THE DATASHEET OF

DC002-10E

DC002-10E
High Voltage, Low Power 5V Regulator

Features:

- 5 V Regulated Output
- Input Voltage to 36 VDC (Maximum Rating 45 VDC)
- Reverse Battery Protection
- Excellent Immunity to Transients and ESD
- High Temperature Operation
- Small, Low Profile Surface Mount Package

Applications:

- Industrial Sensors and Controls
- Automotive Sensors and Controls

Description:

DC-Series voltage regulators are designed for harsh, noisy environments where immunity to large voltage transients and high input voltages are required. These regulators protect sensitive electronic components while providing a stable regulated supply. They are rated for high temperature operation, up to 170°C. The low-profile small footprint package features an exposed die-attach pad for direct heat sinking to the circuit board.

Electrical characteristics:

(−40°C to +175°C, unless otherwise noted)

Parameter	Min	Typ.	Max	Units
Input Voltage	6.2		36	V
Output Voltage	4.5	5	5.5	V
Output Current			20	mA
Bias Current at Zero Output Current			900	µA

Absolute maximum ratings*:

Parameter	Limit
Input Voltage	45 V
Reverse Battery Voltage	−60 V
Output Current	25 mA
Junction Temperature, T_J	−40°C to +170°C
Storage Temperature	−65°C to +170°C

*Stresses beyond those listed under “Absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only; functional operation of the device at these or any other conditions beyond those indicated under “Electrical characteristics” is not implied.

Notes:

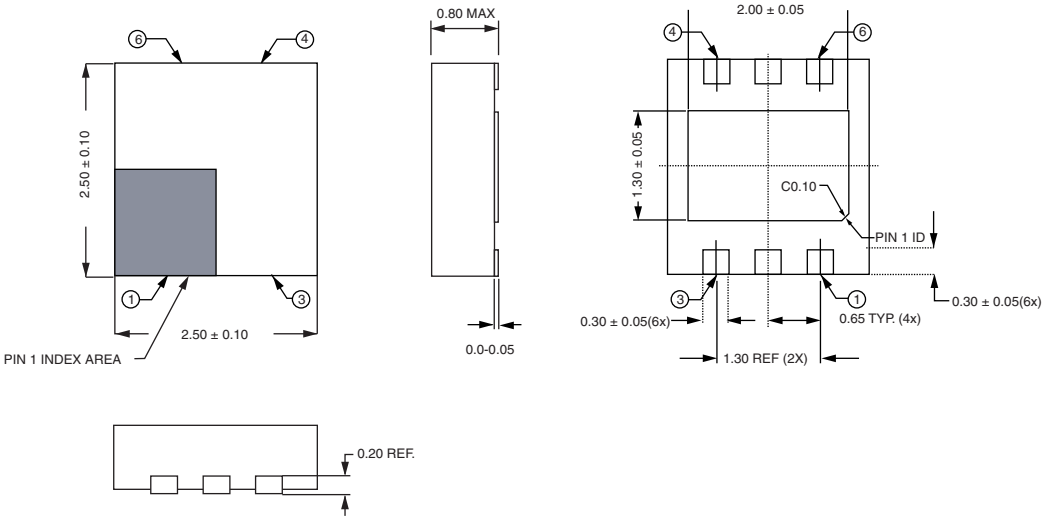
1. Junction-to-air thermal resistance for the TDFN6 package in free air is 320°C/Watt. Soldering the package to a PCB, including the die attach paddle, improves temperature performance substantially. The input voltage and output current are limited by thermal power dissipation at the package.

2. Due to the small package size, the TDFN6 package has a three-letter code to designate part type.

Part Numbers and Configurations:

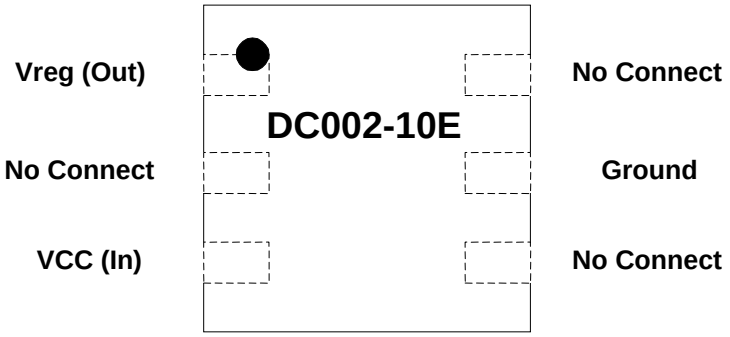
Part Number	Regulated Output Voltage	Package	Package Marking
DC002-10E	5V	TDFN6	FFCe

Package Drawing:



Dimensions in mm (inches).

Pin Configuration:



Note:

The die attach pad is exposed on the back of the package.
NVE recommends that it be connected to the ground pin and the PCB to improve thermal performance.

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