

# PRODUCT CHANGE NOTICE

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| 1. TITLE<br><b>IRHLNS87Y50 SEE Characteristics</b> | 2. DOCUMENT NUMBER<br><b>FV5-C-22-0005A</b> |
|  | 3. DATE<br><b>December 20, 2021</b>         |

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| 4. MANUFACTURER AND ADDRESS<br><b>International Rectifier HiRel Products, Inc<br/>205 Crawford Street<br/>Leominster, MA 01453</b> | 5. MANUFACTURER PART NUMBER<br><b>See below for IR Part Number</b> |
|  | 6. BASE PART<br><b>NA</b>  |
|  | 7. NATIONAL STOCK NUMBER (NSN)<br><b>NA</b>                        |

|                         |  |                                    |
|-------------------------|--|------------------------------------|
| 8. CAGE<br><b>69210</b> | 9. EFFECTIVE DATE<br><b>October 20, 2021</b> | 10. GOVERNMENT NUMBER<br><b>NA</b> |
|-------------------------|--|------------------------------------|

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| 11. POINT OF CONTACT<br><b>Manufacturer's Representative or<br/>Account Specialist (978) 534-5776</b> | 12. DRAWING NUMBER<br><b>NA</b>                  |
|   | 13. SPECIFICATION NUMBER<br><b>MIL-PRF-19500</b> |

14. PRODUCT CHANGE

**This amendment has been issued to add tolerance information and make corrections to the ion beam characteristics in Table 2. This amendment is complete.**

This GIDEP PCN is to announce specification correction for the Single Event Effects (SEE) test conditions used to characterize the following International Rectifier part numbers in heavy ion environment. Note that this change is related to part specification correction only, and not due to a die physical change.

**IRHLNS87Y50**  
20V N-Channel TID Hardened MOSFET in a SupIR-SMD package



Radiation Characteristics (In Table 2):


- change LET from 32.4 to **40 +/-5%** MeV/(mg/cm<sup>2</sup>)
- change Energy from 679 to **275 +/-5%** MeV
- change Range from 83.3 to **35.6 +/-5%** μm
- change LET from 61.7 to **64 +/-7.5%** MeV/(mg/cm<sup>2</sup>)
- change Energy from 584 to **600 +/-12.5%** MeV
- change Range from 48.7 to **49 +/-10%** μm
- change LET from 92.3 to **92 +/-5%** MeV/(mg/cm<sup>2</sup>)
- change Energy from 1156 to **1150 +/-5%** MeV
- change Range from 65.1 to **65.1 +/-5%** μm

**Table 2. Worst Case Single Event Effect Safe Operating Area**

| Ion | LET<br>(MeV/(mg/cm <sup>2</sup> )) | Energy<br>(MeV)             | Range<br>(μm)              | VDS (V)  |           |           |
|-----|------------------------------------|-----------------------------|----------------------------|----------|-----------|-----------|
|     |                                    |                             |                            | @ VGS=0V | @ VGS=-1V | @ VGS=-2V |
| Kr  | <del>32.4</del> 40 +/-5%           | <del>679</del> 275 +/-5%    | <del>83.3</del> 35.6 +/-5% | 16       | 16        | —         |
| Xe  | <del>61.7</del> 64 +/-7.5%         | <del>584</del> 600 +/-12.5% | <del>48.7</del> 49 +/-10%  | 14       | 14        | —         |
| Au  | <del>92.3</del> 92 +/-5%           | <del>1156</del> 1150 +/-5%  | <del>65.1</del> 65.1 +/-5% | 12       | 12        | —         |

Reference IR Datasheet PD-97956 for additional part identifier information.

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| 16. APPROVING GOVERNMENT ACTIVITY |  |  |
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| 17. GIDEP REPRESENTATIVE<br><b>Paul Hebert</b> | 18. SIGNATURE<br> | 19. DATE<br><b>October 20, 2021</b> |
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