

<div style="border-left: 1px solid black; padding-left: 5px;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>V_{out} = 1.21 \cdot \left( 1 + \left( \frac{R2}{R1} \right) \right) + (I_{adj}) \cdot (R2)</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>isolate( \textbf{(1)}, R2 )</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>V_{out} = 12</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>R1 = 3300</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>I_{adj} = 3e-6</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>R2 = \frac{-V_{out} + 1.21}{-\frac{1.21}{R1} - I_{adj}}</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>\frac{(-12.0 + 1.21)}{\left( \left( -\frac{1.21}{3300} \right) - 3e-6 \right)}</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>\frac{(-20.0 + 1.21)}{\left( \left( -\frac{1.21}{3300} \right) - 3e-6 \right)}</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>\frac{(-(4 \cdot 4.2) + 1.21)}{\left( \left( -\frac{1.21}{3300} \right) - 3e-6 \right)}</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>I_{adj} = 7e-6</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>R2 = \frac{-V_{out} + 1.21}{-\frac{1.21}{R1} - I_{adj}}</math> </div> <div style="padding: 5px 0 5px 5px;"> <div style="border-right: 1px solid black; padding-right: 5px; text-align: right;">&gt;</div> <math>simplify( \textbf{(11)} )</math> </div> </div>	<div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>V_{out} = 1.21 + \frac{1.21 R2}{R1} + I_{adj} R2</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>R2 = \frac{-V_{out} + 1.21}{-\frac{1.21}{R1} - I_{adj}}</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>V_{out} = 12</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>R1 = 3300</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>I_{adj} = 3 \cdot 10^{-6}</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>R2 = \frac{-V_{out} + 1.21}{-\frac{1.21}{R1} - I_{adj}}</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>29188.45807</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>50829.57619</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>42173.12894</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>I_{adj} = 7 \cdot 10^{-6}</math> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <math>R2 = \frac{-V_{out} + 1.21}{-\frac{1.21}{R1} - I_{adj}}</math> </div> <div style="padding: 5px 0 5px 5px;"> <math>R2 = \frac{R1 (V_{out} - 1.21)}{1.21 + I_{adj} R1}</math> </div>	<div style="border-bottom: 1px solid black; padding-bottom: 5px;">(1)</div> <div style="padding: 5px 0 5px 5px;">(2)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">(3)</div> <div style="padding: 5px 0 5px 5px;">(4)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">(5)</div> <div style="padding: 5px 0 5px 5px;">(6)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">(7)</div> <div style="padding: 5px 0 5px 5px;">(8)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">(9)</div> <div style="padding: 5px 0 5px 5px;">(10)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">(11)</div> <div style="padding: 5px 0 5px 5px;">(12)</div>
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$$\begin{aligned} & > \frac{R1 (Vout - 1.21)}{1.21 + Iadj R1} \\ & \qquad \qquad \qquad \frac{R1 (Vout - 1.21)}{1.21 + Iadj R1} \end{aligned} \tag{13}$$

$$\begin{aligned} & > \frac{(3300)(20 - 1.21)}{(1.21 + (7e-6))} \\ & \qquad \qquad \qquad 51245.15809 \end{aligned} \tag{14}$$

$$\begin{aligned} & > \frac{(3300)(16.8 - 1.21)}{(1.21 + (7e-6))} \\ & \qquad \qquad \qquad 42517.93585 \end{aligned} \tag{15}$$

$$\begin{aligned} & > Vout = 1.21 + \frac{1.21 R2}{R1} + Iadj R2 \\ & \qquad \qquad \qquad Vout = 1.21 + \frac{1.21 R2}{R1} + Iadj R2 \end{aligned} \tag{16}$$

$$\begin{aligned} & > 1.21 + \frac{1.21 R2}{R1} + Iadj R2 \\ & \qquad \qquad \qquad 1.21 + \frac{1.21 R2}{R1} + Iadj R2 \end{aligned} \tag{17}$$

$$\begin{aligned} & > 1.21 + \frac{1.21 \cdot (50000)}{(3300)} + (7e-6 \cdot 50000) \\ & \qquad \qquad \qquad 19.89333333 \end{aligned} \tag{18}$$

$$\begin{aligned} & > \frac{(3300)(12.0 - 1.21)}{(1.21 + (7e-6))} \\ & \qquad \qquad \qquad 29427.10249 \end{aligned} \tag{19}$$

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