

1. Type of Change (Major or Minor)

Major

2. Change Description

SEL onset threshold was corrected from $\geq 80 \text{ MeV} \cdot \text{cm}^2/\text{mg}$ to $\geq 75 \text{ MeV} \cdot \text{cm}^2/\text{mg}$.

Changed From:

Parameter	Conditions	Value	Units
SEL Onset LET Threshold	Please contact Apogee Semiconductor for test report	≥ 80	$\text{MeV} \cdot \text{cm}^2/\text{mg}$

Changed To:

Parameter	Conditions	Value	Units
SEL Onset LET Threshold	Please contact Apogee Semiconductor for test report	≥ 75	$\text{MeV} \cdot \text{cm}^2/\text{mg}$

3. Impact on Product and/or Process

No impact on Apogee Semiconductor's production process.

4. Justification for Change

The AF54RHC device family was initially qualified based on qualification by similarity (QBS) to the previously qualified AP54RHC device family due to significant similarity between the designs. The qualification strategy was adjusted to run tests independently on the AF54RHC family. SEE testing was completed on the AF54RHC family and no SEL events were observed during testing, however testing was conducted at an Effective Linear Energy Transfer (LET_{EFF}) of $75.2 \text{ MeV} \cdot \text{cm}^2/\text{mg}$.

5. Change Risk Assessment

Low. No SEL events have been observed during testing, but no testing was completed at or above $80 \text{ MeV} \cdot \text{cm}^2/\text{mg}$.

6. Qualification Plan

Description	Specification	Acceptance criteria	Sample Size (Failures allowable)
Single Event Latch-up (SEL)	JESD57	Characterization	4(0)

7. Qualification Report

Description	Test Level	Specification	Pass/Fail
Single Event Latch-up (SEL)	75.2 MeV*cm ² /mg	JESD57	4/0

8. Summary

See change description.

9. Impacted Device - Document - Process List

AF54RHC132ALT, AF54RHC132BLT, AF54RHC132CLT, AF54RHC132ELT.

AF54RHC14ALT, AF54RHC14BLT, AF54RHC14CLT, AF54RHC14ELT.

10. Sample Availability Date and Projected Production Shipment

N/A - This change is due to new qualification data and not a result of changed material. For concerns or samples please reach out to quality@apogeesemi.com.

11. File Attachment

- Datasheet (Changed From):
 - [A01_20250619_AF54RHC14.pdf](#)
 - [A02_20250619_AF54RHC132.pdf](#)
- Datasheet (Changed To):
 - [A02_20250829_AF54RHC14.pdf](#)
 - [A03_20250829_AF54RHC132.pdf](#)