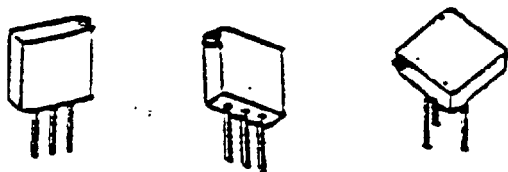


British Standards Institution
2 Park Street, London W1A 2BS

Specification Available From:
As shown in PD9002 and CECC00200
Bourns Electronics Limited
Hillend Industrial Park
Dunfermline, Fife, KY11 5JD

ELECTRONIC COMPONENTS OF ASSESSED
QUALITY IN ACCORDANCE WITH CECC
41 000, CECC 41 100 AND CECC 41 101

Form S series
Dimensional
Patterns see
Appendix A



Q.A.

For individual details see
Tables 1 and 2 and Appendix A.

DATE 11/5/93

TABLE 1

Style	Dimensional Pattern See Appendix A	Rated Dissipation W @ 70 DEG	Limiting Element Voltage V dc or ac rms	Isolation Voltage V dc or ac peak		Limiting Slider Current m A max
				Normal	Low Air Pressure	
A J	S10	0.75	315	450	300	150
B J	S11	0.75	315	450	300	150
C J	S12	0.75	315	450	300	150

NOTE: The style reference code shown here is arbitrarily chosen and relates to this detail specification only.

Refer to the Qualified Products List CECC00200 for details of
manufactures approval to this specification.

BS CECC 41101-012



ISSUE B

MAY 1990

LEAD SCREW ACTUATED

PRESET POTENTIOMETERS

SQUARE FORMS

PRODUCT CODE: 3290P, 3290H, 3290W

CONSTRUCTION: CONTAINER SEALED

RESISTIVE ELEMENT: WIREWOUND

ACTUATING DEVICE: INSULATED FROM
RESISTIVE ELEMENT

SLIPPING CLUTCH: AT EACH END OF
TRAVEL

RIGID TERMINATIONS: SUITABLE FOR
MOUNTING ON PRINTED WIRING BOARDS

ASSESSMENT LEVEL "S"

APPROVED

DATE 22/5/93

TABLE 2

Climatic Category	Limits of resistance change (% R)		Rotational Noise	Temperature characteristic of resistance (DEG C)	
				Code	
55/155/ 56	Climatic sequence Damp heat, steady state Mechanical endurance Electrical endurance at 70 DEG C (a-c) Electrical endurance at upper category temperature (a-c)	Electrical endurance at 70 DEG C (a-b) Electrical endurance at upper category temperature (a-b)	≤100 μ	-55/20	20/70
	$\Delta R: \leq \pm (2.0\% \pm/- 0.1\mu)$	$\Delta R: \leq \pm (3.0\% \pm/- 0.1\mu)$		J	0.375
					0.675

Note: For a, b and c see Appendix A Outline

1 RATINGS AND CHARACTERISTICS

Resistance Range : 10 Ω to 50k Ω
 Resistance Values : Values of 10, 20 and 50 in each decade
 Selection Tolerance : $\pm 5\%$

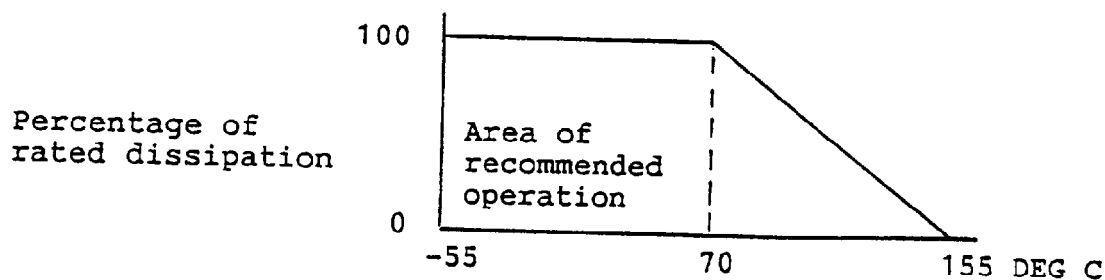
Temperature Characteristic of resistance (20 to 70 DEG C) :

Code Letter	R/R 20/70	Temp Coeff (10 ⁻⁴ /K)
J	0,25%	50

Climatic Category : 55/155/56
 Vibration Severity : 10Hz to 500Hz: 0,75 mm or 98 mm/S² (whichever is least severe)
 Bump Severity or Shock Severity : 390 m/S² ; 4000 bumps
 : 490 m/S² ; 11 ms
 Low Air Pressure : 8,5 k Pa (85 m bar)
 Limits of Resistance Change (after 1000 hrs of electrical endurance test)
 a - c : $\Delta R \leq \pm 2,0\% + 0,1\Omega$
 a - b : $\Delta R \leq \pm 3,0\% + 0,1\Omega$
 Starting Torque : ≤ 35 mNm
 Total Mechanical Travel : 22 turns nominal
 Limiting Slider Current : 150 mA
 Rotational Noise : $\leq 100\Omega$ unless otherwise specified

1.1 Derating

Potentiometers covered by this specification are derated according to the curve.



