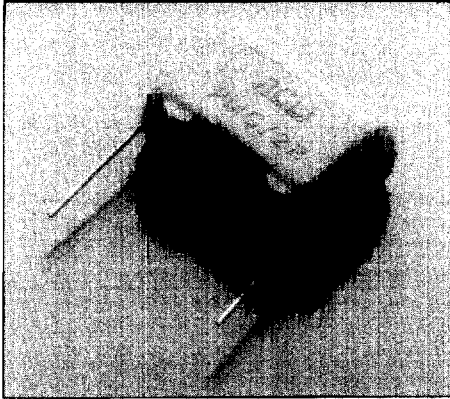


# FILM CAPACITORS

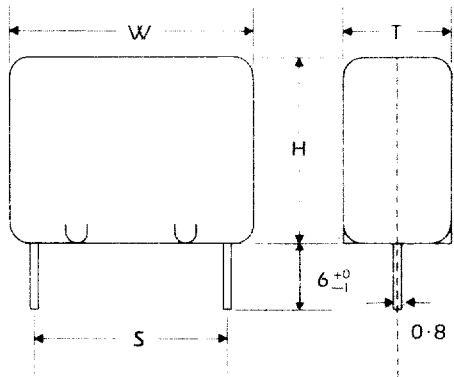


## PRODUCT DATA

**PMT 2R SERIES PETP MOULDED RADIAL**  
**PMC 2R SERIES POLYCARBONATE**  
**MOULDED RADIAL**  
**8019A 8022A BRITISH TELECOM STYLE**



Dimensions mm (nominal)



Case size	W (max) mm	H (max) mm	T (max) mm	S (±0.25) mm
A	13.5	10.5	5.0	10.2
B	13.5	11.0	6.0	10.2
C	19.0	12.0	7.0	15.2
D	19.0	15.0	9.0	15.2
E	26.0	20.0	10.0	22.9
F	32.0	23.0	13.0	27.9
8019A	27.0	18.5	10.0	22.8
8022A	32.2	23.0	11.2	27.5

**Terminations**

Solder coated copper wire  
 Length 6mm standard  
 15mm special order

## MOULDED RADIAL CAPACITORS

**Approvals:**

PMT2R BS9076 CECC  
 PMC2R BS9076  
 8019A, 8022A British Telecom

**Environmental Class**  
 40/100/21

**Capacitance Tolerance**

PMT2R ±10%  
 PMC2R ±10%  
 8019A ±10%  
 8022A ±15%  
 Special Tolerance to Order

**TAN δ at 1kHz**

PMT 2R 0.01 max  
 PMC 2R 0.005 max

**Minimum Insulation Resistance**  
 (Test voltage to BS 9070)

Voltage	> 33uF	< 33uF
< 100V	2500ΩF	7500MΩ
> 100V	5000ΩF	15000MΩ

**Vibration Severity**

10Hz to 2000Hz:  
 0.75mm or 98m/s<sup>2</sup>

**Bump Severity**

390m/s<sup>2</sup> (40g): 4000 bumps

**Low Air Density**

Mean Altitude 26000m: 2kN/m<sup>2</sup>

**Solderability**

Termination wires are solder coated copper to BS 2011 Part 2T (1966) & IEC 68.2.20 Test T

**Proof Test**

Initial: 2 x rated voltage for 1 minute.  
 Subsequently: 1-6 x rated voltage for 2.5s.

**Surge voltage**

Max 1 min/hr @ 1.5 rated voltage.

**AC ratings at 100°C**

	DC	63	100	250	400	630
AC	40	63	160	200	220	

## CAPACITANCE RANGE

Capacitance uF	Rated Voltage (DC)				
	63	100	250	400	630
0.01				A	A*
0.015				A	B*
0.022				A	B*
0.033			A	B	C*
0.047			A	B	C*
0.068		A	B	C	D*
0.10		A	B	C	E*
0.15		B	C	D	E*
0.22		B	C	E	E*
0.33		C	D	E	E*
0.47		C	D	E	F*
0.68		C	D	E	F*
1.0	C	D	E	F	
1.5	C	D	E	F	
2.2	D	E	F		
3.3	D	E	F		
4.7	E	F			
6.8	E*	F			
10.0	F*				

0.9 8019A  
 1.8 8022A

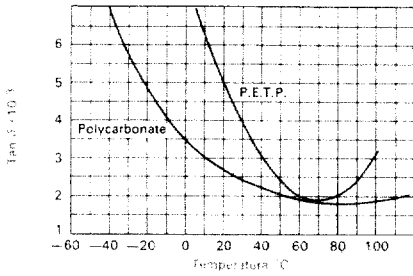
Ratings indicated \* are not available as PMC 2R.

