

( ) , ,  
 ,  
 0,75 ,  
 , ,  
 ( -  
 , Bi<sub>2</sub>O<sub>3</sub>, NiO) .  
 Si-  
 « » , -  
 , , ,  
 Al/Ni/Ni Si /n-Si/n<sup>+</sup>-Si/Bi/Al

: 1. Guk E.G., Shuman V.B., Shwartz M.Z. Optical characteristics of multijunction solar cells with vertical p-n-junctions // Proceedings of the 14<sup>th</sup> European Photovoltaic Solar Energy Conference, 30 June – 4 July, 1997. – Barcelona, Spain, 1997. – P. 154-156.

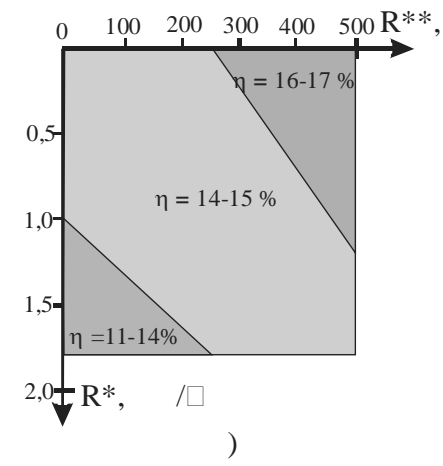
539.2:648.75

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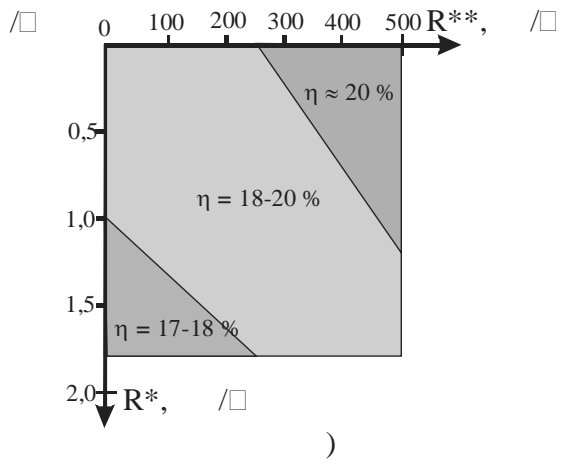
**P<sup>+</sup>-N-N<sup>+</sup> P<sup>+</sup>-I-N<sup>+</sup>**

( ) n<sup>+</sup>-p -  
 -10 25 -  
 0 13-14 %, 6-7 % .  
 n-  
 n- p- , , 0,3%  
 n- -

$J_0$  -  
 $n^-$   
 $p^-$  .  
 $n^-$  ,  
 $J$  .  
 $J$  -  
 $p^+ - i - n^+$   
 $i(n^-)$  .  $^- n^+$  1 -  
 $J = 48,6$   
 $p^+ - i - n^+$  .  
 $J_0 \cdot 10^{-7} / ^2$  3,1  
% 14,7 %.  
 $J_0 \cdot 10^{-7} / ^2 \cdot p^+ - i - n^+$   
= 16,1 %.  
 $p^+ - i - n^+$  20,4 %.  
 $R^{**}$  ,  $J_0$   $R^*$  -  
. 1.



. 1.



p<sup>+</sup>-i-n<sup>+</sup>

$10^{-7} / ^2 ( )$   $10^{-8} / ^2 ( )$

48,6 / <sup>2</sup>,

n<sup>+</sup>

16-20 %.

p<sup>+</sup>-i-

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( . 1).