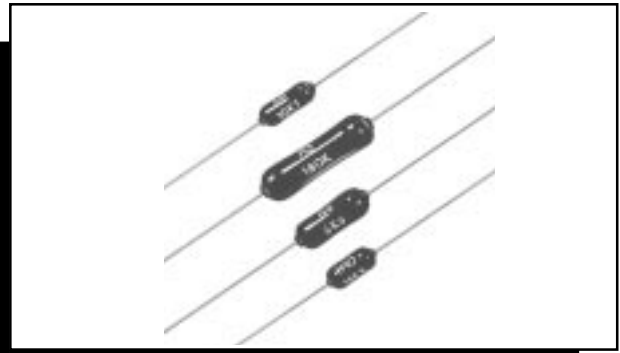

Axial Leaded Precision Resistors

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	
Approved Ratings					
BS CECC 40101 004					
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
BS CECC 40101 030					
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	
BS CECC 40101 804					
Style:	C		B	A	
Power Rating at 125°C:	0.5W		0.25W	0.125W	
Limiting Element Voltage:	350V		350V	350V	
Commercial Ratings					
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

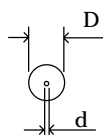
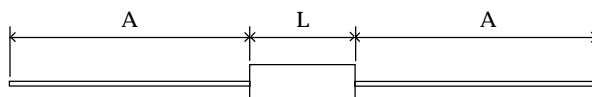
	Style		Z	C	D	Y	Style	C	D	T
	004	030	100ppm	50ppm	25ppm	15ppm		50ppm	25ppm	15ppm
H2	L	K	10R~10M	49R9~1M0	49R9~1M0	49R9~1M0	C	49R9~1M0	49R9~1M0	49R9~1M0
H4	K	J	10R~1M0	49R9~1M0	49R9~1M0	49R9~1M0	B	49R9~1M0	49R9~1M0	49R9~1M0
H8	H,J	H	10R~1M0	10R~1M0	49R9~1M0	49R9~1M0	A	49R9~1M0	49R9~1M0	49R9~1M0

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 ¹² 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 ² 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 ² , DURATION 35±5 MINUTES)	LESS THAN 0.04%	MIL STD 202 METHOD 204-C
BUMP (390m/s ² , 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



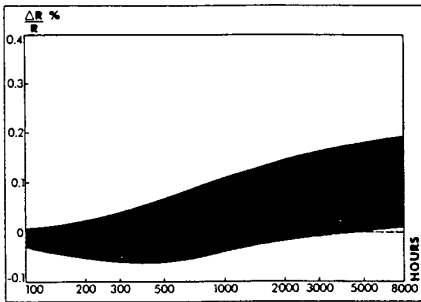
N.B. To prevent damage to the components conformal coating, the leads should be adequately supported during the forming operation.

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

CHARACTERISTICS

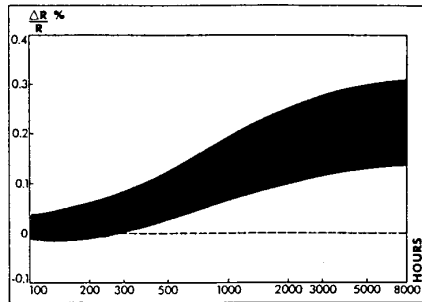
LONG TERM STABILITY

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



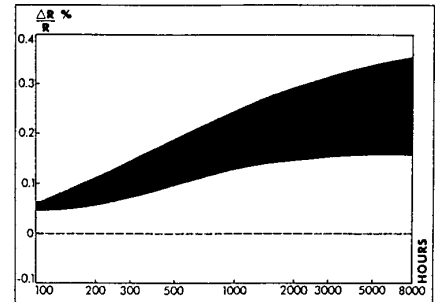
LONG TERM STABILITY

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

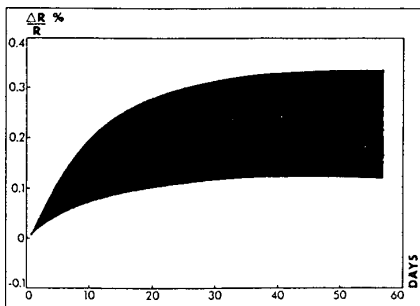


LONG TERM STABILITY

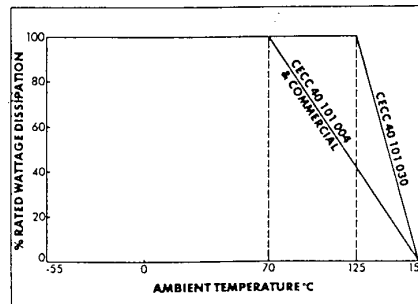
COMMERCIAL
 RATINGS AT 125°C
 H2 - 1 W
 H4P - 1W
 H4 - 0.5 W
 H8 - 0.25 W
 TYPICAL DATA



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			



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