

Title (en)  
Extreme ultraviolet light source device

Title (de)  
Extremultraviolette Lichtquellenvorrichtung

Title (fr)  
Dispositif de source lumineuse à ultraviolets extrême

Publication  
**EP 2203033 A3 20100908 (EN)**

Application  
**EP 09015807 A 20091221**

Priority  
JP 2008329570 A 20081225

Abstract (en)  
[origin: EP2203033A2] The invention relates to an extreme ultraviolet light source device, comprising a pair of discharge electrodes (2a, 2b, 52a, 52b) arranged spaced apart from each other; a pulsed power supply means (3, 53) supplying pulsed power to said discharge electrodes (2a, 2b); a raw material supply means (7) adapted for supplying raw material (M) for generating extreme ultraviolet radiation onto said discharge electrodes (2a, 2b, 52a, 52b); an energy beam emitting means (10, 60) adapted for radiating an energy beam (LB2) to the raw material (M) on said discharge electrodes (2a, 2b, 52a, 52b) to gasify said raw material (M); a means (11, 61, 85, 95, 105) for forming a depression (MA) in the raw material (M) supplied onto said discharge electrodes (2a, 2b, 52a, 52b); and a controller (6, 56). Said controller (6, 56) is adapted to control the depression forming means (11, 61, 85, 95, 105) such that it forms a depression (MA) in the raw material (M) supplied onto the discharge electrodes (2a, 2b, 52a, 52b) before the voltage between the electrodes (2a, 2b, 52a, 52b) increases by means of the supply of pulsed power to the discharge electrodes (2a, 2b, 52a, 52b) by said pulsed power supply means (3, 53), and before the energy beam (LB2) is radiated to the raw material (M) on the electrodes (2a, 2b, 52a, 52b) by said energy beam emitting means (10, 60). The invention also relates to a process for generating EUV radiation.

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CPC (source: EP)  
**G21K 1/00** (2013.01); **H05G 2/001** (2013.01)

Citation (search report)  
• [XPA] EP 2046100 A1 20090408 - TOKYO INST TECH [JP], et al  
• [A] EP 1976344 A2 20081001 - TOKYO INST TECH [JP], et al  
• [A] EP 1804555 A1 20070704 - USHIO ELECTRIC INC [JP]  
• [A] WO 2005101924 A1 20051027 - XTREME TECH GMBH [DE], et al  
• [A] WO 2005060321 A2 20050630 - PHILIPS INTELLECTUAL PROPERTY [DE], et al

Cited by  
EP3714476A4; EP2755452A1; EP4255123A1; DE102010047419A1; US8426834B2; JP2014229367A

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