

AND8418/D

Former Catalyst Document Number DN2



ON Semiconductor®

<http://onsemi.com>


Electronic versus Mechanical Potentiometers- A Comparison

APPLICATION NOTE

Prepared by: Chuck Wojslaw,
Director of Applications Engineering
ON Semiconductor

	Electronic	Mechanical
Manufacturer:	Catalyst	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-.08	\$0.04-.08
Pot Adjustment \$: (ATE)	<< \$0.01	\$0.12+0.20
Rotational Life:	infinite	200 Cycles
Reliability:	< 100FITs	??
Field Service \$:	\$	\$\$\$

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.

ON Semiconductor and  are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5773-3850

ON Semiconductor Website: www.onsemi.com
Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local
Sales Representative