

The Microcross MYXRHNEDDCJ series Nuclear Event Detectors (NED) are screened to class H & K, and feature integrated differential drivers – providing SWaP savings, improved overall noise immunity, 300% greater radiation dose sensitivity, and 25% faster response times compared with legacy devices.



## KEY FEATURES

- Gamma Dose Rate Sensitivity Threshold Range Adjustable from  $5 \times 10^4$  to  $2 \times 10^7$  rads (Si) / sec.
- 44 Pin J-Lead SMT Package (.650in x .650in x .113in)
- Integrated Differential Line Drivers and Receivers
  - Eliminates the Need for Shielding External Drivers and Receivers
- Radiation Specifications
  - Total Dose (Device Survivability):  $1 \times 10^6$  rads (Si)
  - Dose Rate (Operate Through):  $1 \times 10^{12}$  rads (Si) / sec.
  - Neutron Fluence (Operate Through):  $5 \times 10^{13}$  neutrons / cm<sup>2</sup>
- Delay from Radiation Detected to Output Signal Asserted: 15ns
- 3.3V Power Requirement
- -55 to +125°C Temperature Range
- Differential Line Drivers and Receivers All Operate Through Prompt Dose Without Extra Shielding

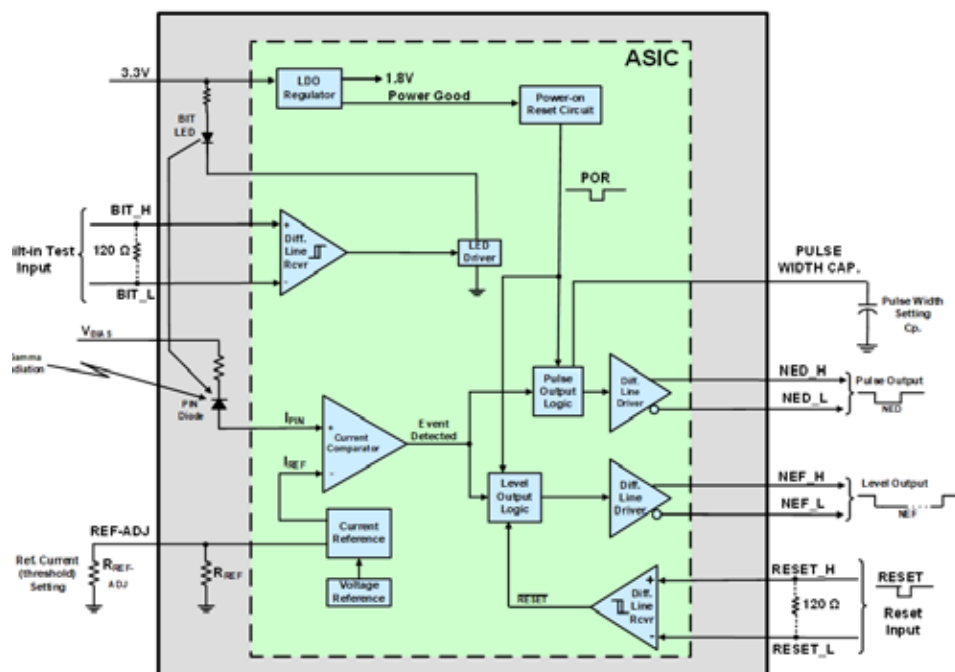
## BENEFITS

- 4X Lower Minimum Dose Rate Sensitivity
- 25% Faster Response Time – Enabling a More Rapid Shutdown of Critical Electronics
- Improved Noise Immunity
- Use Output Signal to Shut Down Power Supplies, Take Processors Offline and Block Memory Write Operations
- Manufactured on US soil in the Jazz Semiconductor Trusted Foundry
- Improvements in Obsolescence Mitigation with In-House Sourced PIN Diode and ASIC

## APPLICATIONS

- Aircrafts and Drones
- Missiles and Bombs
- Satellites
- Military Ground Vehicles
- Nuclear Material Storage

# NED with Integrated Line Drivers & Receivers



## MYX RH NED D CJ / X

### Screening Flow

- EM Engineering Model, screened in accordance with internal Microcross procedures
- D1 MIL-PRF-38534 Class H screened, but without qualification
- H MIL-PRF-38534 Class H screened and qualified
- H+ MIL-PRF-38534 Class H screened, plus customer-specified subset of Class K screening (**see NOTE**) and Class H qualified
- K MIL-PRF-38534 Class K screened and qualified

### Package

- CJ Ceramic 44 Pin J-Lead

### Configuration

- S Standard Performance NED
- H High Performance NED, with differential line drivers and receivers

### Product

- NED Nuclear Event Detector

### Radiation Rating

- RH Rad-Hard

### Microcross

**NOTE:** Customer-specified Class H+ screening options include PIND Testing, X-Ray, 100% Pull Test, One-Lot Date Code, Pre-Cap Source Inspection and Solder Dipping

## Disclaimer

The information in this Preliminary Product Brief is believed to be accurate; however, no responsibility is assumed by Microcross for its use, and no license or rights are granted by implication or otherwise in connection therewith. Specifications are subject to change without notice. Further, although Microcross is currently able to supply small quantities of this product to interested customers, the product described herein has not yet been qualified in accordance with MIL-PRF-38534. For production, Microcross plans on offering versions of the product with Class H or Class K qualification in compliance with MIL-PRF-38534.



## Need Information?

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