FOR MORE INFORMATION TELEPHONE

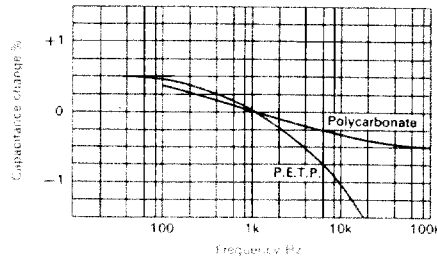
**0978 61201**  
 TELEX 617013 FAX 0978 61200

\*RFLCES00001\*

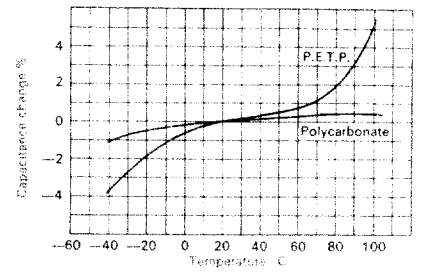
**Tan  $\delta$  v Temperature  
(measured at 1000Hz)**



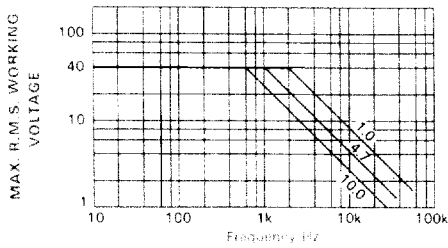
**Capacitance v Frequency  
(measured at 20°C)**



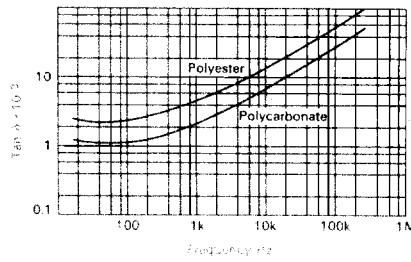
**Capacitance v Temperature  
(referred to 20°C)**



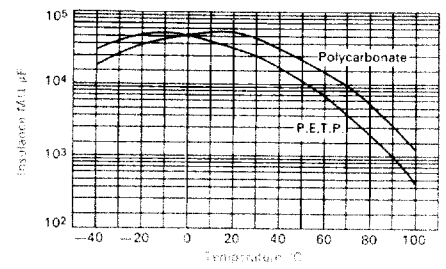
**Derating curves  
63V dc: 40V ac**



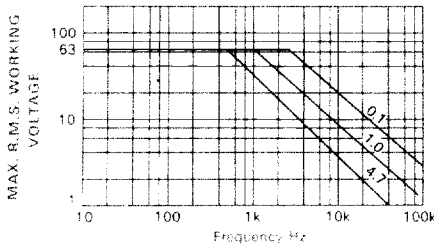
**Tan  $\delta$  v Frequency  
(measured at 20°C)**



