Diode Leadless Chip Carrier - DLCC

Features

The DLCC family of Ceramic Leadless Chip Carrier packages for Diodes is designed for all high reliability applications – Space, Aerospace, High temperature and Military.

Detailed information

The DLCC package design takes full advantage of the proven high reliability pedigree of the High Temperature Cofired Ceramic (HTCC) surface mount packaging technology, which is easily integrated for automated assembly. Semelab has taken the existing standards for ceramic surface mount package manufacture and added additional design features to enhance thermal performance, to present a competitive alternative for high reliability applications.

The physical dimensions for the DLCC, ceramic packages are designed to fully utilise the recommended solder footprint for the popular MELF packages, and as such present a drop in replacement for existing board design. Thermal vias improve the heat transfer to the solder pads reducing the diode junction temperature and increasing operating lifetime; options are also available to allow the lid to be connected to the Anode or Cathode. Connecting the metal lid to a known electrical potential stops deep dielectric discharge in space applications, see the Space Weather link www.semelab.co.uk/mil/DLCC on the Semelab web site.

The DLCC has been designed and tooled to be able to meet small, medium and high volume demand allowing customers to access the technology and grow the requirements with their product, utilising scalable assembly techniques to offer high yield diodes, at competitive pricing structures. This includes full pre-cap access for inspection of semiconductor prior to hermetic encapsulation.

Semelab holds approvals for many aerospace semiconductor devices, and can manufacture in accordance with DLCC, AN/TC, Defense 5006 and other major process flows.

Please let us know your requirements – we can almost certainly meet them.

Experience and Innovation in Semiconductor Solutions

Specialists In

- Ceramic surface mount products
- Hermetic metal packaged devices
- Hermetic power modules
- Standard and custom products
- Screening and qualifications
- Continued supply of earlier device types and packages

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A subsidiary of TT electronics plc.
### Features and benefits:
- Fully hermetic, ceramic diode leadless chip carrier
- Replacement for MIL-STD-style standard product with enhanced features
- Fits on existing PCB layouts
- Controlled design to ensure solder wettability between board and component is visible
- Thermal performance within MIL standards, for the challenging surface mount PoI environment
- Thermal via incorporated in design to enhance thermal performance
- Rectangular design to aid in PCB assembly
- Designed to be a more cost-effective solution
- Manufactured in accordance with MIL-19500 and ESA specifications

### DLCC Advantages

- **Applications:**
  - Space
  - Aerospace
  - Medical
  - Military

- **Vertical End Markets:**
  - Commercial
  - Medical
  - Military

### Part numbers:
- SML05SC12D3B
- SML05SC06D3A
- 1N750AD1A
- 1N6642D2B
- 1N6642D2A

### Datasheets and Shortform Information

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**Keywords:**
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- UCC
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