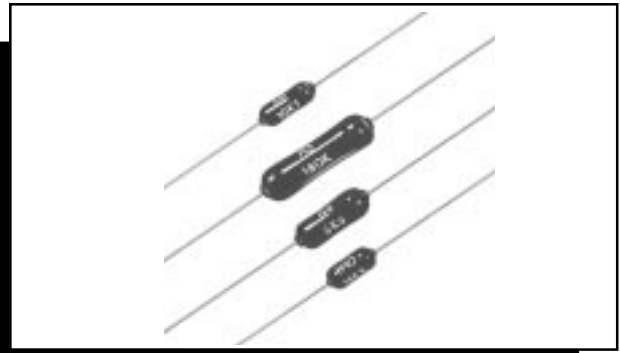


---

## Axial Leaded Precision Resistors

### TYPE HOLCO SERIES

---



---

The Holco range of Precision Metal Film Resistors meets the requirement for economically priced components for industrial and military applications. The manufacturing facility utilises closely controlled production processes including the sputter coating of metal alloy films to ceramic substrates, and laser spiralling to achieve close tolerance and high stability resistors. An epoxy coating is applied for environmental and mechanical protection. Commercially the Series is available in three case sizes, from 1 ohm to 10M ohms, tolerances from 0.05% to 1% and TCR's from 5ppm/°C to 100ppm/°C. Offered with release to BS CECC 40101 004, 030 and 804 the H8 is available via distribution.

---

### MEGGITT HOLSWORTHY KEY FEATURES

- **ULTRA PRECISION - DOWN TO 0.05%**
- **MATCHED SETS AVAILABLE TO 2ppm/°C**
- **HIGH PULSE WITHSTAND**
- **LOW REACTANCE**
- **LOW TCR - DOWN TO 5ppm/°C**
- **LONG TERM STABILITY**
- **UP TO 1 WATT AT 70°C**
- **RELEASED TO CECC 40101 004, 030 AND 804**

ELECTRICAL

Holco Type	H2	H4P	H4	H8	
<b>Approved Ratings</b>					
<b>BS CECC 40101 004</b>					
Style:	L		K	H	J
Power Rating at 70°C:	0.5W		0.25W	0.063W	0.125W
Temperature Rise (maximum):	43°C		32°C	14°C	28°C
Limiting Element Voltage:	350V		250V	150V	200V
<b>BS CECC 40101 030</b>					
Style:	K		J	H	
Power Rating at 125°C:	0.25W		0.125W	0.1W	
Temperature Rise (maximum):	30°C		30°C	30°C	
Limiting Element Voltage:	350V		250V	200V	
<b>BS CECC 40101 804</b>					
Style:	C		B	A	
Power Rating at 125°C:	0.5W		0.25W	0.125W	
Limiting Element Voltage:	350V		350V	350V	
<b>Commercial Ratings</b>					
Power Rating at 70°C:	1.0W	1.0W	0.5W	0.25W	
Temperature Rise:	65°C	70°C	55°C	40°C	
Limiting Element Voltage:	350V	500V	300V	250V	

GENERAL DATA

**Lead Material** - Solder coated copper. Solderability to BS CECC 40101 004 Para 4.15.1

**Encapsulation** - Conformal Epoxy Coating

**Resistor Marking** - Legend printed in accordance with CECC 40000 Para 2.4

**Solvent Resistance** - The epoxy coating and print will withstand the action of all commonly used industrial cleansing solvents.

TEMPERATURE COEFFICIENT / TOLERANCE RANGES

TCR ppm/°C	H2			H4P			H4			H8		
	0.05%	0.1% - 0.25%	0.5% - 1.0%	0.05%	0.1% - 0.25%	0.5% - 1.0%	0.05%	0.1% - 0.25%	0.5% - 1.0%	0.05%	0.1% - 0.25%	0.5% - 1.0%
5	10R~750K	10R~750K	1R~750K	10R~500K	10R~500K	1R~500K	10R~500K	10R~500K	1R~500K	10R~500K	10R~500K	1R~500K
10	10R~1M	10R~1M	1R~1M	10R~1M	10R~1M	1R~1M	10R~1M	10R~1M	1R~1M	10R~1M	10R~1M	1R~1M
15	10R~1M	10R~2M	1R~2M	10R~1M	5R~1M	1R~1M	10R~1M	5R~1M	1R~1M	10R~1M	5R~1M	1R~1M
25	10R~1M	10R~5M	1R~5M	10R~1M	5R~2M	1R~2M	10R~1M	5R~2M	1R~2M	10R~1M	5R~2M	1R~2M
50	10R~1M	5R~10M	1R~10M	10R~1M	5R~2M	1R~4M	10R~1M	5R~2M	1R~4M	10R~1M	5R~2M	1R~4M
100	10R~1M	1R~10M	1R~10M	10R~1M	1R~2M	1R~4M	10R~1M	1R~2M	1R~4M	10R~1M	1R~2M	1R~4M

