



CAT5111 & CAT5113

100-Tap Digitally Programmable Potentiometers (DPP™)

CATALYST

ASH • Serial EEPROM • Parallel EEPROM • NVRAM • Digitally Programmable Potentiometers • µP Supervisors • Voltage Regulators

BENEFITS

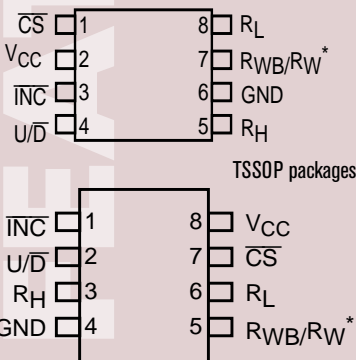
- Lower system cost
- No calibration tools needed
- No moving parts
- Space saving surface mount packages
- Electronically automate system adjustments
- Improve system reliability
- Will not wear out

FEATURES

- 100 Position linear taper
- Nonvolatile wiper position storage
- Low power CMOS technology
- Single supply operation: 2.5V to 6.0V
- Increment up/down control
- Buffered output, CAT5111
- Resistor values: 10K and 100K ohms

PACKAGE OPTIONS

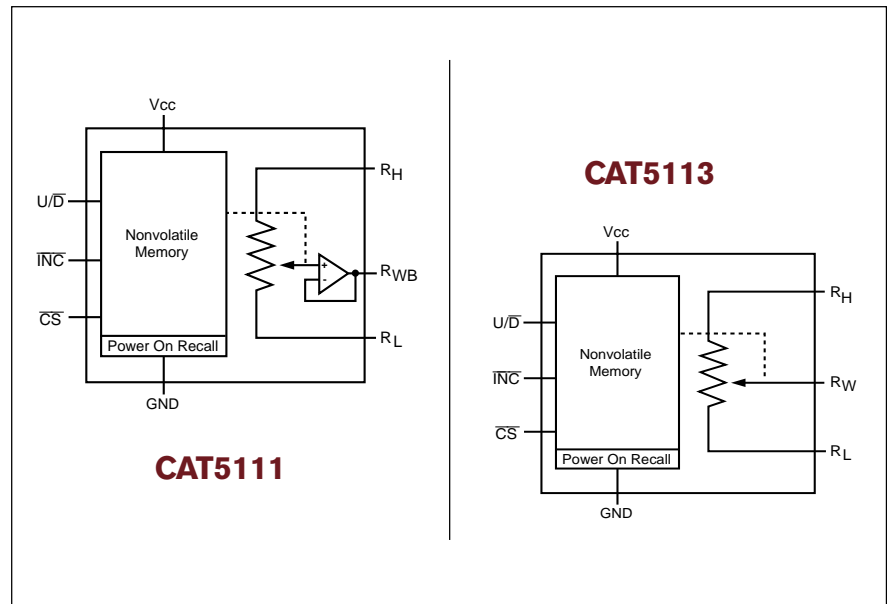
- Available in 8-lead PDIP, SOIC, TSSOP and MSOP packages



*R_w (5113)

DIP/SOIC/MSOP packages

Electronic replacement for mechanical potentiometers and trimmers!



DESCRIPTION

The CAT5111 and CAT5113 are 100-tap digitally programmable potentiometers (DPP™) whose wiper positions are set by a simple 3-wire digital up/down interface. Designed to be used as electronic replacements for mechanical pots and trimmers, these devices are ideal for systems requiring automated or self-calibration. Unlike mechanical pots, DPPs operate reliably in hazardous environments and eliminate mechanical “wear and tear.”

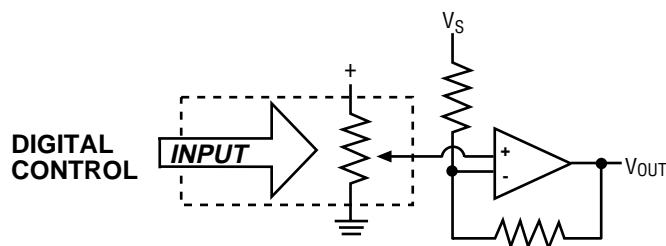
Resistor tap points are connected to the output through CMOS switches or in the case of the CAT5111, through a unity gain buffer amplifier. Selection of the output tap position is controlled by an up/down counter which does not wrap around. The value of the counter can be stored in nonvolatile memory at power down and automatically recalled when power is restored.

