

Voltage-Current Characteristics for Electrical Conduction Through Thin MgO Films

RJ Soukup, DE Speliotis - Journal of Applied Physics, 1970 - pubs.aip.org

The voltage-current characteristics of Au-MgO-Au thin-film emission diodes formed by electron beam evaporation of Au and MgO are consistent with an expression derived for Schottky field emission into the conduction band of the oxide. These results however indicate a potential barrier height of about 0.72 eV when determined from the zero-field intercept of the straight line $\log I$ vs $V^{1/2}$ plot and about 0.33 eV when obtained from an Arrhenius plot. These apparent barrier heights were different for devices fabricated by ...

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Sol-gel MgO thin films for insulation on SiC

C Bondoux, P Prené, P Belleville, F Guillet... - *Materials Science in ...*, 2004 - Elsevier

Silicon carbide (SiC) is a wide bandgap semiconductor suitable for high-voltage, high-power, and high-temperature devices from DC to microwave frequencies. However, the ...

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Dielectric properties of "diamondlike"carbon prepared by rf plasma deposition

JD Lamb, JA Woollam - *Journal of applied physics*, 1985 - pubs.aip.org

Metal-carbon-metal structures were fabricated using either gold or aluminum evaporated electrodes and rf plasma (methane) deposited "diamondlike"carbon films. ac-conductance ...

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Electrical properties of evaporated MgF₂ films

BJ Sealy, AJ Crocker, MJ Lee, RF Egerton - *Thin Solid Films*, 1972 - Elsevier

Evaporated films of MgF₂ are shown to have electrical properties similar to many amorphous materials. At low electrical fields and below room temperature, a thermally ...

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Leakage currents through In/MgO/n-type Si/In structures

HY Tsao, YJ Lin, YH Chen, HC Chang - *Solid State Communications*, 2011 - Elsevier

Leakage currents through In/MgO/n-type Si/In structures were studied. The electrical conduction investigations suggest that the leakage behavior is governed by the Schottky ...

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Electrical conduction studies on Bi₂Te₃ thin films

R Sathyamoorthy, J Dheepa, A Subbarayan - *Journal of crystal growth*, 2005 - Elsevier

The DC electrical conduction mechanism in vacuum evaporated Al-Bi₂Te₃-Al thin film sandwich system in the thickness range 350–3300 Å at different temperatures (300–483 K) ...

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Observations of negative resistance in Ti-TiO₂-Au diodes

RJ Soukup - *Journal of Applied Physics*, 1972 - pubs.aip.org

Studies made on thin-film diodes revealed a number of interesting effects seen in the current-voltage characteristics. These Ti-TiO₂-Au diodes were rectifiers with the positive ...

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Injection controlled conduction

RM Hill - *Thin Solid Films*, 1973 - Elsevier

The nature of conduction by single carriers in non-metallic solids is examined where the processes limiting current flow lie in the region of the injecting electrode. Space charge ...

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Electrical properties of thermally evaporated tellurium thin films

T Balasubramaniam, SK Narayandass... - *Bulletin of materials ...*, 1997 - Springer

Results of dielectric and conduction properties of vacuum evaporated tellurium (Te) thin film capacitors (Al-Te-Al) have been reported in the frequency range 1–100 kHz at various ...

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Schottky emission in thin-film sandwich structures

RJ Soukup - *Journal of Applied Physics*, 1975 - ui.adsabs.harvard.edu

Thin metal-insulator-metal structures have been studied for a number of years. The interfacial barrier-controlled conduction mechanisms are tunneling and Schottky emission. A ...

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Dc conduction through thin praseodymium oxide films

CR Dutta, K Barua - *Thin Solid Films*, 1983 - Elsevier

The dc conduction mechanism in vacuum-evaporated praseodymium oxide films of thickness 80–250 Å and within the temperature range 258–328 K was found to be Schottky ...

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Determination of low energy barriers in metal-insulator-metal tunneling junctions

KH Gundlach - *Solid-State Electronics*, 1972 - Elsevier

Previous evaluations of the logarithmic derivative d/dV ($\ln J$) of the tunnel current J with respect to voltage V for M1-I-M2 junctions are extended to models having extremely low ...

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Dc conduction studies on thermally evaporated neodymium oxide thin films

MD Kannan, SK Narayandass... - *Journal of materials ...*, 1992 - Springer

Aluminium-neodymium oxide-aluminium thin film capacitors have been prepared by thermal evaporation and the dc conduction properties of these films have been studied. The ...

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The through-film electrical properties of sputtered GaAs films with aluminum contacts

RJ Soukup, DM Mosher, AK Kulkarni - *Thin Solid Films*, 1978 - Elsevier

Results are presented for ac and dc electrical measurements made on Al-GaAs-Al sandwich structures. The dc current-voltage characteristics were found to be strongly temperature ...

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Studies of current-voltage characteristics of antimony oxide films

CR Dutta, K Barua - *Journal of Physics D: Applied Physics*, 1982 - iopscience.iop.org

The current-voltage characteristics of antimony oxide films grown over antimony base electrodes and sandwiched between aluminium counter electrodes were measured as a ...

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Development of sol-gel MgO thin films for SiC insulation applications

C Bondoux, P Prené, P Belleville, F Guillet... - *Materials Science ...*, 2004 - Trans Tech Publ

Magnesium oxide (MgO) thin films have been studied as an alternative dielectric to silicon dioxide (SiO₂) for SiC insulation applications. Thin MgO films have been deposited onto ...

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ME Armond, DR Wilson, J Li, M Arnold, Y Han... - *Cortex*, 2013 - ai-lab.exparte.com

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