



AN 337

SIMS Detection Limits of Selected Elements
in SiC Under Normal Depth Profiling Conditions

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Discussion

SIMS is a powerful analytical technique which allows detection of all elements from H to U with excellent sensitivity. The table provides a list of typical detection limits for impurities in a SiC matrix. These detection levels are for normal depth profiling conditions of blanket wafers.

O_2^+ Primary Ion Beam Positive Ions		Cs^+ Primary Ion Beam Negative Ions	
Element	DL (atoms/cm ³)	Element	DL (atoms/cm ³)
Li	1E+13	H	2E+17
B	2E+13	B	1E+15
N	5E+16	N	2E+15
-	-	N*	2E+14
Na	2E+13	O	5E+16
Mg	2E+13	F	5E+14
Al	2E+13	P	1E+14
K	5E+12	S	1E+15
Ca	1E+14	Cl	5E+14
Ti	1E+13	As	5E+14
V	1E+12	-	-
Cr	5E+13	-	-
Mn	5E+13	-	-
Fe	2E+14	-	-
Ni	5E+14	-	-
Cu	2E+14	-	-
Ga	5E+13	-	-
Zr	1E+14	-	-
Nb	2E+14	-	-
Mo	1E+14	-	-
Ta	5E+13	-	-
W	1E+14	-	-

* can be achieved with raster change technique

United States Locations

Tempe, Arizona
+1 480 239 0602 info.az@eaglabs.com
+1 602 470 2655 fax

Sunnyvale, California
810 Kifer Road
+1 408 530 3500 info.ca@eaglabs.com
+1 408 530 3501 fax

1135 E Arques Avenue
+1 408 738 3033
+1 408 530 3035 fax

785 Lucerne Drive
+1 408 737 3892
+1 408 737 3916 fax

Peabody, Massachusetts
+1 978 278 9500 info.ma@eaglabs.com
+1 978 278 9501 fax

Chanhassen, Minnesota
+1 952 828 6411 info.mn@eaglabs.com
+1 952 828 6449 fax

East Windsor, New Jersey
+1 609 371 4800 info.nj@eaglabs.com
+1 609 371 5666 fax

Syracuse, New York
+1 315 431 9900 info.ny@eaglabs.com
+1 315 431 9800 fax

Raleigh, North Carolina
+1 919 829 7041 info.nc@eaglabs.com
+1 919 829 5518 fax

Round Rock, Texas
+1 512 671 9500 info.tx@eaglabs.com
+1 512 671 9501 fax

International Locations

Shanghai, China
+ 86 21 6879 6088 info.cn@eaglabs.com
+ 86 21 6879 9086 fax

Tournefeuille, France
+ 33 5 61 73 15 29 info.fr@eaglabs.com
+ 33 5 61 73 15 67 fax

Frankfurt, Germany
+ 49 (0) 693053213 info.de@eaglabs.com
+ 49 (0) 69307941 fax

Tokyo, Japan
+ 81 3 5396 0531 info.jp@eaglabs.com
+ 81 3 5396 1930 fax

HsinChu, Taiwan
+ 886 3 5632303 info.tw@eaglabs.com
+ 886 3 5632306 fax

Uxbridge, United Kingdom
+ 44 (0) 1895 811194 info.uk@eaglabs.com
+ 44 (0) 1895 810350 fax