

Device Modeling Report

COMPONENTS: Solar Cell
PART NUMBER: SX 3140
MANUFACTURER: bp Solar
REMARK: Rated power (Pmax) 140W

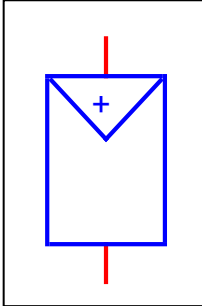


Bee Technologies Inc.

SPICE MODEL

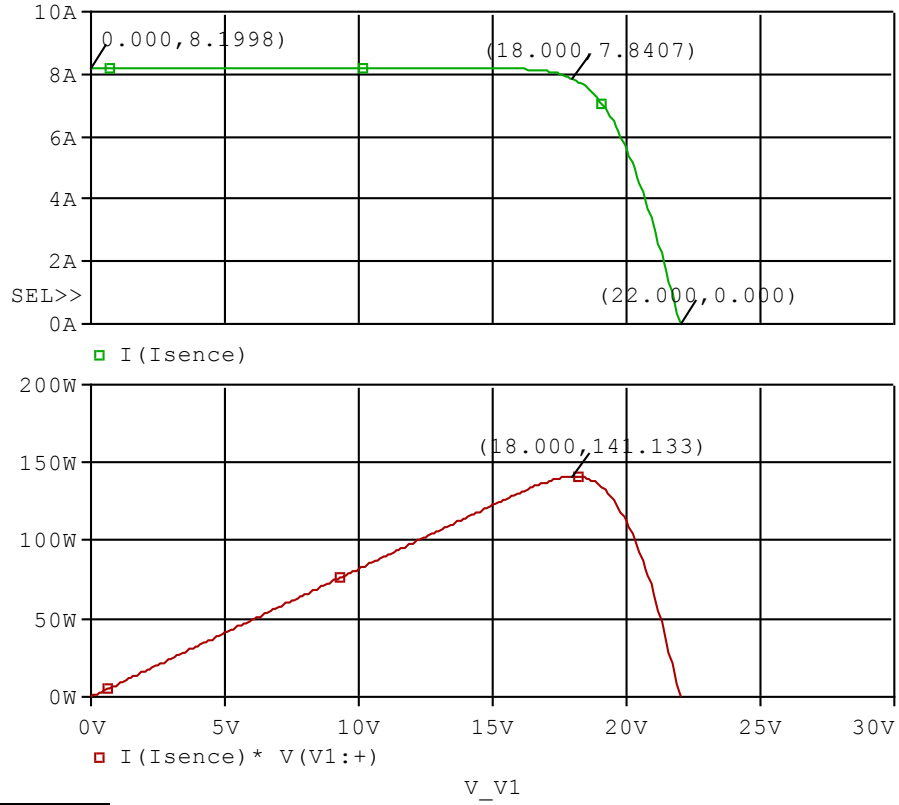
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*$  
*PART NUMBER: SX 3140  
*MANUFACTURER: bp Solar  
*REMARK: Rated power (Pmax) 140W  
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.SUBCKT SX3140 Plus Minus  
R_RS1 N00A Plus 126.0629m  
R_Rsh1 Minus N00A 4.6562k  
D_D1 N00A Minus DIODE_SX3140  
I_I1 Minus N00A DC 8.2  
.Model DIODE_SX3140 D  
+ IS=12.0938p  
+ N=30.4196  
+ RS=69.1117m  
