

The Standard-Performance Nuclear Event Detectors (NED) features a 2X increase in radiation dose rate sensitivity, and 50%+ reduced response times at 10X lower overdrive levels relative to legacy devices. With integrated differential drivers providing SWaP reduction, improved noise immunity & reduced delay times.



## KEY FEATURES

- Gamma Dose Rate Sensitivity Threshold Range Adjustable from  $1 \times 10^5$  to  $2 \times 10^7$  rads (Si) / sec.
- 44 Pin Non-Hermetic J-Lead SMT Package (.650in x .650in x .113in)
- Integrated Differential Line 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>
- 3.3V Power Requirement
- -55°C to +125°C Extended Full MIL-Temperature Range (XT)
- Integrated Differential Line Drivers and Receivers All Operate Through Prompt Dose Without Extra Shielding

## BENEFITS

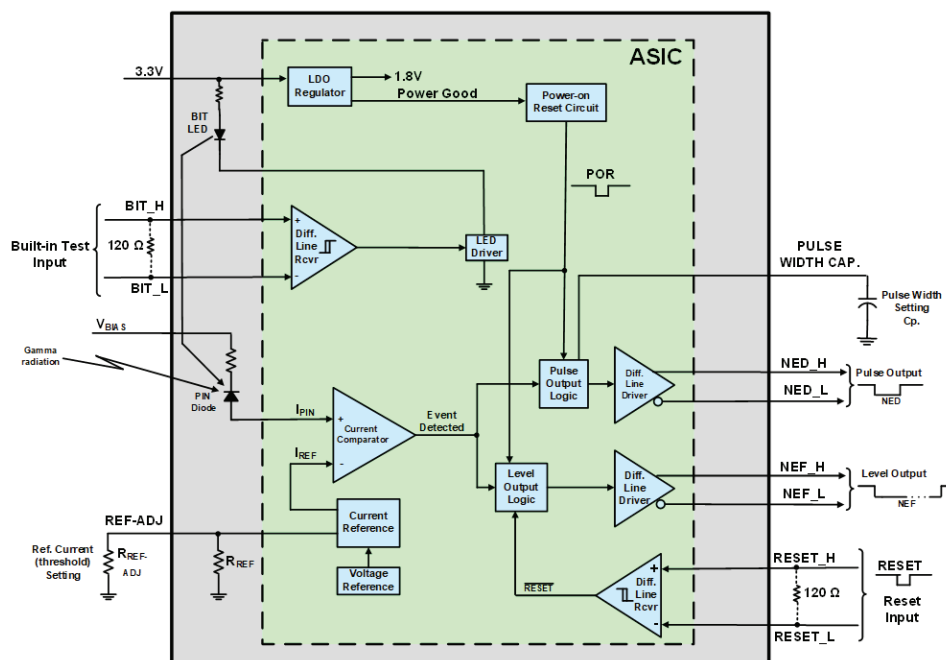
- 2X Lower Minimum Dose Rate Sensitivity
- Fast Delay Time to Enable Rapid Shutdown and Minimize Damage to Other Electronics
- Rad-Hard for Strategic Environments
- Small Compact Package Facilitates Use on Densely Populated Circuit Cards and Boards
- Built-In Differential Drivers and Receivers Provide SWaP (Space, Weight, & Power) Savings, Improved Noise Immunity, and Reduced Delay Times
- Use Output Signal to Shut Down Power Supplies, Take Processors Offline and Block Memory Write Operations

## APPLICATIONS

- Aircrafts and Drones
- Defense Weapon Systems
- Satellites
- Military Ground Vehicles
- Nuclear Material Storage

# Standard-Performance NED

## INTEGRATED LINE DRIVERS & RECEIVERS



## ORDERING INFORMATION

**MYX RH NED S CJ / H**

### Screening Flow

- EM Engineering Model, Non-Hermetic, Designed for -55°C to 125°C, but tested at only 25°C
- XT Extended Temperature Range, -55°C to +125°C, Internal and External Visual Inspections, Fine & Gross Leak Testing
- H MIL-PRF-38534 Class H Screened and Qualified

### Package

- CJ Ceramic J-Lead

### Configuration

- S Standard Performance NED

### Product

- NED Nuclear Event Detector

### Radiation Rating

- RH Rad-Hard

### Microcross

### Disclaimer

The information in this Preliminary Product Brief is believed to be accurate; however, no responsibility is assumed by Microcross Hi-Rel Components 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.



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