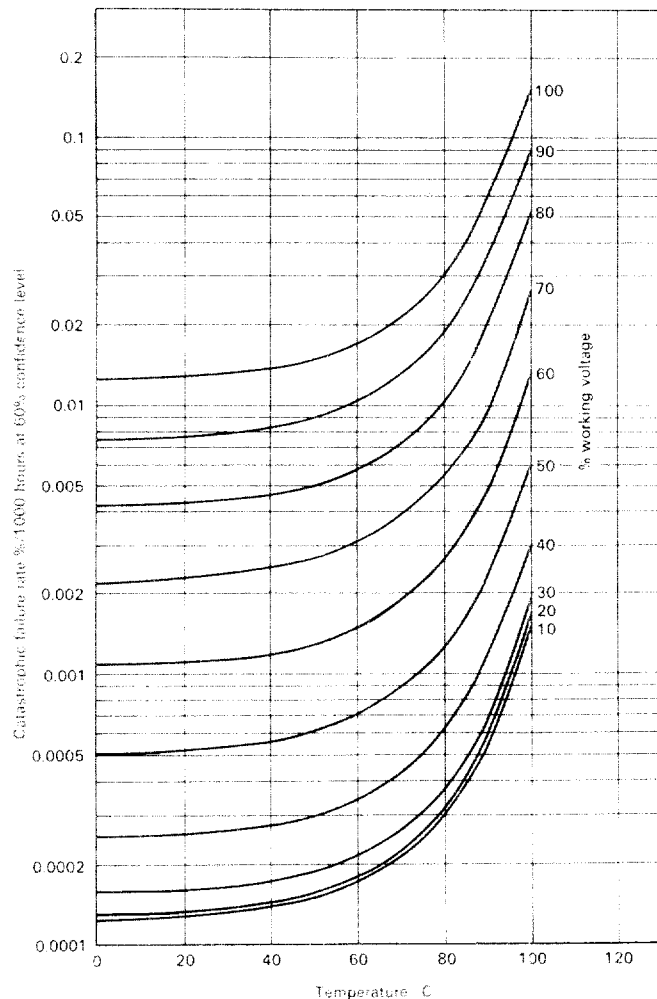
**Insulation Resistance v  
Temperature**



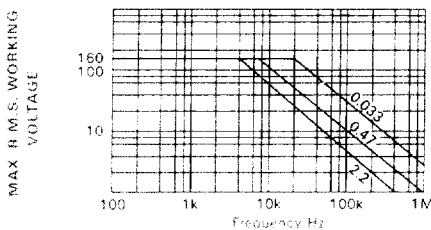
**100V dc: 63V ac**



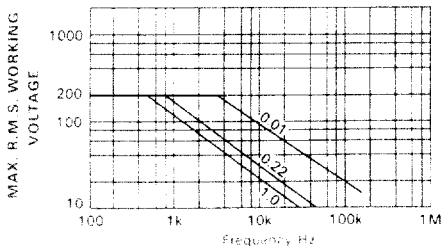
**Prediction of catastrophic failure rate with temperature and stress ratio for encapsulated capacitors.**



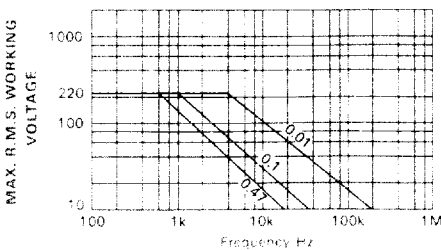
**250V dc: 160V ac**



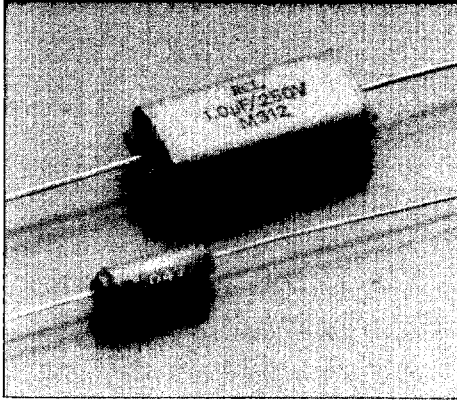
**400V dc: 200V ac**



**630V dc: 220V ac**



**M310 AND M312**



**M310/M312 SERIES PETP SLEEVED AXIAL**

**Environmental classification**  
40/085/04

**Capacitance tolerance**  
M310: Standard  $\pm 20\%$  (M).  
M312:  $\pm 10\%$  (K) only  
Closer by negotiation

**Tan  $\delta$  at 1kHz**  
0.01 max

**Voltage proof**  
1.5 times the rated voltage for a period not exceeding 2 seconds at  $20^\circ\text{C} \pm 5^\circ\text{C}$ .

**Insulation resistance**  
at  $20^\circ\text{C} \pm 5^\circ\text{C}$  after 1 minute.  
M310: Greater than  $100\text{G}\Omega$   
Measured at dc rated voltage  
M312: 0.33uF and below:  $30\text{G}\Omega$   
Above 0.33uF: 10 000s  
Measured at  $100\text{V} \pm 15\text{V}$  dc (630V units at  $500\text{V} \pm 50\text{CV}$  dc

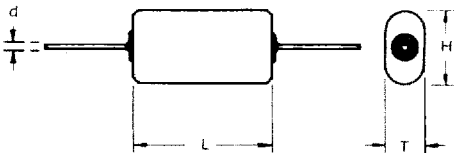
**Inductance**  
M310 only  
13.5mm long units: 0.008uH  
10mm long units: 0.004uH  
Measured directly across unit  
13.5mm long units: 0.025uH  
10mm long units: 0.02uH.  
Measured with 6mm termination at each end.

