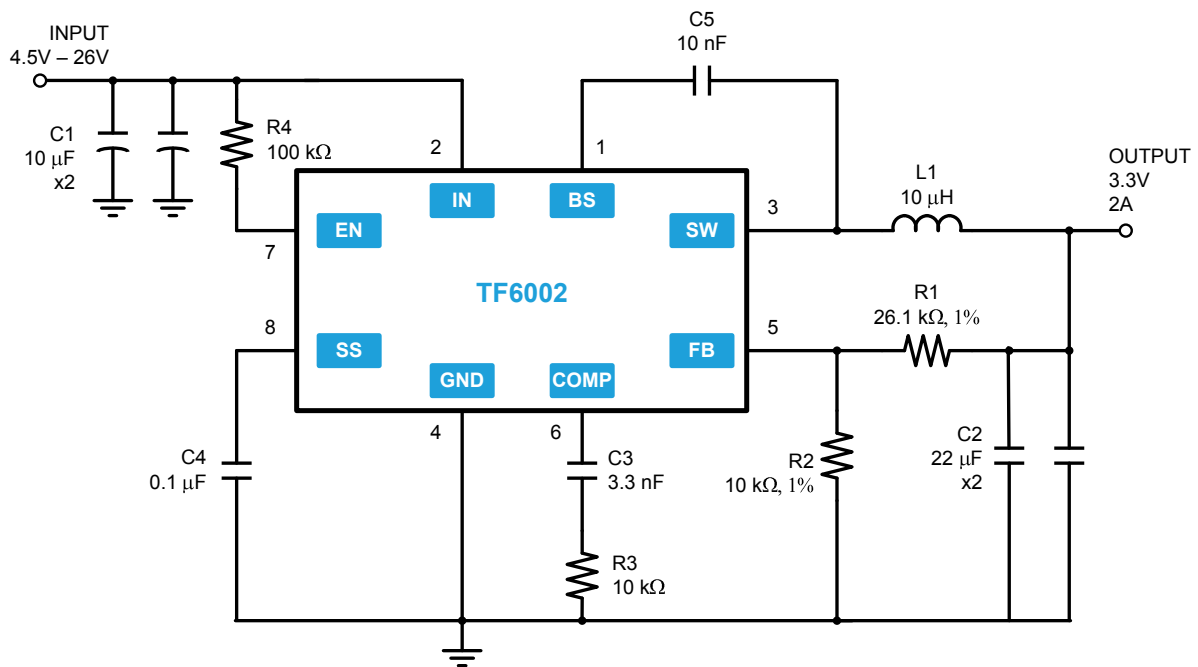




Product Overview

The TF6002 is a 2 Amp synchronous buck regulator offering high efficiency and wide input (4.5 to 26V) and output (.92 to 23V) Voltage ranges. The internal 340KHz oscillator and SOI (Silicon-on-Insulator) process provide efficiencies as high as 93%. Tight output regulation is provided by Voltage feedback. The device includes soft-start, cycle-by-cycle over-current, under-voltage lockout and over-temperature protection.

Typical Application Diagram



Radiation Test Results Summary

6002 Radiation Total Dose test Results

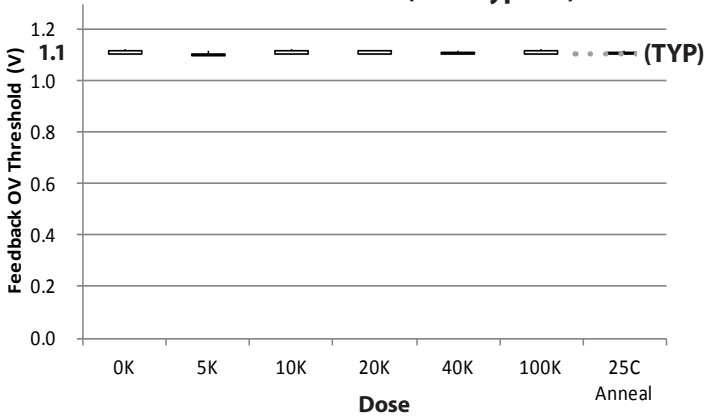
The TF6002 performed well up to 100Krad with no violations of the datasheet specifications. The only deviation from typical performance was at the 100Krad level the internal oscillator frequency increased by 11% from nominal of 340KHz to 377KHz. This increase in frequency would not affect device function although efficiency might be slightly reduced. A one week anneal indicated no rebound and the oscillator frequency moved back to 9% above nominal.

Sample Data shown below (for a complete analysis, contact your local Telefunken Representative).

