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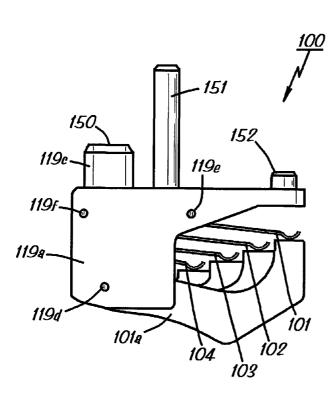
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(54) Title: CONTACTOR ASSEMBLY FOR TESTING CERAMIC SURFACE MOUNT DEVICES AND OTHER ELECTRONIC COMPONENTS



(57) Abstract: A contactor assembly useable on a component testing system for electrically contacting a terminal on a device under test (DUT) for parametric testing and eventual sorting as part of component batch processing. At least three contacts are provided to help insure at least two of them contact the DUT terminal, each of the contacts having a forward edge for physically and electrically contacting the DUT terminal. A contact-holding structure mountable on the component testing system supports the contacts in side-by-side relationship for independent movement of the first, second, and third forward edges toward and away from the DUT terminal. A first spring bias the first and third forward edges toward the DUT terminal independently of the second forward edge while a second spring biases the second forward edge toward the DUT terminal independently of the first and third edges in order to thereby help insure that at least two forward edges of the contacts bear against the DUT terminal for decreased stray serial impedance (SSI). One four-spring, twelve-blade embodiment of a multi-contact, constant-force contact assembly constructed according to the invention includes blade-type contacts separated by insulators that enable holding at least one blade

at a guard potential. Roller contacts and pogo pin contacts fall within the scope of the invention.

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category * Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.
Y	US 4,866,374 A (CEDRONE) 12 SEPTEMBER 198	1, 3-13	
 A	(see entire document)		2
777 076 (0) (CERRONE) 11 (CERRENTER 1000 /11 00 1000)		00 (11 00 1000)	1, 3-13
, Y	Y US 4,956,604 A (CEDRONE) 11 SEPTEMBER 1990 (11-09-1990) (see entire document)		1, 5-15
 A	(see entire document)		2
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Further documents are listed in the continuation of Box C.		See patent family annex. "T" later document published after the international filing date or priority	
date a		date and not in conflict with the appli	cation but cited to understand the
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