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Select Optimum Resistors

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Select Optimum Resistors

Select Resistors with Optimum Technology to Best Match the Performance

Comparison of Axial Lead Resistor Characteristics Table

Characteristics		Thin Film		Thick Film		Wire Wound		Alloy Strip
		Carbon Film	Metal Film	Metal Oxide Film	Metal Glaze Film	Standard	Non -Inductive	
Tolerance (%)	±0.01		√			√		
	±0.02		√			√		
	±0.05		√			√		
	±0.1		√			√		
	±0.25		√			√		
	±0.5		√			√		
	±1.0		√		√	√	√	√
	±2.0	√		√	√	√	√	√
	±5.0	√		√	√	√	√	√
	±10	√		√	√	√	√	√
Temperature Coefficient (PPM/℃)	5		√					
	10		√					
	15		√					
	25		√			√		√
	50		√			√	√	√
	100		√		√	√	√	√
	200	√		√	√	√	√	
	400	√		√	√	√	√	
	1,000	√						
Operating Temperature Range (℃)	200			√				√
	165		√	√	√	√	√	√
	125	√	√	√	√	√	√	√
	70	√	√	√	√	√	√	√
	40	√		√	√	√	√	√
	10	√		√	√	√	√	√
Wattage (W)	1/16							
	1/8	√	√					
	1/4	√	√	√	√	√		
	1/2	√	√	√	√	√	√	√
	1	√	√	√	√	√	√	√
	2	√	√	√	√	√	√	√
	3	√	√	√	√	√	√	√
	5			√	√	√	√	
	10			√	√	√		
Resistance Range (Ω)	0.1							
	1		√			√		√
	10	√	√	√	√	√	√	
	100	√	√	√	√	√	√	
	1K	√	√	√	√	√	√	
	10K	√	√	√	√	√		
	100K	√	√		√	√		
	1M	√	√		√	√		
	10M	√			√	√		
Volume Size		Standard	Standard	Standard	Standard	Standard	Bigger	Compact
High Frequency		Available	Available	Available	Available	None	Available	Available
Cost		Cheap	Fair	Fair	Fair	High	High	Fair
Noise		Fair	Good	Fair	Fair	Fair	Good	Good
Stability		Fair	Excellent	Good	Good	Excellent	Good	Excellent

Comparison of Axial Lead Resistor Functions Table		
Class	**Advantage**	**Disadvantage**
Carbon Resistors	Cheap, General Purposes	High TCR,
Metal Film Resistors	Low TCR, Tight Tolerance, High Stability	Fair Withstanding Voltage
Metal Oxide Resistors	Replace high resistance wire wound resistor, Good withstanding voltage	Resistance Range Limitation, Fair Tolerance
Wire wound Resistors	High Pulse Load, Anti-Surge, High Stability	High Inductance, Resistance Range Limitation
Non-Inductive Resistors	High Pulse Load, Anti-Surge, High Stability	Resistance Range Limitation, High Cost
Ceramic Housed Cement Resistors	Rugged, excellent heat dissipation, withstanding high temperature	Heavy Weight, Big Volume
Metal Glaze Resistors	High Pulse Load, Anti-Surge, High Stability	High TCR, Fair Tolerance
Alloy Strip	Low TCR, Low Ohmic	Fair Tolerance