

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
20 May 2010 (20.05.2010)(10) International Publication Number
WO 2010/056343 A8

(51) International Patent Classification:

G01R 31/28 (2006.01) H04M 1/00 (2006.01)
G01R 31/02 (2006.01) G01S 13/00 (2006.01)
G01R 31/3183 (2006.01)

(21) International Application Number:

PCT/US2009/006101

(22) International Filing Date:

13 November 2009 (13.11.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/115,011 14 November 2008 (14.11.2008) US
61/115,005 14 November 2008 (14.11.2008) US
61/140,743 24 December 2008 (24.12.2008) US

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enue, Boston, MA 02210-2206 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: FAST OPEN CIRCUIT DETECTION FOR OPEN POWER AND GROUND PINS

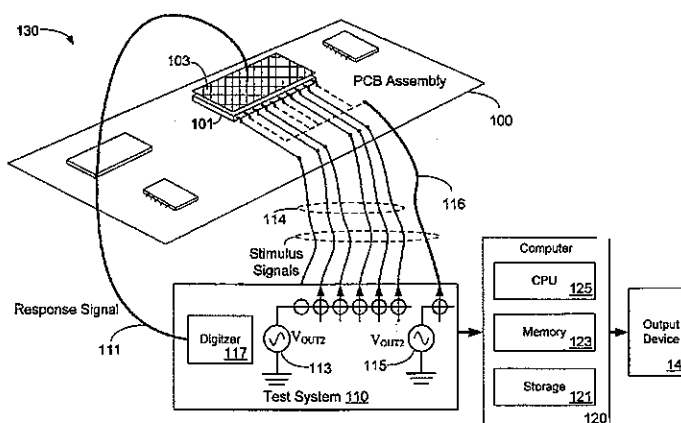


Fig. 1

(57) Abstract: A system and method for identifying opens among parallel connections on a circuit assembly such as a printed circuit board (PCB). In a learn phase performed on a known good circuit assembly, a group of parallel connected pins are excited with a first signal. A second signal, out-of-phase with the first signal, is applied to a second group of pins associated with the component. The amplitude and/or the phase of the second signal and the number and/or specific pins in the second group of pins are selected so that first and second signals coupled to a detector plate proximal to the component substantially offset. During a manufacturing test, signals of comparable amplitude and phase are applied to like pins on a like component of a circuit assembly under test. If the response signal coupled to a like detector plate is below a threshold, it is determined that each pin in the group of parallel connected pins is connected. If the amplitude of the response is over the threshold, one or more of the parallel pins is determined to be open. Additional tests may be performed to identify which of the parallel pins is likely open.



WO 2010/056343 A8



(88) Date of publication of the international search report:
19 August 2010

(15) Information about Correction:
see Notice of 7 October 2010

(48) Date of publication of this corrected version:
7 October 2010