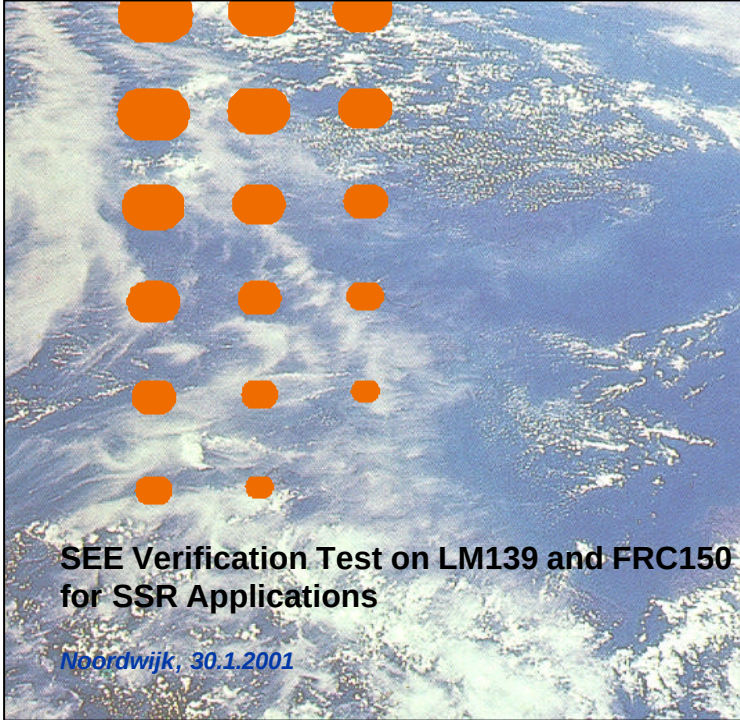


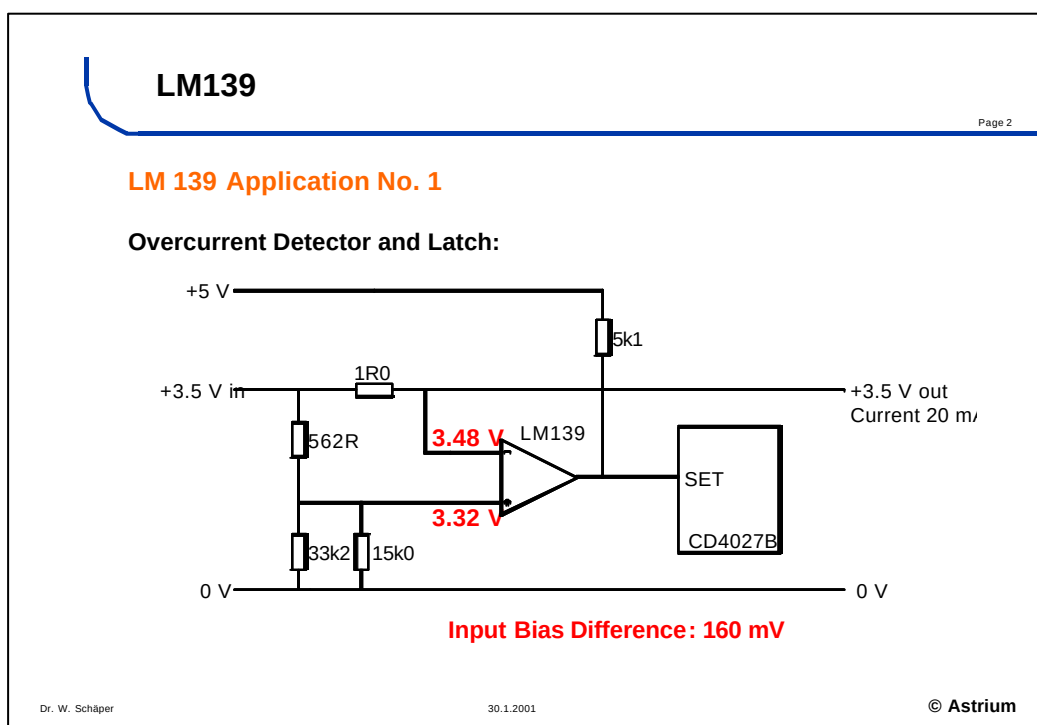




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SEE Verification Test on LM139 and FRC150 for SSR Applications

