on the response characteristics.

The TAD capacitors take care of the harmonics and produce a smooth, yet transparent, dense lower midrange and airy highs that breathe life into tube amps.

### Characteristics

TAD Part number:	Capacity nF	Rated Voltage V <sub>DC</sub>	Tolerance %	Test Voltage V <sub>DC</sub>	DF 10kHz max. (%)	Dimension (mm)		
						L	D	dΦ
V-MC1	1.0	630	10	1100	0.1	18	8	0.8
V-MC2	2.2	630	10	1100	0.1	22	7.5	0.8
V-MC4	4.7	630	10	1100	0.1	22	7.5	0.8
V-MC10	10	630	10	1100	0.1	22	9	0.8
V-MC22	22	630	10	1100	0.1	22	8.5	0.8
V-MC33	33	630	10	1100	0.1	20	12	0.8
V-MC47	47	630	10	1100	0.1	22	11.5	0.8
V-MC68	68	630	10	1100	0.1	20	16	0.8
V-MC100	100	630	10	1100	0.2	32	10	0.8
V-MC150	150	630	10	1100	0.2	32	12	0.8
V-MC220	220	630	10	1100	0.2	32	14.5	0.8
V-MC470	470	630	10	1100	0.2	37	19.5	0.8
V-MC680-160	680	160	10	250	0.2	30	17.5	0.8
V-MC1K-160	1000	160	10	250	0,2	22	12.5	0.8

### Main Specific Reference Data & Test Method:

Item	Performance	Test method	AQL(%)
Capacitance	See list above	Test frequency: 1.0±0.02KHz Test voltage: ≤1V Test temperature: 25°C	0.25
Withstand Voltage	See list	Test voltage applied between terminals	0.25
Dissipation factor	See list	Test frequency: 10KHz Test voltage: ≤1V Test temperature: 25°C	0.25
Insulation Resistance	C ≤ 0.33µF IR ≥ 30GΩ C > 0.33µF IR ≥ 10GΩ•µF	Test voltage: 100VDC Test time: Reading after 1 minute	
Operating Temperature	-40°C / +85°C		
Climatic Category	40 / 085 / 21		

\* This product is compliant to RoHS3 Directive 2011/65/EU & 2015/863 Amendments of Annex II on 31 March 2015