+ IKF=0  
.ENDS  
*$
```

Circuit Configuration

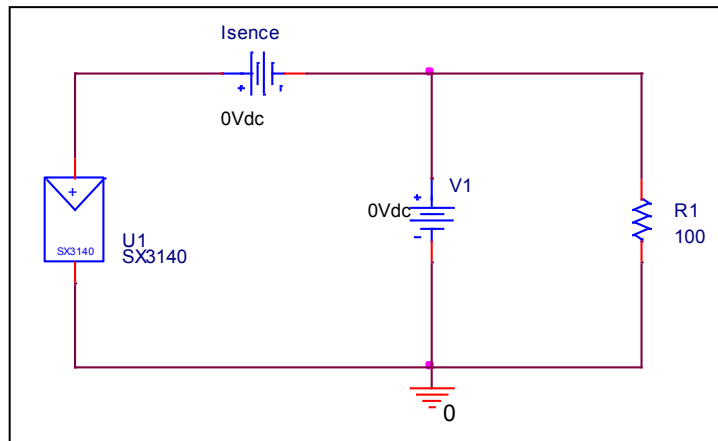


Output Characteristic

Circuit Simulation Result



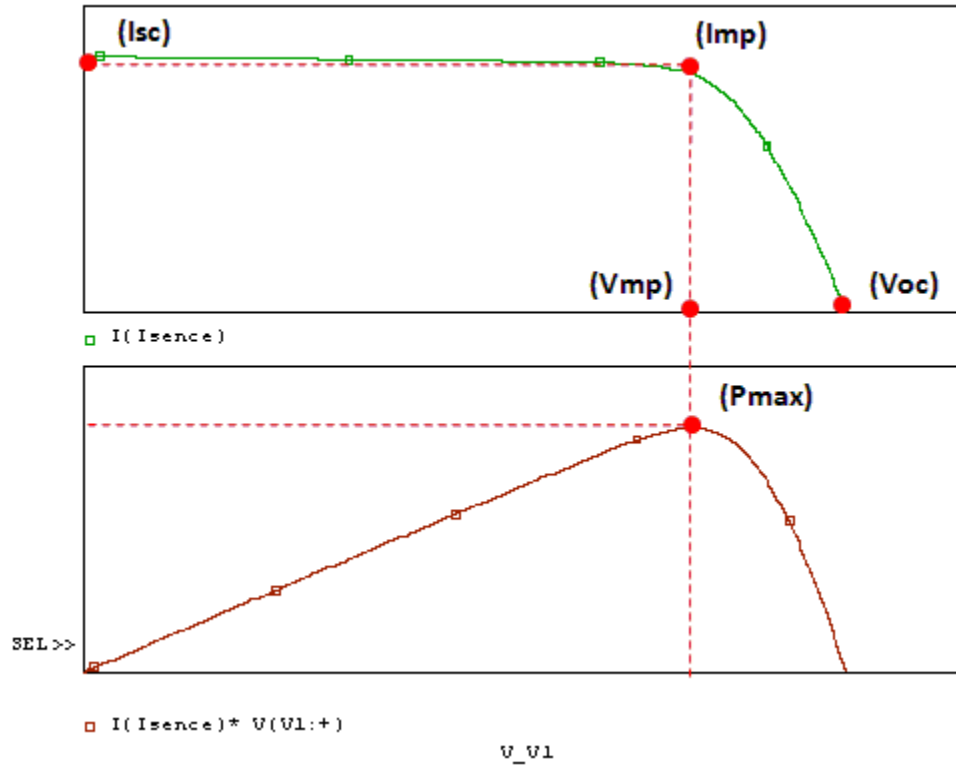
Simulation Circuit



Output Characteristic

Reference

Circuit Simulation Result



Data Table

Symbol	Measurement	Simulation	%Error
Isc	8.2000	8.1998	-0.002
Voc	22.0000	22.0000	0.000
Imp	8.0000	7.8407	-1.991
Vmp	17.5000	18.0000	2.857
Pmax(Imp*Vmp)	140.0000	141.1330	0.809

Data Information

No. SX 3140	
Maximum power (Pmax)³	140W
Voltage at Pmax (Vmp)	17.5V
Current at Pmax (Imp)	8.0A
Short-circuit current (Isc)	8.2A
Open-circuit voltage (Voc)	22.0V