ZES
Zero-Error Systems Pte Ltd

Monolithic Radiation-Hardened Point-of-Load (PoL)

ZES's Radiation-Hardened PoL embodies a proprietary architecture, offering:

- **Maximum power efficiency over a wide loading range**
- **Ultra-fast transient response**
- **High step-down ratio >20:1**
- **Independent parallelism with redundancy**
- **Zero Voltage Switching and Zero Current Switching**
- **Minimized passive components**

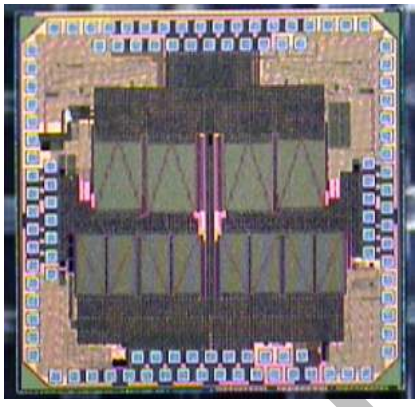

Figure 1 PoL Die

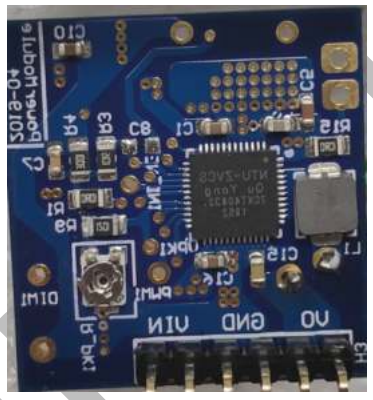

Figure 2 PoL Module Prototype

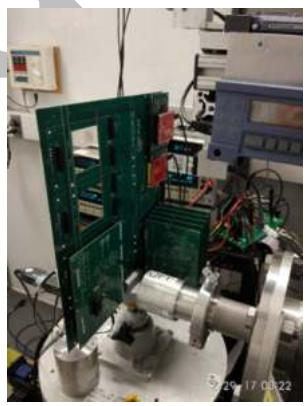

Figure 3 Heavy-ion Test

Features and Specifications

Table 1 Circuit Performance

Power Transistor	Integrated
Switching Frequency (MHz)	1-2 MHz
Input Voltage	5V to 16 V
Output Voltage	0.6V to V_{IN}-0.5V
Max. Output Current	5 A
Peak Power Efficiency	93%

Table 2 Radiation Performance

TID	200 Krad (Si)
SEL	50 MeV.mg/cm^2
SEFI	50 MeV.mg/cm^2
SEU	50 MeV.mg/cm^2
Ion Fluence	Up to 10^6/cm^2

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Patent Pending