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*This program
examined the
barrier materials
which were
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*electrical
characterization
and step stress
testing were
performed on six
different
processes power
Schottky
rectifiers. The
proposed drafts
of MIL-S-19500
detail
specifications*

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were prepared as part of this project. The data, proposed limits and related discussions are presented in this report. (Author). Lasers can alter the surface composition and properties of materials in a

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*highly
controllable way,
which makes
them efficient
and cost-effective
tools for surface
engineering. This
book provides an
overview of the
different
techniques, the
laser-material
interactions and*

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*the advantages
and
disadvantages for
different
applications. Part
one looks at laser
heat treatment,
part two covers
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manufacturing
such as laser-
enhanced
electroplating,*

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*and part three
discusses laser
micromachining,
structuring and
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modification.
Chemical and
biological
applications of
laser surface
engineering are
explored in part
four, including*

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*ways to improve
the surface
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properties of
metals. Provides
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treatments using
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steels, light metal
alloys,
polycrystalline*

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development of
new metallic
materials,
innovations in
laser cladding
and direct metal
deposition, and
the fabrication of
tuneable micro-*

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*and nano-scale
surface structures*
*Chapters also
cover laser
structuring,
surface
modification, and
the chemical and
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applications of
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Composite

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Applications gives
the reader a
summary of the
theory behind
magnetolectric
phenomena, later
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the techniques used to fabricate and characterize them. Part two of the book looks at magneto-electric devices. Applications include magnetic and current sensors, transducers for energy

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technology, as
well as
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*academics with
an interest in
these fields.*

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nanosensors, And

*including the use
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sensors, the use
of coated gold
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the important
tomographic
techniques of
industrial tomography,
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is used to create
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variety of industrial
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comprehensive
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industrial processes

This book takes a holistic approach to reliability engineering for electrical and electronic systems by looking at the failure mechanisms, testing methods, failure analysis, characterisation techniques and prediction models that

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Characterisation
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can be used to
increase reliability for
a range of devices.

The text describes the
reliability behavior of
electrical and Series
electronic systems. It
takes an empirical
scientific approach to
reliability engineering
to facilitate a greater
understanding of
operating conditions,

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failure mechanisms
and the need for
testing for a more
realistic

characterisation. After
introducing the
fundamentals and
background to
reliability theory, the
text moves on to
describe the methods
of reliability analysis
and characterisation

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across a wide range of applications. Takes a holistic approach to reliability engineering Looks at the failure mechanisms, testing methods, failure analysis, characterisation techniques and prediction models that can be used to increase reliability

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nanoelectronics, this book neatly links the underlying technological principles with present and future applications. A brief introduction is followed by an overview of present and emerging logic devices, memories and power technologies.

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and trends concludes
the book. Highlighting
the importance of
nanoelectronics in the
core fields of
communication and
information
technology, this is
essential reading for
materials scientists,
electronics and
electrical engineers, as
well as those working

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in the semiconductor
and sensor industries.

Magnetic nanowires
and microwires are
key tools in the
development of
enhanced devices for
information
technology (memory
and data processing)
and sensing. Offering
the combined
characteristics of high

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density, high speed,
and non-volatility,
they facilitate reliable
control of the motion
of magnetic domain
walls; a key
requirement for the
development of novel
classes of logic and
storage devices. Part
One introduces the
design and synthesis
of magnetic nanowires

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Electronic
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and microwires,
reviewing the growth
and processing of
nanowires and

nanowire
heterostructures using
such methods as sol-
gel and
electrodeposition
combinations, focused
-electron/ion-beam-
induced deposition,
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transport, quenching
and drawing and
magnetic interactions.

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Magnetic and
transport properties,
alongside domain
walls, in nano- and
microwires are then
explored in Part Two,
before Part Three goes
on to explore a wide
range of applications
for magnetic nano-

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microwires Reviews
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difficulties involved in
applying magnetic
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applications Combines
the expertise of
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**Since some
defects merely
affect**

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**performance
and
not necessarily
reliability, the
ultimate goal is
to provide a tool
that will help
identify the
correlation
between defects
and reliability.**

AlGaIn/GaN High

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**Electron
Mobility
Transistors
(HEMTs) were
electrically
stressed under
on-state ($V_G =$
0), off-state (V_G**

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explores
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electron's
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**materials used
for spintronics
applications, in
particular
focusing on
wide band-gap
semiconductors
doped with
transition
metals and rare
earths. These
materials are of**

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**particular
commercial
interest because
their spin can
be controlled at
room
temperature, a
clear opposition
to the most
previous
research on
Gallium**

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Arsenide, which allowed for control of spins at supercold temperatures. Part One of the book explains the theory of magnetism in semiconductors, while Part Two covers the

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**growth of
semiconductors
for spintronics.
Finally, Part
Three looks at
the
characterization
and properties
of
semiconductors
for spintronics,
with Part Four**

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of spintronics.
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materials which
are of
commercial
interest for
producing
smaller, faster,
and more power-**

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**efficient
computers and
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Analyzes the
theory behind
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development,
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processes,**

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proposition and
testing. Whilst
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principles can
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into products
that are fit for
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systems by
looking at the
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methods, failure
analysis,
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reliability for a
range of
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facilitate a
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understanding
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mechanisms and
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testing for a
more realistic
characterisation
. After
introducing the
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to reliability**

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**theory, the text
moves on to
describe the
methods of
reliability
analysis and
characterisation
across a wide
range of
applications.
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engineering
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failure
mechanisms,
testing
methods, failure
analysis,
characterisation
techniques and
prediction
models that can**

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greater
understanding
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Architecture
and Enhanced
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Industrial
Wireless Sensor
Networks
Silicon-On-
Insulator (SOI)
Technology
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and Devices
Device Design,
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tolerant
network*

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communications*

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vehicular
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control,

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addressing and
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services and
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and during
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areas in which

DTN is already

providing

solutions and

the prospects

for its wider

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technology and
home

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well as R&D
managers in
industrial
sectors such as
wireless
technology,
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electronics, te

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key principles
and*

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smart home
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some important
applications of
this
technology,

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smart sensor
networks for
home and
telecare, and
smart home
networking for
content and
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management*

*(including the
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industry needs:
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to the absence
of standard
protocols.
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have relied on
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advanced SOI
materials, and
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partially depleted
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at applications
such as memory,
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Metallic films play
an important role
in modern
technologies such
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(GaN) LEDs.

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particular
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while comparing
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