Noordwijk, 30.1.2001

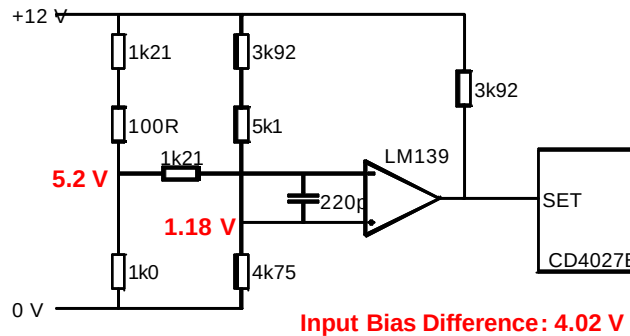


LM139

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LM 139 Application No. 2

Emergency Switch-off Latch:



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Devices Tested:

- Motorola 910300404B, DC9343 (Application 1)
- Motorola LMC139, DC 9345 (Application 2)
- Intersil rad hard 139RH engineering sample (for information only)

Single Event Effect Observed:

- Comparator output glitches (positive voltage transients)
- Malfunction of circuit if glitch exceeds trigger threshold of CMOS latch (>2,9 V for appl. 1, >7 V for appl. 2)

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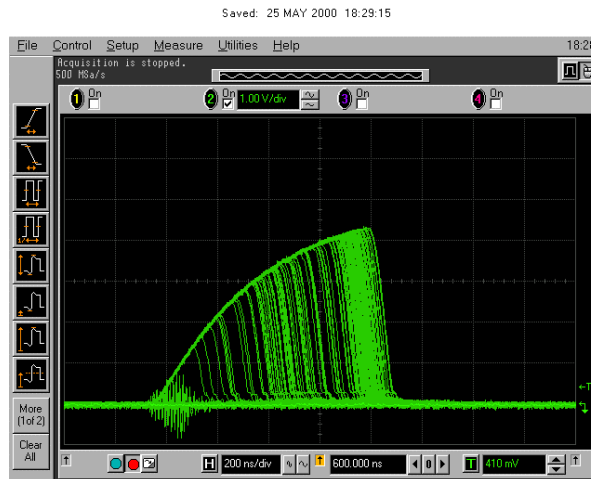
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Typical Output Glitches:



Motorola 910300404B
Application 1
LET = 34 MeV/mg/cm²
191 Counts > 2.9 V

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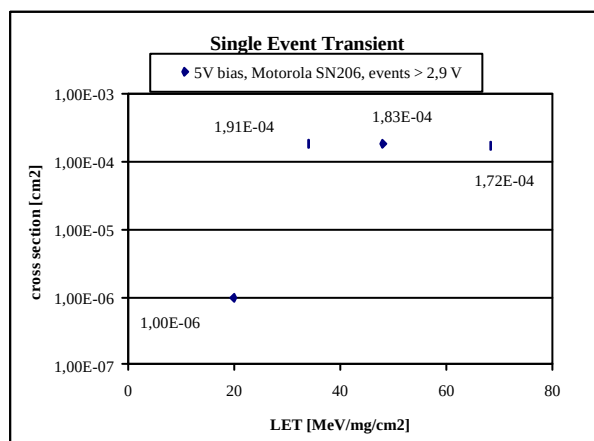
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Result for Application 1:



Motorola 910300404B
Application 1
Input Bias Diff. 160 mV

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Result for Application 2:

Motorola LMC139 was insensitive due to high input voltage difference of 4.02 V