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Keywords: DS1804, digital potentiometer

APPLICATION NOTE 3397

Clarification of DS1804 Ordering Information and Package Marking

Dec 10, 2004

Abstract: The DS1804 digital potentiometer is available in a wide variety of types, options, and package configurations. And there is little room for identification markings on today's tiny packages.

How do users define and order the right part? And how do they verify that the parts they receive are correct? This technical brief is designed to help customers interpret the ordering information and package markings for the DS1804.

With So Many Variations of the DS1804, How Can I Be Sure that I Have the Correct Part?

The process of defining, ordering, and verifying receipt of the desired DS1804 digital potentiometer can be tedious because of the wide variety of product offerings and the multiple packaging configurations. To complicate the identification issue further, there is little space for markings on some package bodies. This brief assists the customer in the selection and identification of the various DS1804 ordering and marking details.



[Click here for an overview of the wireless components used in a typical radio transceiver.](#)

Technical Requirements

The DS1804 is offered in one of three **end-to-end resistance** variations: 10k Ω , 50k Ω , or 100k Ω .

Any of the three DS1804 resistance values can be purchased in one of four **package** variations: 8-pin, 300mil DIP; 8-pin, 118mil μ SOP; 8-bump, 150mil SOIC; or 15-ball Flip Chip.

Standard **lead finish** is SnPb (85/15) solder-plating for PDIP, μ SOP, or SOIC. Lead-free (Sn) plating is also offered for certain package variations, and is identified with a "+" in the ordering and marking information. Contact the factory for more information on lead-free component availability. Flip Chip balls are PbSn (95/5).

Ordering

After determining your technical requirements, the only question remaining is the shipping container.

The **DIP** package is only available in bulk (tubes).

The **μSOP** package is available in either bulk (tubes) or tape and reel (3000pc).

The **SOIC** package is available in either bulk (tubes) or tape and reel (2500pc).

The **Flip Chip** package is only available in tape and reel (3000pc).

For a complete list of DS1804 ordering options or any other Dallas product, go to [Tech Support](#) and enter the parent part number (i.e., "DS1804").

Marking

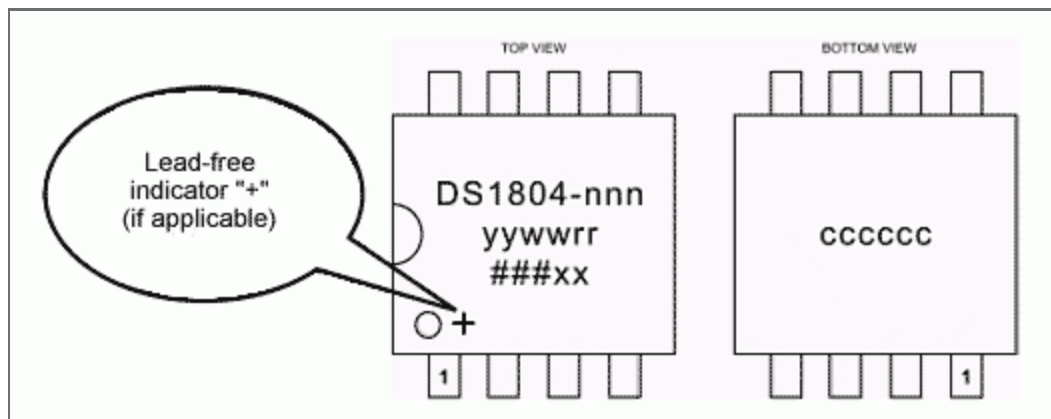
Because of the size constraints with the package bodies, a package-specific methodology was devised. Components are marked with as much critical information as possible, while still maintaining some semblance of readability in the character set used.

For the package diagrams below, use the following key:

nnn	3-digit resistor value ("010" = 10kΩ, "050" = 50kΩ, "100" = 100kΩ)—DIP, μSOP, or Flip Chip
n	1 Roman numeral resistor value ("X" = 10kΩ, "L" = 50kΩ, "C" = 100kΩ)—SOIC only
yy	Last 2 digits of year of assembly
ww	Work week of assembly
s	1 character date code—Flip Chip only
rr	Die revision code
###	Last 3 digits of lot number
xx	Up to 2 alpha characters of lot number suffix
cccccc	Country where device is assembled

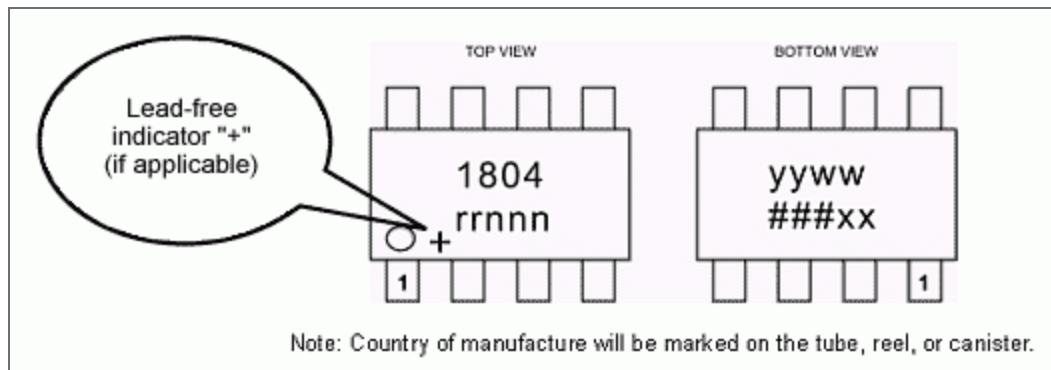
This marking information and the electrical specifications are also available in the [product datasheet](#)