APPROVED VALUE RANGES

40101-004, 40101-030

40101-804

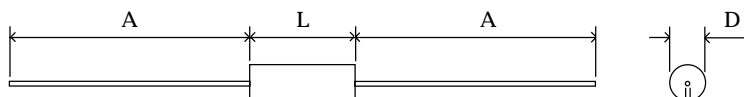
	Style		Z	C	D	Y	Style	C	D	T
	004	030	100ppm	50ppm	25ppm	15ppm		50ppm	25ppm	15ppm
<b>H2</b>	L	K	10R~10M	49R9~1M0	49R9~1M0	49R9~1M0	C	49R9~1M0	49R9~1M0	49R9~1M0
<b>H4</b>	K	J	10R~1M0	49R9~1M0	49R9~1M0	49R9~1M0	B	49R9~1M0	49R9~1M0	49R9~1M0
<b>H8</b>	H,J	H	10R~1M0	10R~1M0	49R9~1M0	49R9~1M0	A	49R9~1M0	49R9~1M0	49R9~1M0

ELECTRICAL

	TYPICAL DATA	REFERENCE
VOLTAGE COEFFICIENT OF RESISTANCE (BETWEEN 10% AND FULL RATED VOLTAGE)	LESS THAN 5ppm/VOLT APPLIED	n/a
INSULATION RESISTANCE AT 500 VOLTS	GREATER THAN 10 <sup>12</sup> OHMS	n/a
RESISTANCE TO SOLDERING HEAT (260°C FOR 10 SECONDS)	LESS THAN 0.05%	BS CECC 40101 004 PARA 4.15.2
SHORT TERM OVERLOAD (6.25 TIMES RATED BS CECC WATTAGE FOR 5 SECONDS)	LESS THAN 0.06%	BS CECC 40101 004 PARA 4.11
AMBIENT TEMPERATURE RANGE	-55°C TO +155°C	BS CECC 40101 004 BS CECC 40101 030 & COMMERCIAL
RAPID CHANGE OF TEMPERATURE (-55°C TO +155°C, FIVE CYCLES)	LESS THAN 0.04%	BS CECC 40101 004 PARA 4.16
SHELF LIFE (AT NORMAL ROOM TEMPERATURE)	LESS THAN 0.05% PER ANNUM	n/a
VIBRATION (10-500 HZ, AMPLITUDE 0.75mm, OR ACCELERATION 98m/s <sup>2</sup> WHICH IS LESS SEVERE, SWEEP DURATION 6 HOURS)	LESS THAN 0.04%	BS CECC 40101 004 PARA 4.19
VIBRATION (55-2000 Hz SIMPLE HARMONIC MOTION, MAXIMUM ACCELERATION 98m/s <sup>2</sup> , DURATION 35±5 MINUTES)	LESS THAN 0.04%	MIL STD 202 METHOD 204-C
BUMP (390m/s <sup>2</sup> , 4000 BUMPS)	LESS THAN 0.03%	BS 2011 PART 2.1 Eb 1977 (1984)
LOAD STABILITY	SEE GRAPHS	n/a
DAMP HEAT STEADY STATE	SEE GRAPH	BS CECC 40101 004 PARA 4.21

DIMENSIONS

	H 2	H 4 P	H 4	H 8
Body Length (L) maximum:	15.5 mm	10.0 mm	10.0 mm	7.20 mm
Body Diameter (D) maximum:	5.50 mm	3.70 mm	3.70 mm	2.50 mm
Lead Diameter (d) maximum:	0.80 mm	0.60 mm	0.60 mm	0.60 mm
Lead Length (A) nominal:	30.0 mm	30.0 mm	30.0 mm	30.0 mm
Recommended Mounting Pitch:	18.4 mm	12.7 mm	12.7 mm	10.2 mm
Weight (g/100 resistors)	115	40	40	24



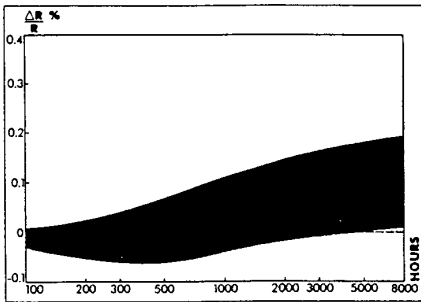
N.B. To prevent damage to the components conformal coating, the leads should be adequately supported during the forming operation.