**Dimensions mm (nominal)**

**M312**

**Housing**  
Plastic sleeve

**Terminations**  
Solder coated phosphor bronze wire  
minimum length 38mm.

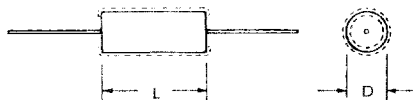


Rated voltage ac at $85^\circ\text{C}$ up to 50Hz	dc	Capacitance uF	Dimensions (mm) nom. (inc. sleeve)				Type Number
			L	H	T	d	
100	250	0.1	12	9	4.5	0.6	AM400
		0.15	17	8	4.5	0.6	AM424
		0.22	17	9	5.0	0.6	AM426
		0.33	17	11.5	5.5	0.6	AM428
		0.47	24	11	4.5	0.6	AM430
		0.68	24	12.5	6.5	0.6	AM432
		1.00	24	16	7.0	0.8	AM403
		1.50	30	16.5	7.0	0.8	AM435
		2.20	30	18.5	9.0	0.8	AM437
		160	400	0.1	17	9	5.0
0.15	17			11	6.0	0.6	AM477
0.22	24			11	5.0	0.6	AM479
0.33	24			14.5	5.5	0.6	AM481
0.47	24			15.5	6.5	0.8	AM483
0.68	30			17.0	7.0	0.8	AM485
1.00	30			19	9.0	0.8	AM415
1.50	30			23	10.0	0.8	AM488
200	630	0.022	12	8.5	4.5	0.6	AM495
		0.033	17	8.5	4.5	0.6	AM496
		0.047	17	9	5.0	0.6	AM497
		0.068	17	10	6.0	0.6	AM498

**M310**

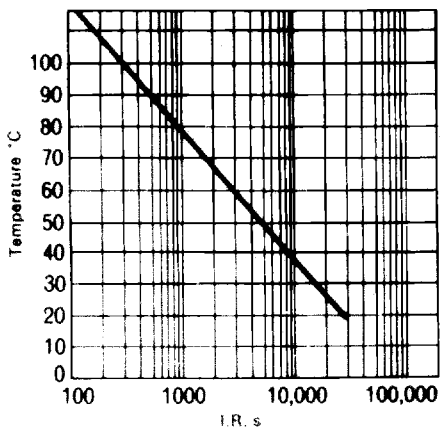
**Housing**  
Plastic sleeve

**Terminations**  
Solder coated phosphor bronze wire  
0.6mm dia. Minimum length 38mm.



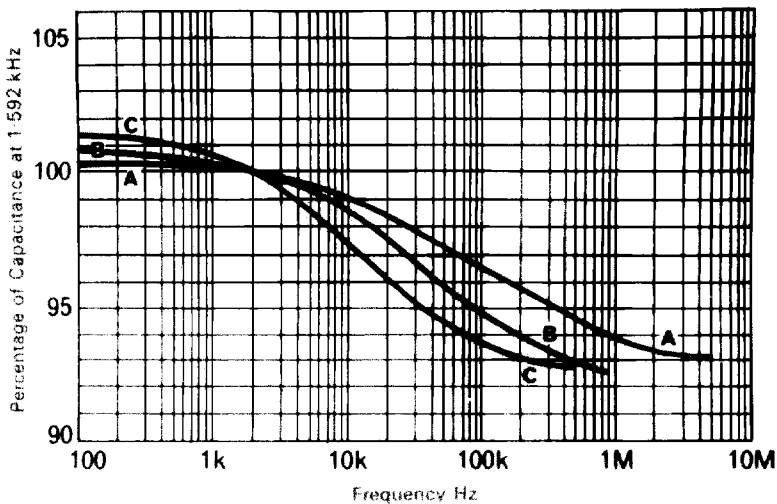
Rated voltage ac at $85^\circ\text{C}$ up to 400Hz	dc	Capacitance uF	Dimensions (mm) nom. (inc. sleeve)		Type Number
			L	D	
175	250	0.0047	10	4	SLM59
		0.0068	10	4	SLM70
		0.01	10	4	SLM13
		0.015	13.5	4	SLM47
		0.022	13.5	4	SLM57
		0.033	13.5	5	SLM46
		0.047	13.5	5	SLM55
		225	500	0.0015	10
0.0022	10			4	SLM60
0.0033	13.5			4	SLM52
0.0047	13.5			4	SLM64
0.0068	13.5			5	SLM65
0.01	13.5			5	SLM21
225	750	0.0001	10	4	SLM26
		0.00015	10	4	SLM66
		0.00022	10	4	SLM28
		0.00033	10	4	SLM54
		0.00047	10	4	SLM58
		0.00068	10	4	SLM67
		0.00100	10	4	SLM32

