

# DATA SHEET

## LEADED POWER RESISTORS

PO – POWER metal oxide

UP TO 4.0 W



Product Specification – Jun. 18, 2003 V.0



## Power Metaloxide film resistors flame retardant

### Specification

Type		PO595-0	PO593-0	PO590-0	PO591-0
Style		0207	0414	0617	0922
Power rating $P_{70}$	W	1	2	3	4
Resistance range	$\Omega$		see page 2		
E-series			see page 2		
Tolerance	%		see page 2		
Temperature coefficient	$10^{-6} * K^{-1}$		see page 2		
max. cont. working voltage	$V_{RMS}$	500		750	$\sqrt{P \cdot R}$
Voltage coefficient	$10^{-6} V^{-1}$		< 3		
Insulation voltage (1min.)	$V_{RMS}$		500		
Insulation resistance	$\Omega$		> $10^3 M$		
Derating	$^{\circ}C$		linear 70 ... 250 (0W)		
Climatic category			55/200/56		
Temperature range	$^{\circ}C$		- 55 ... 250		
Thermal resistance	$KW^{-1}$	< 140	< 130	< 70	< 60
Failure rate (Total, $\vartheta_0$ max. 60% conf. lev.)	$10^9 h^{-1}$		< 10		
Endurance ( $P_{70}$ , @ 70 $^{\circ}C$ , 1000h, interm.)	$\left[ \frac{\Delta R}{R} \right]$ %	$\pm 1,5$	$\pm 1,5$	$\pm 1,5$	$\pm 1,5$
Damp heat, steady state (40 $^{\circ}C$ , 93% r.h., 56d)	$\left[ \frac{\Delta R}{R} \right]$ %		$\pm 1,5$		
Climatic sequence	$\left[ \frac{\Delta R}{R} \right]$ %		$\pm 1,0$		

# Series PO

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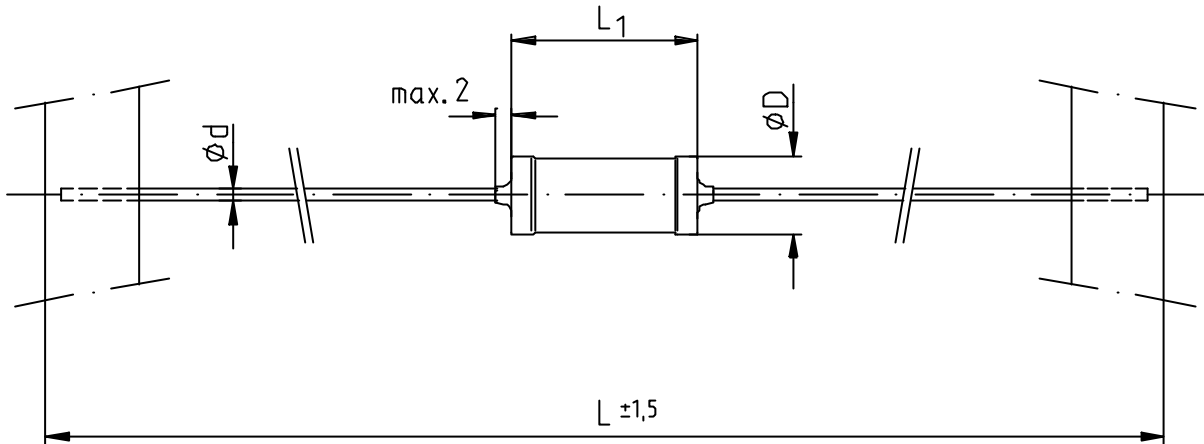
Type		595-0	593-0	590-0	591-0
Resistance to soldering heat (260°C, 10s)	$\left[ \frac{\Delta R}{R} \right]$ %			± 0,25	
Terminal strength	$\left[ \frac{\Delta R}{R} \right]$ %			± 0,3	
Terminal tensile strength	N			40	
Solderability	s	2,5 Flowtime, Solderglobule test (IEC 60068-2-20 T)			
Current noise (DIN/IEC 195)	dB	R < 15K: - 15 R > 15K: - 15 +10/decade			
Nonlinearity (DIN/IEC 440)	dB	R < 15K: 110 R > 15K: 110 -20/decade			
Marking		595/593: DIN-IEC-colour code, 4/5 bands 590/591: printed in clear			

PO595-0 Resistance range	PO593-0 Resistance range	PO590-0 Resistance range	PO591-0 Resistance range	E-series	Tolerance	TC 10 <sup>-6</sup> K <sup>-1</sup>
0R22 ... 10M	0R22 ... 10M	0R22 ... 560K	0R22 ... 100K	E 24	± 5%	± 200
--	1R ... 1M	1R ... 100K	1R ... 68K	E 48	± 2%	± 200
10R ... 1M	--	--	--	E 96	± 1%	± 50

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Dimensions in mm:



Type	$L_1$ [mm]	$\text{øD}$ [mm]	$\text{ød}$ [mm]	$L \pm 1,5$ [mm]	inside tape [mm]
PO595-0	6,3 -1	2,5 -0,5	0,6 $\pm 0,02$	65	52
PO593-0	12 -1,5	4,1 -0,5	0,8 $\pm 0,02$	85	73
PO590-0	16,5 -1,5	6,0 -0,5	0,8 $\pm 0,02$	95	77
PO591-0	20 -1	9,0 -0,5	0,8 $\pm 0,02$	95	77

Packaging:

Type	Packaging	Pieces	Pack.-Code
PO595-0	taped/Ammopack	2000	T
PO593-0	taped/Ammopack	1000	T
PO590-0	taped/Ammopack	1000	T
PO591-0	taped/Ammopack	500	T

Ordering example: PO 593-0      2      T      10K  
 Type      Tolerance      Pack.-Code      Value