

Application Notes

Preferred Standard Resistance Values

The resistance values listed below and their decimal multiples have been designated as standard by the International Electrotechnical Commission (IEC). This listing ensures that every possible resistance value within its respective tolerance range is represented. The omission of a resistance value does not necessarily mean that Ohmite cannot manufacture the desired value.

Please contact Ohmite at 866-964-6483 or sales@ohmite.com for resistance values not shown in this table.

1% Tol. E96 Values (Plus 250 and 500)	5% Tol. E24 Values (Plus 25 and 50)	10% Tol. E12 Values (Plus 25 and 50)	20% Tol. E6 Values (Plus 25 and 50)	1% Tol. E96 Values (Plus 250 and 500)	5% Tol. E24 Values (Plus 25 and 50)	10% Tol. E12 Values (Plus 25 and 50)	20% Tol. E6 Values (Plus 25 and 50)	1% Tol. E96 Values (Plus 250 and 500)	5% Tol. E24 Values (Plus 25 and 50)	10% Tol. E12 Values (Plus 25 and 50)	20% Tol. E6 Values (Plus 25 and 50)
100	10	10	10	255				523			
102				261				536			
105				267				549			
107					27	27			56	56	
110	11			274				562			
113				280				576			
115				287				590			
118				294				604			
	12	12			30			619			
121				301					62		
124				309				634			
127				316				649			
130	13			324				665			
133					33	33	33		68	68	68
137				332				681			
140				340				698			
143				348				715			
147				357				732			
150	15	15	15		36			750	75		
154				365				768			
158				374				787			
	16			383				806			
162					39	39			82	82	
165				392				825			
169				402				845			
174				412				866			
178				422				887			
	18	18			43			909			
182				432					91		
187				442				931			
191				453				953			
196				464				976			
200	20				47	47	47				
205				475							
210				487							
215				499							
	22	22	22	500	50	50	50				
					51						
221				511							
226											
232											
237											
	24										
243											
249											
250	25	25	25								

Application Notes

Ohm's Law

Ohm's Law defines the relationships between (P) power, (V) voltage, (I) current, and (R) resistance. One ohm is the resistance value through which one volt will maintain a current of one ampere.

I Current is what flows on a wire or conductor like water flowing down a river. Current flows from negative to positive on the surface of a conductor. Current is measured in (A) amperes or amps.

V Voltage is the difference in electrical potential between two points in a circuit. It's the push or pressure behind current flow through a circuit, and is measured in (V) volts.

R Resistance determines how much current will flow through a component. Resistors are used to control voltage and current levels. A very high resistance allows a small amount of current to flow. A very low resistance allows a large amount of current to flow. Resistance is measured in ohms.

P Power is the amount of current times the voltage level at a given point measured in wattage or watts.

