```
errfun(8.51,0.23,0.36)

function err = errfun(volt,amp,Isc)
    syms I m U;

    Ur=0.0259;          % Thermal voltage [V]
    Is=1*10^(-8);       % Reverse saturation current [A]
    N=16;               % Amount of solar cells

    eqn = I == Isc - Is*(exp(U/(m*Ur*N))-1)
    eqn = solve(eqn,m)

    du = diff(eqn,U)
    di = diff(eqn,I)

    Verr = (volt.*0.005 + 0.01);
    Ierr = (amp.*0.015 + 0.0001);

    U = volt;
    I = amp;
    eval(eqn)

    err = Verr.*eval(du) + Ierr.*eval(di)
end


eqn =

I == 36000001/100000000 - exp((625*U)/(259*m))/100000000

Warning: Solutions are valid under the following conditions: I ~=
 9/25. To
include parameters and conditions in the solution, specify the
'ReturnConditions' value as 'true'.

eqn =

(625*U)/(259*log(36000001 - 100000000*I))


du =

625/(259*log(36000001 - 100000000*I))


di =

-(62500000000*U)/(259*log(36000001 - 100000000*I)^2*(100000000*I -
 36000001))


ans =
```

```
    1.2537

err =

    0.0098

ans =

    0.0098
```

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