

Axial Cemented Fusible Wirewound Safety Resistor



FEATURES

- UL1412 recognised fusible wirewound resistor; UL file no. E362452
- Surge voltage capability: 2 kV (10 Ω to 91 Ω) and 4 kV (100 Ω) as per IEC 61000-4-5
- Fusing time < 25 s for 45 W overload
- Sn coated Cu termination wires
- $P_{40} = 3 \text{ W}$
- Ohmic range: 4.7 Ω to 100 Ω, 5 %
- Non-flammable silicon cement coating for immediate interruption without flame and explosion when mains voltage (230 V_{AC}) is applied
- Specially designed for applications in electric appliances, energy meters
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

AC03 safety resistor (AC03..CS) is designed to be used as fusible safety resistor (or, AC mains input resistors). It uses specially selected resistive winding wire and special non flammable silicon cement coating material to ensure safe and silent fusing operation in overload conditions. The resistor fuses “without a bang” when AC mains voltage is applied. At the same time, it acts as a in-rush current limiting resistor for the normal operation. The specially developed lacquer coating has superior thermal and electrical insulating properties. This allows designers to more easily meet the requirements of safety approval, whilst eliminating the need to put additional fuses in series with the input resistor.

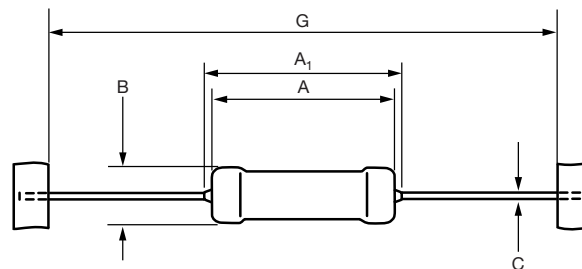
STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING $P_{40^\circ\text{C}}$ W	POWER RATING $P_{70^\circ\text{C}}$ W	LIMITING VOLTAGE $U_{\text{max.}}$	RESISTANCE RANGE ⁽¹⁾ Ω TCR = ± 200 ppm/K	TOLERANCE %
AC03..CS	3	2.5	$\sqrt{P \times R}$	4.7 to 100	± 5

Note

⁽¹⁾ Resistance value to be selected for ± 5 % from E24 series

DIMENSIONS



DIMENSIONS in millimeters

MODEL	A MAX.	A ₁ MAX.	B MAX.	C	G
AC03..CS	13.0	19	5.5	0.8	63 ± 1

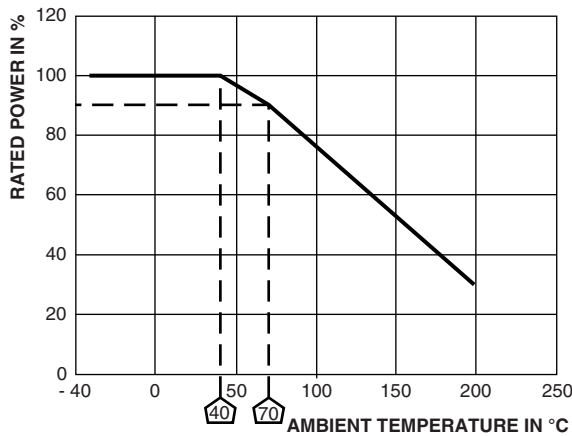
PACKAGING

TYPE	CODE	QUANTITY	PACKAGING STYLE	TAPEWIDTH (in mm)	AMMO PACKAGING DIMENSIONS (in mm)
AC03..CS	AC	500 pieces	Taped acc. to IEC60286-1; fan folded in a box	63	85 x 58 x 260

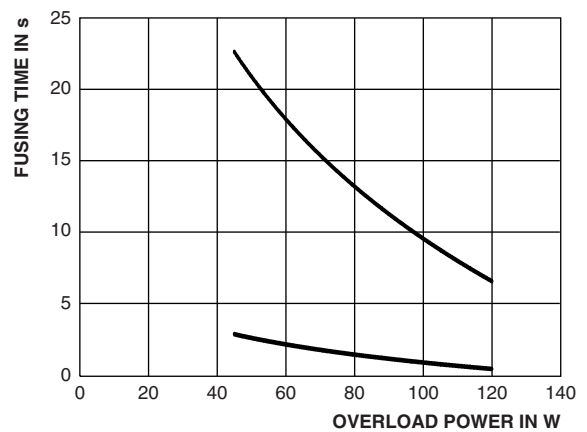


PART NUMBER AND PRODUCT DESCRIPTION						
Part Number: AC03000002209JACCS						
A	C	0	3	0	0	0
0	0	0	0	2	2	0
9	J	A	C	C	S	
MODEL	VERSION	TCR/MATERIAL	RESISTANCE	TOLERANCE	PACKAGING	SPECIAL
AC03000 = AC03	0 = Neutral	0 = Standard	3 digit value 1 digit multiplier 8 = *10 ⁻² 9 = *10 ⁻¹ 0 = *10 ⁰ 1 = *10 ¹	J = ± 5 %	AC = 500 pieces ammo pack	CS = Safety Resistor
Product Description: AC03 22R 5 % AC G63 CD1281						
AC03	22R	5 %	AC	G63	CD1281	
MODEL	RESISTANCE	TOLERANCE	PACKAGING	TAPE WIDTH	SPECIAL	

FUNCTIONAL PERFORMANCE



DERATING



FUSING CHARACTERISTICS OF AC03..CS: 4.7 Ω ≤ R ≤ 100 Ω

PERFORMANCE	
TEST	PERMISSIBLE CHANGE (ΔR)
Climatic Category (LCT/UCT/Days)	40/200/56
Climatic Sequence, IEC 60115-1, 4.23	± (1 % R + 0.05 Ω)
Damp Heat, Steady State, IEC 60115-1, 4.24, (40 ± 2) °C, 56 days, (93 ± 3) % RH	± (5 % R + 0.1 Ω)
Endurance at room temperature (116 % P ₇₀), 1000 h, IEC 60115-1, 4.25.2	± (5 % R + 0.1 Ω)
Endurance at UCT, 200 °C (30 % P ₇₀), 1000 h, IEC 60115-1, 4.25.3	± (5 % R + 0.1 Ω)
Resistance to Soldering Heat, IEC 60115-1, 4.18, (260 ± 5) °C, (10 ± 1) s	± (0.5 % R + 0.05 Ω)
Robustness of Termination, IEC 60115-1, 4.16	± (0.5 % R + 0.05 Ω)
Short Time Overload, IEC 60115-1, 4.13, 10 x Rated Power for 5 s	± (2 % R + 0.1 Ω)
1.2 μs/50 μs Surge Test (Impedance of Surge Tester is 2 Ω) as per IEC 61000-4-5; 10 Pulses at 30 s Interval	± (5 % R + 0.1 Ω)
Fail safe mains Fusing at 230 V _{AC}	Resistance > 100 kΩ, fusing time < 2 s (fusing without flames, explosion)

Notes

- Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99912
- Refer www.vishay.com/doc?28730 for other details
- For further information, please contact: ww1resistors@vishay.com



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Material Category Policy

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