8-pin, 300mil DIP



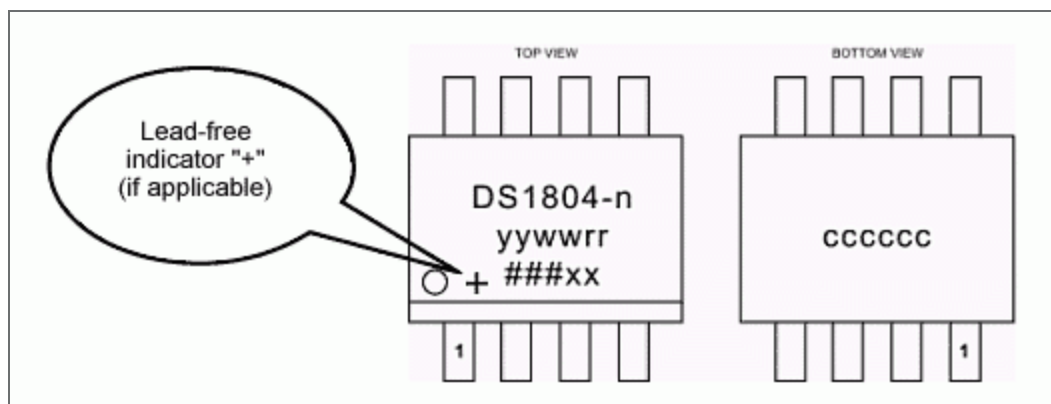
More information on [DIP mechanical dimensions](#)

8-pin, 118mil μ SOP



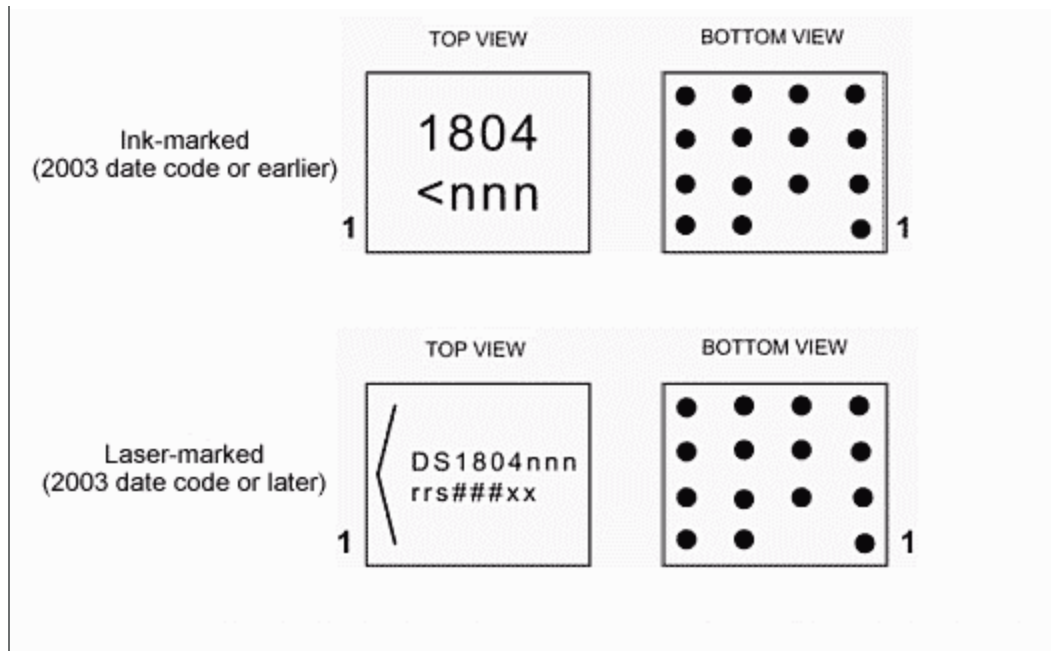
More information on [\$\mu\$ SOP mechanical dimensions](#)

8-pin, 150mil SOIC



More information on [SOIC mechanical dimensions](#)

15-ball Flip Chip



More information on [Flip Chip mechanical dimensions and recommended substrate land pattern](#)

Questions/comments/suggestions concerning this application note can be sent to:
MixedSignal.Apps@dalsemi.com

Related Parts

[DS1804](#)

Nonvolatile Trimmer Potentiometer

[Free Samples](#)

More Information

For Technical Support: <http://www.maximintegrated.com/support>

For Samples: <http://www.maximintegrated.com/samples>

Other Questions and Comments: <http://www.maximintegrated.com/contact>

Application Note 3397: <http://www.maximintegrated.com/an3397>

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