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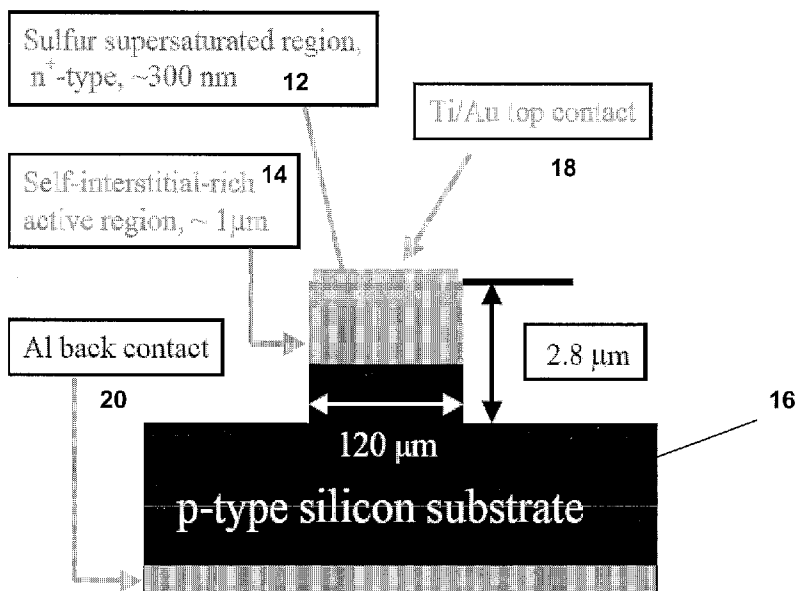
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[Continued on next page]

(54) Title: A POINT DEFECT ENGINEERED SI LIGHT-EMITTING DIODE AT 1.218 μM



(57) Abstract: A light-emitting device (LED) includes a first semiconductor layer comprising of n-type dope materials. A second semiconductor layer includes p-type dope materials. An active region is positioned between the first and second semiconductor layers. The active region includes Si self-interstitials used in producing electroluminescence having emissions at wavelengths approximately 1.218 μm.



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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01L 27/15 (2008.01)

USPC - 257/102

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 257/102Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 257/79-103, E31.092Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Electronic Databases Searched: PubWEST(USPT,PGPB,EPAB,JPAB), USPTO, Google, Answers.com, Google Patents
Search Terms Used: LED, semiconductor, layer, n-type, p-type, doped, electroluminescence, wavelength, silicon, oxide, dielectric, buried, interstitial, reactive ion etching, mechanical, cleaving, photolithograph, acti

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0082543 A1 (ALIZADEH et al.) 21 April 2005 (21.04.2005) para [0006], [0014], [0041], [0043], [0045], [0048]-[0049], [0064], [0072], [0075]; See Figs. 1-3	1-20
Y	US 2003/0168665 A1 (KIM et al.) 11 September 2003 (11.09.2003) para [0011]-[0012], [0014], [0016], [0043], [0078] and [0080]; See Fig. 7	1-20
Y	US 2005/0111779 A1 (JOYNER et al.) 26 May 2005 (26.05.2005) para [0021], [0024], [0029], [0047]-[0050] and [0076]	10 and 20
A	US 2004/0062284 A1 (JEWELL) 01 April 2004 (01.04.2004)	1-20
A	Nucleation and growth of single wall carbon nanotubes (BEUNEU) November 2005, Solid State Communications, Volume 136, Issue 8, Pages 462-465 [retrieved from internet URL: http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6TVW-4H5N32D-2&_user=10&_coverDate=11%2F30%2F2005&_alid=715346351&_rdoc=1&_fmt=summary&_orig=browse&_sort=d&view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=bed5f9e237b0e95614fd07e6ab53f988] [retrieved on 31 March 2008 (31.01.2008)]	13

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