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AND8418/D

Former Catalyst Document Number DN2



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Electronic versus Mechanical Potentiometers - A Comparison

APPLICATION NOTE

Table 1. COST COMPARISON – ELECTRONIC VERSUS MECHANICAL POTENTIOMETERS

	Electronic	Mechanical
Manufacturer:	ON Semiconductor	BC Components (Beyschlag Centralab)
Name:	CAT5114	Model ST3, Cermet
Rpot:	10 k Ω , Single	10 k Ω , Single
Rpot Tolerance:	15%	20%
Resolution:	32 taps	Single Turn, 210°
Package:	8L SOIC	3L Surface Mount
Purchase \$: (>100 Units)	\$0.75	\$1.35
Assembly \$: (Automated)	\$0.04–0.08	\$0.04–0.08
Pot Adjustment \$: (ATE)	<< \$0.01	\$0.12 + 0.20
Rotational Life:	Infinite	200 Cycles
Reliability:	< 100 FITs	??
Field Service \$:	\$	\$\$\$

NOTE: The assembly and test costs (California) were obtained from a leading contract manufacturer. Costs include overhead. The adjustment costs for mechanical pots have two parts: ATE costs and labor costs. Purchase prices are from known publications (2001). The examples of pots were chosen for similarity in basic performance and in package type.

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