



Category: FET

CIRCUIT IDEAS FOR DESIGNERS

Schematic no. fet_11129.0

Attenuator with Dual Attenuation Controls**Description**

For small values of V_{DS} , FETs act like variable resistors controlled by V_{GS} . They can be used for variable attenuators. With attenuation control 1 = 0.0V, attenuation control 2 = 0.0V, Q3 and Q4 are both turned off. The input to output has series resistance equal to $2R$. When Q4 is turned on, the on resistance of Q4 is in parallel to $2R$ and the series resistance is reduced by control of attenuation control 1. Attenuation is also controlled by attenuation control 2, where its increased V_{GS} voltage shunts the mid-point between the two resistors (R) and attenuates the input signal. Maximum attenuation is when Q4 is full on and Q3 is full on. This requires separate controls for the gate bias.

For full schematic diagram and notes, please register and login at aldinc.com