## **DC Sweep Simulation**

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A common-source amplifier with diode-connected load is used as example

- 1. First create a schematic that matches the figure. Please refer to "**01\_Schematic\_Creation**" if you do not know how to create a schematic
  - a. Use "vdc" for VDD, and set it to 1.8 V
  - b. Use "vdc" for input, you do not need to set values for it



- 2. Go to Launch, select ADE L
- 3. Select Choose Analyses
- 4. Set Analysis to dc
- 5. Under Sweep Variable, check Component Parameter

	011000011	Choosing Analyses ADE L (2)						
Analysis	<ul> <li>tran</li> <li>xf</li> <li>stb</li> <li>pss</li> <li>pxf</li> <li>qpnoise</li> </ul>	<ul> <li>dc</li> <li>sens</li> <li>pz</li> <li>pac</li> <li>psp</li> <li>qpxf</li> </ul>	<ul> <li>ac</li> <li>dcmatch</li> <li>sp</li> <li>pstb</li> <li>qpss</li> <li>qpsp</li> </ul>	<ul> <li>noise</li> <li>acmatch</li> <li>envlp</li> <li>pnoise</li> <li>qpac</li> <li>hb</li> </ul>				
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Save DC O Hysteresis	perating Poir Sweep	nt 🗌						
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Add Specif	ic Points 📃							

- 6. If you know the names of the component and the parameter that you want to sweep, enter their names in **Component Name** and **Parameter**. If you do not know them, click **Select Component**
- 7. Your schematic will pop up, and click V5, which is the input voltage source
- 8. Select Component Parameter window will pop up, click DC voltage and then click OK

Select Component Parameter ×								
dc	vdc	"DC voltage"						
mag	acm	"AC magnitude"						
phase	acp	"AC phase"						
xfmag	xfm	"XF magnitude"						
pacmag	pacm	"PAC magnitude"						
pacphase	pacp	"PAC phase"						
type	srcType	"Source type"						
tc1	tc1	"Temperature coefficient						
tc2	tc2	"Temperature coefficient						
tnom	tnom	"Nominal temperature"						
$\leq$								
		OK Cancel Help						

9. Set the Sweep Range as below, and click OK

Choosing Analyses ADE L (2)								
Analysis	<ul> <li>tran</li> <li>xf</li> <li>stb</li> <li>pss</li> <li>pxf</li> <li>qpnoise</li> <li>hbac</li> </ul>		dc sens oz oac osp qpxf nbnoise	00000000	ac dcmatch sp pstb qpss qpsp hbsp	<ul> <li>noise</li> <li>acmatch</li> <li>envlp</li> <li>pnoise</li> <li>qpac</li> <li>hb</li> </ul>		
DC Analysis Save DC Operating Point 🔲 Hysteresis Sweep 🔲								
Sweep Variable Temperature Design Variable Component Name /V5 Select Component Parameter Name dc Model Parameter								
Sweep Rar Start-St Center- Sweep Typ Automatic Add Specifie	nge top S Span De Points D	tart	0		Stop	1.8		
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## 10. In ADE L, click Outputs - To Be Plotted - Select On Design

11. Select the input and output wires on the schematic



- 12. Click Netlist and Run in ADE L
- 13. The DC sweep plot will pop up

