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(54) METHOD FOR FABRICATING SURFACE ACOUSTIC WAVE FILTER PACKAGES AND PACKAGE SHEET USED THEREIN

(75) Inventors: Tae Hoon Kim, Kyungki-do (KR); Ju Weon Seo, Seoul (KR); Joo Hun Park, Kyungki-do (KR); Moon Soo Jeon,

Kyungki-do (KR)

(73) Assignee: Samsung Electro-Mechanics Co., Ltd.,

Kyungki-do (KR)

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(58) **Field of Classification Search** 438/106–107, 438/110, 113–115; 257/659 See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

			Yatsuda et al 310/313 R
5,699,027	A *	12/1997	Tsuji et al 333/193
6,154,940	A *	12/2000	Onishi et al 29/25.35
6,287,894	B1 *	9/2001	Sawin 438/113
6,492,194	B1*	12/2002	Bureau et al 438/106
6,649,446	B1 *	11/2003	Goetz et al 438/110
6,815,869	B1*	11/2004	Baba et al 310/313 R
2003/0109077	A1*	6/2003	Kim et al 438/106

FOREIGN PATENT DOCUMENTS

KR 10-2003-0001880 A 1/2003 KR 10-2003-0046940 A 6/2003

* cited by examiner

Primary Examiner—Luan Thai (74) Attorney, Agent, or Firm—Lowe Hauptman & Berner, LLP

(57) ABSTRACT

A method for fabricating Surface Acoustic Wave filter packages uses a package sheet having an outline pattern and anti-bur holes. In the package sheet for a Surface Acoustic Wave filter package, the outline pattern is formed along outer peripheries of chip mounting areas where a plurality of SAW filter chips are to be mounted. The outline pattern is contacted with a metal shield layer formed on the SAW filter chips and a predetermined region of the package sheet. Circular anti-bur holes are located at the corners of the chip mounting areas and on cutting lines along which the sheet is to be singulated into individual SAW filter packages.

11 Claims, 6 Drawing Sheets





