Effect of bipolar current flow on the characteristics of spherical electron sheath has been studied by numerically solving Poisson's equation with iterative process. Contrary to the previous studies, simulations include not only the double layer, but also the transition state of the electron sheath with bipolar current flow. Simulation results show that the bipolar current flow due to the introduction of ion current increases the space-charge-limited electron current between fixed boundaries, owing to partial neutralization. The ratio of electron current increment depends on both radius ratios of outer to inner spheres and the fraction of ion to electron current. The maximum value of this ion current fraction, the Langmuir condition, is found to be proportional to the radius ratio and higher than the value of planar sheath. Correspondingly, maximum ratios of the electron current increment in spherical boundary are higher than that in planar electron sheath, 1.86. Based on the current enhancement at the fixed spherical boundary, increase of sheath thickness by the bipolar current flow is determined for the spherical electron sheath with movable boundary, considering area expansion of the sheath boundary. Depending on the initial boundary sphere radius ratios, sheath thickness increases until the ion current fraction reaches to the Langmuir condition. A remarkable result is that the maximum increment ratios of sheath thickness are identical to 1.364, the value of the planar sheath, regardless of the initial sheath thickness and boundary radius ratio. Since the current density, which determines the thickness of the electron sheath at fixed sheath voltage, is limited by the plasma properties, the sheath expansion ratio might be expected to be the same at fixed plasma condition, regardless of sheath geometry. This study will help to understand transition of spherical electron sheath to spherical double layer in the presence of bipolar current flow more clearly.