

(11) Publication number:

0 113 950

(12)

## **EUROPEAN PATENT APPLICATION**

(21) Application number: 83304617.0

(51) Int. Cl.4: B 41 J 3/20

H 01 L 49/02

22 Date of filing: 10.08.83

(30) Priority: 24.11.82 US 444412

(43) Date of publication of application: 25.07.84 Bulletin 84/30

(88) Date of deferred publication of search report: 18.12.85

(84) Designated Contracting States: DE FR GB

71) Applicant: Hewlett-Packard Company Mail Stop 20 B-O 3000 Hanover Street Palo Alto California 94304(US)

72 Inventor: Lloyd, William James 2708 Comstock Circle Belmont California 94002(US)

Representative: Oliver, Peter Anthony Hewlett-Packard Limited Nine Mile Ride Easthampstead Wokingham, Berkshire RG11 3LL(GB)

(54) Inversely processed resistance heater.

(57) A unique inverse processed film resistance heater structure is disclosed. A conventional passivation wear layer (110) is deposited directly on a first substrate (120), followed by the deposition and patterning of resistance (140) and conductive (150) layers, and covered by an isolation layer (180) and a thick support layer (190). The thick support layer is then bonded to a second substrate (310) and the first substrate (120) is removed so that a uniform, flat passivation layer is exposed. The result is a film resistor which has a reduced failure rate as compared to the prior art because it is covered by a passivation wear layer with fewer pin-holes and reduced

SUPPORT LAYER 190-ISOLATION CONDUCTIVE 180 170 160 SECOND PASSIVATION LAYER 130 FIRST PASSIVATION LAYER 110 FIRST SUBSTRATE 120

FIG. 2



EPO Form 1503 03 82

## **EUROPEAN SEARCH REPORT**

EP 83 30 4617

	DOCUMENTS CONS	SIDERED TO B	E RELEVANT	r				
Category	Citation of document w of rele	th indication, where ap vant passages			Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)		
Y	EP-A-0 015 100 ENGLAND) * Claim 1 *	(ERIC H.			1	B	41 J 01 L	3/20 49/02
Y	US-A-4 169 032 al.) * Abstract; fig		E et		1			
А	PATENTS ABSTRAC 3, no. 107 (E-1 September 1979, & JP - A - 54 8 DENKI SANGYO K. * Abstract *	36), 8th page 146 E 5 734 (MATS	: 136; USHITA		1,13			
					т	ECHNICAL	FIELDS	
							EARCHED (	
							01 L 41 J	
	The present search report has be							
	The present search report has be	een drawn up for all cla  Date of complete				r.	kaminer	<del></del>
	THE HAGUE	29-08			PELSE			
Y : par doc A : teci O : nor	CATEGORY OF CITED DOCL ticularly relevant if taken alone ticularly relevant if combined w sument of the same category noological background newritten disclosure trediate document		T: theory or pr E: earlier pater after the filir D: document c L: document c &: member of t document	nt d ng d ited	ocument, date d in the ap d for other	but pub plication reasons	lished on, ว ร	or