Available in 8-lead plastic DIP, SOIC, TSSOP and MSOP packages, they can be mounted anywhere in the system, unlike mechanical pots that require physical access or bulky shafts and knobs. DPPs bring variability and programmability to a wide range of applications including control, parameter adjustments and signal processing.

www.catalyst-semiconductor.com

Customer Service & Technical Support Hotline 800-258-5991

TYPICAL APPLICATION



CAT5111 & CAT5113

APPLICATIONS

- Connect as a three-terminal POT or a two-terminal variable resistor
- Automated system calibration
- Remote control adjustment of equipment
- Mechanical POT replacement
- Offset, gain and zero adjustments in self-calibrating and adaptive control systems
- Tamper-proof calibration
- Hazardous environment system adjustments
- Vibration proof systems
- Contrast and brightness controls
- Motor control
- Volume controls
- Programmable analog functions
- Amplifier bias control
- Temperature control systems
- Sensor adjustments
- Optical Communication systems
- Bias control

DPP™ SELECTION GUIDE

Part	Type	Taps	Resistance Options (kΩ)	Buffered Wiper	Independent Reference Input	Digital Interface	Supply Type	Supply Range (V)	Package
CAT5111	Single	100	10, 100	Yes	NA	Increment/Decrement	Single	2.5-6.0	8-pin DIP, SOIC, MSOP, TSSOP
CAT5112	Single	32	10, 100	Yes	NA	Increment/Decrement	Single	2.5-6.0	8-pin DIP, SOIC, MSOP, TSSOP
CAT5113	Single	100	10, 100	No	NA	Increment/Decrement	Single	2.5-6.0	8-pin DIP, SOIC, MSOP, TSSOP
CAT5114	Single	32	10, 100	No	NA	Increment/Decrement	Single	2.5-6.0	8-pin DIP, SOIC, MSOP, TSSOP
CAT521	Single	256	28	Yes	NA	3 wire	Single	2.7-5.5	14-pin DIP, SOIC
CAT522	Dual	256	28	Yes	Yes	3 wire	Single	2.7-5.5	14-pin DIP, SOIC
CAT523	Dual	256	28	Yes	No	3 wire	Single	2.7-5.5	14-pin DIP, SOIC
CAT524	Quad	256	28	Yes	No	3 wire	Single	2.7-5.5	14-pin DIP, SOIC
CAT525	Quad	256	28	Yes	Yes	3 wire	Single	2.7-5.5	20-pin DIP, SOIC

SAMPLE & LITERATURE REQUESTS

To obtain samples or data sheets for the products described on this feature sheet, complete the enclosed Request Form and fax your selections to us. You may also use the Internet to navigate to the Catalyst Web site www.catsemi.com and complete the on-line sample and literature Request Form. All data sheets are available directly from our Web site as downloadable PDF documents.

Additional information about the full line of Catalyst products can also be accessed via our Web site at www.catsemi.com. For additional questions or requests, email customer.service@catsemi.com.

To request samples or literature do, one of the following:

- Complete the enclosed Request Form and fax to 408-542-1200 (USA).
- Complete the enclosed Request Form. Don't forget to add postage!
- Complete the Sample Request Form at www.catalyst-semiconductor.com in the Technical Support section. Refer to the product data sheet for the complete part number.



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CAT5111 & CAT5113 REQUEST FORM Samples & Literature

FLASH • Serial EEPROM • Parallel EEPROM • NVRAM • Digitally Programmable Potentiometers • Microprocessor Supervisors • Voltage Regulators

To obtain samples or data sheets for the products described on the feature sheet, complete this form and fax your selections to (408) 542-1200. Samples can be requested online at www.catalyst-semiconductor.com in the Technical Support section. All data sheets are available directly from our web site.

QUESTIONNAIRE

WWW.CATALYST-SEMICONDUCTOR.COM

To help us better support your technical literature and sample requests and needs, please take a moment to answer the brief questions below. Questions marked with an asterisk (*) are required fields for processing your sample requests. Thank you for your support and for making Catalyst Semiconductor your choice for chip technology!

- * 1) Will this information be used for a project that will be in production... Now Next 2 - 6 months Next 7 - 12 months 13 - 18 months
- * 2) What is the name of your project? _____
- 3) What is your role on this project? Designer Component Engineer Purchaser Project Manager Other
- 4) What do you expect your annual usage to be? >1 Million Units 100k-1 Million Units 10k-100k Units Fewer than 10k Units
- * 5) What is the primary end-use of this product? Auto subassemblies & systems Computers, systems & peripherals Data communications Entertainment
 Wireless communications Home appliances Industrial control Medical Power Telecomm Test PDAs Handheld instruments
 Other _____

PRODUCT NUMBER	DESCRIPTION	PACKAGE	TEMPERATURE RANGE	RESISTANCE	DATA SHEET	SAMPLE QTY
CAT5111	100-Tap DPP with Buffered Wiper	<input type="checkbox"/> 8-lead DIP <input type="checkbox"/> 8-lead SOIC <input type="checkbox"/> 8-lead TSSOP <input type="checkbox"/> 8-lead MSOP	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input type="checkbox"/> 10KΩ <input type="checkbox"/> 100KΩ	<input type="checkbox"/>	
CAT5113	100-Tap DPP	<input type="checkbox"/> 8-lead DIP <input type="checkbox"/> 8-lead SOIC <input type="checkbox"/> 8-lead TSSOP <input type="checkbox"/> 8-lead MSOP	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial	<input type="checkbox"/> 10KΩ <input type="checkbox"/> 100KΩ	<input type="checkbox"/>	

COMPANY INFORMATION

_____	_____	_____
first name	last name	title
_____	_____	_____
company	web site	email address
_____	_____	_____
street address 1	department	telephone
_____	_____	_____
street address 2		fax
_____	_____	_____
city	state/mail code	zip/country



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