

ABSTRACT

A lithium electrochemical cell of either a primary or a secondary chemistry activated with an electrolyte having a cyclic carbonate of a ring size equal to or larger than a six-member ring is described. The cyclic carbonate helps to make the anode passivation film ionically conductive to thereby eliminate voltage delay during pulse discharge and to reduce R_{dc} . Such a cell is particularly well suited for powering an implantable medical device, such as a cardiac defibrillator.

ORGANIC CYCLIC CARBONATE ADDITIVES FOR NONAQUEOUS
ELECTROLYTE IN
ALKALI METAL ELECTROCHEMICAL CELLS

BACKGROUND OF THE INVENTION

1. Field of Invention

This invention relates to an electrochemical cell having a nonaqueous electrolyte and, particularly, to lithium cells of both primary and secondary chemistries. The activating electrolyte is provided with an organic cyclic carbonate additive.

2. Prior Art

As is well known by those skilled in the art, an implantable cardiac defibrillator is a device that requires a power source for a generally medium rate, constant resistance load component provided by circuits performing such functions as, for example, the heart sensing and pacing functions. From time to time, the cardiac defibrillator may require a generally high rate, pulse discharge load component that occurs, for example, during charging of a capacitor in the defibrillator for the

