A bandgap circuit (16) for supplying a reference voltage includes a first current source (A1(Vref)) supplying a current proportional to a base-emitter voltage, a second current source (B1(Vbe)) supplying a current proportional to absolute temperature, and a third current source (C1) supplying a non-linear current. First (R3), second (R2), and third (R1) resistors are coupled in series between a first node (c) and ground. The first current source is coupled to the first node. The second current source is coupled to a second node (a) between the first and second resistors. The third current source is coupled to a third node (b) between the second and third resistors. An output coupled to the first node supplies the reference voltage Vref. The bandgap circuit provides a low voltage reference with temperature compensation flexibility.