

## 2.1 Selected Physical Properties of Silicon

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TABLE 1  
Selected Physical Properties of Silicon

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Atomic Density	$5.0 \times 10^{22}$ atoms-cm <sup>-3</sup>
Density	2.33 gm-cm <sup>-3</sup>
Dielectric Coefficient	12
Energy Gap	1.1 eV
Energy per Electron-Hole Pair	3.6 eV-pair
Mobility	
Electron	1350 cm <sup>2</sup> - volt <sup>-1</sup> - sec <sup>-1</sup> ( $2.1 \times 10^9$ T <sup>-2.5</sup> cm <sup>2</sup> - volt <sup>-1</sup> - sec <sup>-1</sup> )
Hole	480 cm <sup>2</sup> - volt <sup>-1</sup> - sec <sup>-1</sup> ( $2.3 \times 10^9$ T <sup>-2.7</sup> cm <sup>2</sup> - volt <sup>-1</sup> - sec <sup>-1</sup> )
Thermal Expansion, linear coefficient	$4.2 \times 10^{-8}$ (°C) <sup>-1</sup>

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Unless otherwise indicated, above quantities correspond to 25°C.