

User Input	VBIAS	1.25	V
Fixed			

	Comparator threshold for VSTOR maximum. Typically the max storage element voltage, e.g. 4.2V for Lilon battery			
	2.5V ≤ VBAT_OV ≤ 5.25V			
Desired				
Desired	RSUM <sup>1</sup>	10 Mohm		
Desired	VBAT_OV	3 V		
		closest 1% resistor <sup>1</sup>		
Computed		Exact	<	>
Computed	ROV1	6.250	6.190	6.340 Mohm
Computed	ROV2	3.750	3.740	3.830 Mohm
Computed	VBAT_OV	→	3.008	3.008 V
Computed				
Selected	ROV1	6.19 Mohm		
Selected	ROV2	3.74 Mohm		
Selected		↓		
Typ voltage	VBAT_OV(typ)	3.008 V	0.26 % diff	
Typ voltage				

Comparator threshold voltages indicating when VSTOR has risen above VBAT_OK_HYS or fallen below VBAT_OK				
VBAT_OV ≥ VBAT_OK_HYST ≥ VBAT_UV				
RSUM <sup>1</sup>	10 Mohm			
VBAT_OK	2.3 V	> VBAT_UV		
VBAT_OK_HYST	2.5 V	> VBAT_OK		
		closest 1% resistor <sup>1</sup>		
	Exact	<	>	
ROK1	5.000	4.990	5.110 Mohm	
ROK2	4.200	4.120	4.220 Mohm	
ROK3	0.800	0.787	0.806 Mohm	
VBAT_OK	→	2.282	2.282 V	
VBAT_OK_HYST	→	2.479	2.479 V	
ROK1	5.11 Mohm			
ROK2	4.22 Mohm			
ROK3	0.806 Mohm			
	↓			
VBAT_OK (typ)	2.282 V	-0.78 % diff		
VBAT_OK_HYST (typ)	2.479 V	-0.83 % diff		

Comparator threshold for VSTOR minimum. Typically the min storage element voltage, e.g. 2.5V for Lilon battery				
2.2V ≤ VBAT_UV ≤ VBAT_OV				
RSUM <sup>1</sup>	10 Mohm			
VBAT_UV	2.2 V			
		closest 1% resistor <sup>1</sup>		
	Exact	<	>	
RUV1	5.682	5.620	5.760 Mohm	
RUV2	4.318	4.220	4.320 Mohm	
VBAT_UV	→	2.189	2.188 V	
RUV1	5.62 Mohm			
RUV2	4.22 Mohm			
	↓			
VBAT_UV(typ)	2.189 V	-0.52 % diff		

Maximum power point threshold, e.g. ~0.7-0.8 of solar panel's open circuit voltage				
MPPT				
RSUM <sup>1</sup>	20 Mohm			
VIN_DC(OC)	2.07 V	Open Circuit Volts		
VREF_SAMP	1.67 V	MPP voltage		
		closest 1% resistor <sup>1</sup>		
	Exact	<	>	
ROC1	6.135	6.040	6.190 Mohm	
+10MEG <sup>2</sup>	10.000	10.000	10.000 Mohm	
ROC2	3.865	3.830	3.920 Mohm	
+10MEG <sup>2</sup>	0.000	0.000	0.000 Mohm	
VREF_SAMP	→	1.671	1.666 V	
ROC1	6.04 Mohm			
+10MEG <sup>2</sup>	10.000 Mohm			
ROC2	3.83 Mohm			
+10MEG <sup>2</sup>	0.000 Mohm			
	↓			
VREF_SAMP	1.671 V	0.06 % diff		

<sup>1</sup>If the available 1% resistors for the recommend resistor total (RSUM) produce too high of % difference, try using the closest 1% > and < resistor cross combo OR increasing or decreasing RSUM in order to find a closer 1% resistor match OR adding 1 or more additional resistors and use two resistors in series that sum to the recommended value.

<sup>2</sup> Granularity of resistors values > 10 Mohm is greatly reduced so you may need to use a 10Mohm in series with a smaller resistor in order to achieve the desired resistance value.