When mounted in conditions which severely limit circulation of air around the potentiometer (ie when stacked) further derating may be necessary.

2 MARKING

- 2.1 The following marking information, in the order of importance given below, is required:
- 1) Rated resistance
 - 2) Tolerance on rated resistance
 - 3) Detail specification and style
 - 4) Date of acceptance (a nationally approved code may be used)
 - 5) Manufacturer's name and trade mark
- 2.2 The potentiometer shall be clearly marked with 1) and 2) above using, where practicable, one of the coding methods specified in IEC 62, and with as many of the remaining items as is practicable.
- 2.3 The package containing the potentiometer shall be clearly marked with 1) to 5).
- 2.4 Any additional marking shall be so applied that no confusion can arise.

3 RELATED DOCUMENTS

IEC 62	Marking codes for resistors and capacitors.
IEC 63	Preferred number series for resistors and capacitors.
IEC 68	Basic environmental testing procedures for electronic components and electronic equipment.
IEC 410	Sampling procedures and tables for inspection by attributes for electronic components of assessed quality. (See CECC 00 007 (1978))
CECC 00 007	Basic specification: sampling plans and procedures for inspection by attributes.
CECC 00 200	Qualified Products List.
CECC 41 000 (1977)	Generic specification for potentiometers.
CECC 41 100 (1978)	Sectional specification for lead-screw actuated and rotary preset potentiometers.
* CECC 41 101 (1978)	Blank detail specification for preset potentiometers.

4 ORDERING INFORMATION

Orders for potentiometers covered by this specification shall contain the following information:

- Resistance value and tolerance
- Number of the detail specification and style reference

Certified Test Records not required.

6 DELAYED DELIVERY

The prescriptions of 3.6 of CECC 41 000 shall apply except that the Inspection Level shall be reduced to S-2 and the period shall be extended to two years.

7 ADDITIONAL INFORMATION (Not for inspection purposes)7.1 Resistance Law

The resistance law of the potentiometer covered by this detail specification approximates to that for a linear law as given in Figure 3 of CECC 41 000.

7.2 Resolution

Rated Resistance	Ω						$k\Omega$					
	10	20	50	100	200	500	1.0	2.0	5.0	10.0	20.0	50.0
Resolution (%)	1,1	0,93	0,60	0,62	0,54	0,42	0,33	0,26	0,20	0,17	0,14	0,13

8 INSPECTION REQUIREMENTS

8.1 When drying is prescribed Procedure 1 of 4.2 of CECC 41 000 shall be used.

8.2 When it is desired to obtain qualification approval by adopting the fixed sample size procedure, use shall be made of the test schedule given for that purpose in CECC 41 100.

The conditions of test and the performance requirements shall be identical to those prescribed for quality conformance inspection in this specification.

8.3 In the quality conformance inspection the values representative of the whole approved range shall be tested within one year (Groups A, B and C only).

(See Notes 1 and 2)

Clause Number and test	Conditions of Test	IL	AQL	Performance Requirements	
GROUP A INSPECTION					
To be conducted on a sampling basis, lot by lot					
<u>Sub-Group A1</u> (Non destructive)		II	4,0%	As in 4.3.1	
4.3.1 Visual Inspection					
<u>Sub-Group A2</u> (Non destructive)		II	1,0%	As in 4.3.2	
4.3.2 Marking					
4.5 Element resistance				As in 4.5.1	
<u>Sub-Group A3</u> (Non destructive)		S-2	4,0%	As specified in Appendix A	
4.3.3 Dimensions (gauging)					
<u>Sub-Group A4</u> (Non destructive)		S-3	1,0%	R	TERMINAL RESISTANCE
4.6 Terminal resistance	Resistance a to b and Resistance b to c			$\leq 100\Omega$	$\geq 1.0\Omega$
4.4 Continuity	(see Note 4)			$> 100\Omega$	$\leq 0.1\%R$
4.15 Rotational noise	Method B			As in 4.4	
4.12 Voltage proof	Normal air pressure (See D1.1 and table1)			See Table 2	
4.8 Mechanical and Electrical travel	(See C1.1, C1.2 and note 8) Effective operating turns			As in 4.12.5	
				> 70% of total mechanical travel	
GROUP B INSPECTION					
To be conducted on a sampling basis, lot by lot					
<u>Sub-Group B1</u> (Destructive)		S-2	1,5%	As in 4.22.3	
4.16 Starting torque	(See C1.3)				
4.22.3 Container sealing	Temperature: 85 to 90 DEG C (1 minute total immersion time)				

Notes on Page (14)