

SKiM[®]
IGBT Modules

Technical Explanations

Version 1.5 / July 2011
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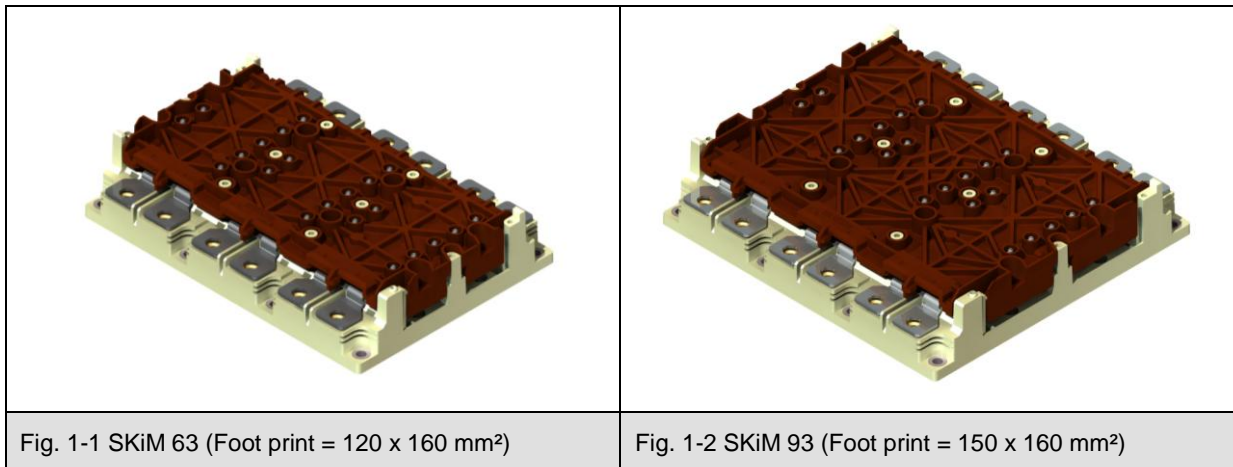
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1 Introduction

SKiM was introduced at PCIM Europe 2007 as SEMIKRON's new product line for highly reliable IGBT modules made specifically for automotive applications. SKiM is available in two package sizes: SKiM 63 (cf. Fig. 1-1) and SKiM 93 (Fig. 1-2).

1.1 Features



SKiM modules feature a pressure-contact low-profile housing that boasts the following advantages:

- ◆ 100 % solder-free module, Pb-free
- ◆ Solder-free driver assembly with no additional wiring or connectors
- ◆ Spring contacts for auxiliary contacts
- ◆ Separate AC, DC terminals and control unit
- ◆ 17 mm main terminal height

1.2 Advantages and Benefits

The chips inside SKiM modules are sintered not soldered, thereby achieving a very high power cycling capability. Fig. 1-3 shows the comparison between a SKiM and a standard soldered module. The sinter joint is a thin silver layer whose thermal resistance is superior to that of a soldered joint. Due to the high melting point of silver (960 °C), no joining fatigue occurs, resulting in an increased service life.

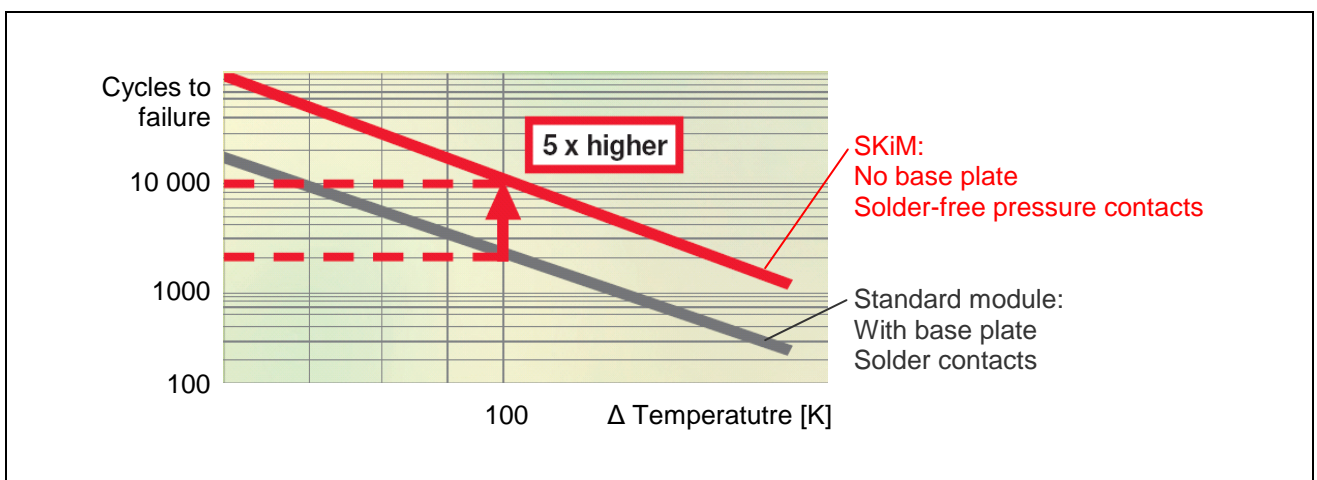


Fig. 1-3 Comparison between SKiM and standard soldered module with base plate

The above-mentioned features allow for a compact, flat and low-inductance inverter design. Direct driver assembly provides optimum IGBT controllability and eliminates noise on gate wires or loose connectors.

For further information on SKiM please refer to:

- P. Beckedahl, T. Grasshoff und M. Lederer; *A new power module concept for automotive applications*; PCIM Nuremberg; May 2007
- C. Daucher; *100% solder-free IGBT Module*; PCIM Nuremberg; May 2007

2 Disclaimer

The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.