All Dimensions are Nominal and in mm. Do Not Scale.

CHARACTERISTICS

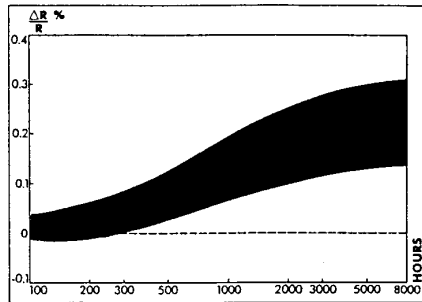
LONG TERM STABILITY

BS CECC 40101 004  
 RATINGS AT 70°C  
 H2 - 0.5 W  
 H4 - 0.25 W  
 H8 - 0.125 W  
 TYPICAL DATA



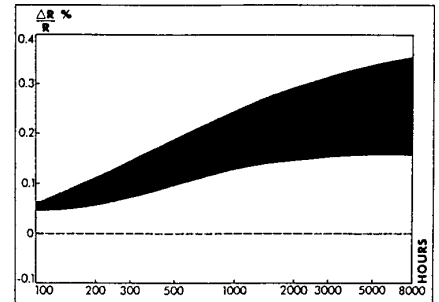
LONG TERM STABILITY

BS CECC 40101 030  
 RATINGS AT 125°C  
 H2 - 0.25 W  
 H4 - 0.125 W  
 H8 - 0.1 W  
 TYPICAL DATA

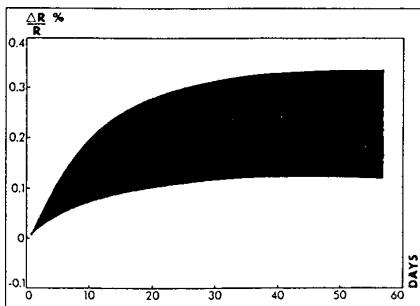


LONG TERM STABILITY

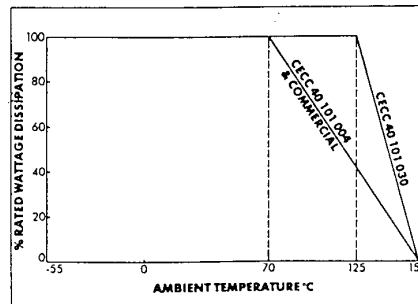
COMMERCIAL  
 RATINGS AT 125°C  
 H2 - 1 W  
 H4P - 1W  
 H4 - 0.5 W  
 H8 - 0.25 W  
 TYPICAL DATA



DAMP HEAT STEADY STATE  
 93% RH at 40°C  
 TYPICAL DATA



DERATING GRAPH  
 APPROVED AND  
 COMMERCIAL RATINGS



HOW TO ORDER

COMMON PART	RESISTANCE VALUE	TOLERANCE	T.C.R. CODE	RELEASE	FACTORY STOCK CODE
H2	1.0 ohm (1,000 milli ohms)	1R0	A - 5ppm	A - Part can only be sold with Commercial or C of C release.	Batch Code
H4P	10 ohm (10 ohms)	10R	B - 10ppm	B - Part can be sold to BS CECC 40101 004, BS CECC 40101 030, Commercial or C of C release.	
H4	100 ohm (100 ohms)	100R	Y - 15ppm	D - Part can be sold to all above approvals and BS CECC 40101 804	
H8	1K ohm (1,000 ohms)	1K0	D - 25ppm		
	10K ohm (10,000 ohms)	10K	C - 50ppm		
	100K ohm (100,000 ohms)	100K	Z - 100ppm		
	1M ohm (1,000,000 ohms)	1M0			
	10M ohm (10,000,000 ohms)	10M			



Meggitt Electronic Components Ltd. Ohmic House, Westmead Industrial Estate, Swindon, Wilts. SN5 7US  
 Telephone:(01793)487301(Admin.) (01793)611666 (Sales) Email:sales@megelec.co.uk Fax:(01793) 611777

This publication is issued to provide outline information only and (unless specifically agreed to the contrary by the Company in writing) is not to form part of any order or be regarded as a representation relating to the products or service concerned. We reserve the right to alter without notice the specification, design, price or conditions of supply of any product or service. Whilst Meggitt Electronic Components products are of the very highest quality and reliability, all electronic components can occasionally be subject to failure. Where failure of a Meggitt Electronic Components product could result in life threatening consequences, then the circuit and application must be discussed with the Company. Such areas might include ECG, respiratory, and other medical and nuclear applications and any non fail safe applications circuit.