**Typical Insulation resistance v Temperature**

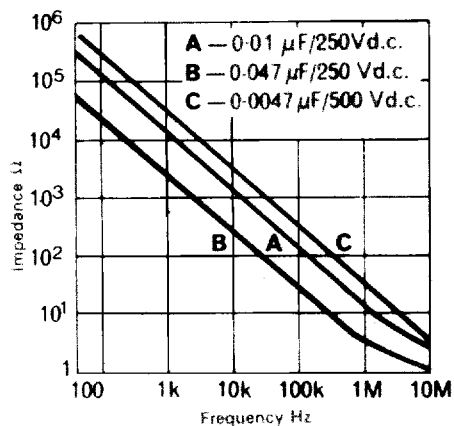


**Capacitance v Frequency**

CURVE A. 0.022 $\mu$ F/400V. CURVE B. 1 $\mu$ F/250V.  
CURVE C. 2.2 $\mu$ F/250V.

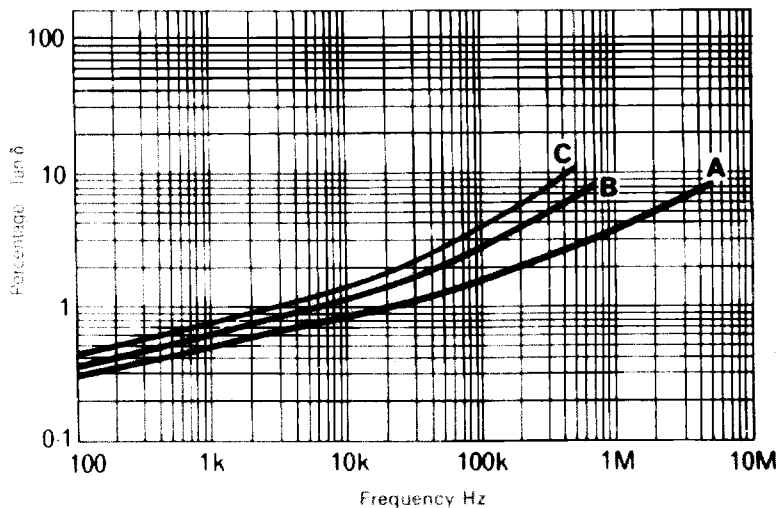


**Impedance v frequency**

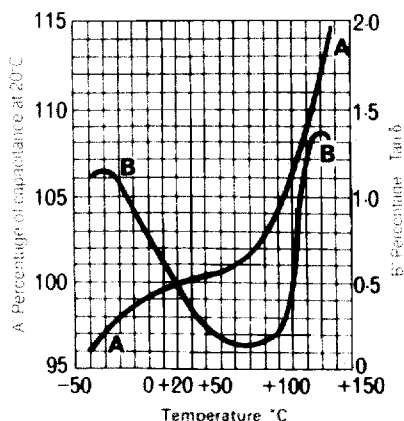


**Typical Tan  $\delta$  v Frequency**

CURVE A. 0.022 $\mu$ F/400V. CURVE B. 1 $\mu$ F/250V. CURVE C. 2.2 $\mu$ F/250V.



**Capacitance and Tan  $\delta$  v Temperature**



**RFL**  
COMPONENTS LTD  
Wrexham Industrial Estate  
Wrexham, Clwyd, LL13 9UN