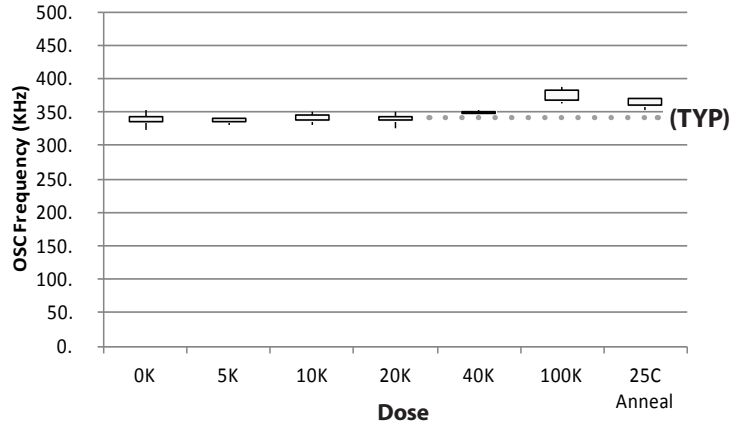
Irradiation Test Conditions

Irradiation was performed March 7, 2012 at the ESTEC facility in Noordwijk using a CO₆₀ source on 5 unbiased units. Dose rate was approximately 1.25 rads/sec. Radiation levels were approximately 5, 10, 20, 40 and 100Krad followed by a one week anneal at room temperature. Parts were fully AC/DC tested using a production test program on an Eagle ETS364 ATE.

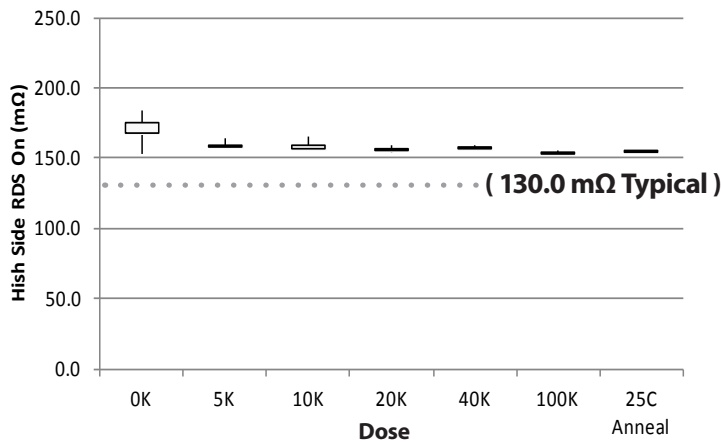
Feedback Over Voltage Threshold
(1.1V Typical)



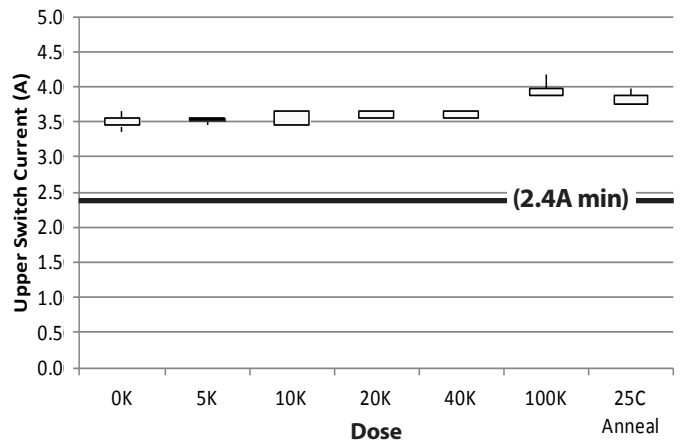
Oscillator Frequency (340KHz Typical)



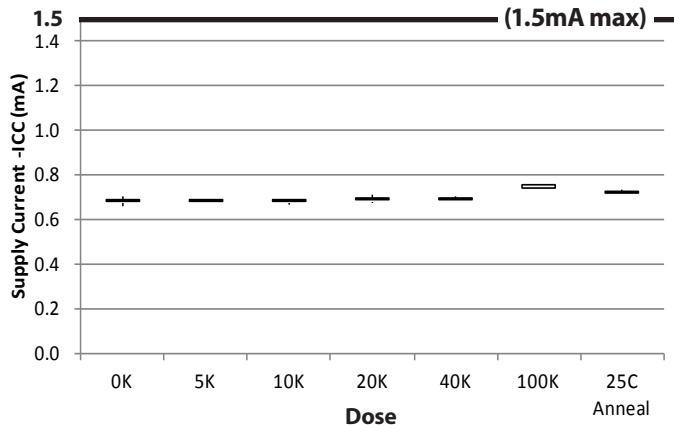
High Side Switch ON Resistance



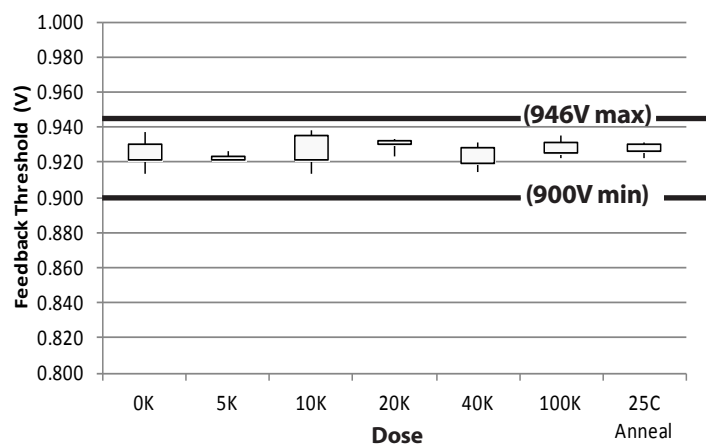
Upper Switch Current @ 12V



Supply Current (ICC) @12V



Feedback Threshold @ 26V



Notes

TF6002

2A, 26V Synchronous Rectified Step-Down Converter

Important Notice

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