

# Package ‘colorfast’

January 13, 2025

**Type** Package

**Title** Fast Conversion of R Colors to Color Component Values and Native Packed Integer Format

**Version** 1.0.1

**Maintainer** Mike Cheng <mikefc@coolbutuseless.com>

**Description** Color values in R are often represented as strings of hexadecimal colors or named colors. This package offers fast conversion of these color representations to either an array of red/green/blue/alpha values or to the packed integer format used in native raster objects. Functions for conversion are also exported at the 'C' level for use in other packages. This fast conversion of colors is implemented using an order-preserving minimal perfect hash derived from Majewski et al (1996) ``A Family of Perfect Hashing Methods" <doi:10.1093/comjnl/39.6.547>.

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**URL** <https://github.com/coolbutuseless/colorfast>

**BugReports** <https://github.com/coolbutuseless/colorfast/issues>

**Encoding** UTF-8

**RoxygenNote** 7.3.2

**Suggests** knitr, rmarkdown, testthat (>= 3.0.0)

**Config/testthat/edition** 3

**VignetteBuilder** knitr

**NeedsCompilation** yes

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**Repository** CRAN

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col_to_int	<i>Fast conversion of colors-as-strings to an integer vector of packed RGBA values.</i>
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### Description

Packed RGBA values are used in R's native raster objects.

### Usage

```
col_to_int(col)
```

### Arguments

col	Character vector of color names. Supports all R color names (e.g. "red", "hot-pink") and hex colors of the form: "#RRGGBBAA", "#RRGGBB", "#RGBA" and "#RGB".
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### Value

Integer vector where the 4 bytes making up each integer represent the RGBA values of the color

### Examples

```
col_to_int(c("hotpink", "#abc", "#abcd", "#aabb99", "#aabb9980"))
```

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col_to_rgb	<i>Fast conversion of colors-as-strings to a matrix of RGBA integers</i>
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### Description

This is a faster replacement for `grDevices::col2rgb()` which uses a hash lookup of R color names (rather than a linear search).

### Usage

```
col_to_rgb(col)
```

**Arguments**

col                    Character vector of color names. Supports all R color names (e.g. "red", "hot-pink") and hex colors of the form: "#RRGGBBAA", "#RRGGBB", "#RGBA" and "#RGB".

**Value**

An integer matrix with four rows and number of columns the length of the input.

**Examples**

```
col_to_rgb(c("hotpink", "#abc", "#abcd", "#aabb99", "#aabb9980"))
```

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int\_to\_col

*Fast conversion of colors-as-packed-RGBA-integers to hexadecimal*

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**Description**

Packed RGBA values are used in R's native raster objects.

**Usage**

```
int_to_col(icol)
```

**Arguments**

icol                    Integer vector (where the 4 bytes making up each integer represent the RGBA values of the color)

**Value**

Character vector

**Examples**

```
icols <- col_to_int(c("hotpink", "#abc", "#abcd", "#aabb99", "#aabb9980"))
int_to_col(icols)
```

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set_alpha	<i>Set alpha value of integer colors</i>
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**Description**

Set alpha value of integer colors

**Usage**

```
set_alpha(icol, alpha)
```

**Arguments**

icol	Integer vector (where the 4 bytes making up each integer represent the RGBA values of the color)
alpha	numeric alpha value in range [0, 1]. Length of 1, or same length as 'col'

**Value**

integer vector of colors with adjusted alpha channel

**Examples**

```
icol <- col_to_int('red')
icol
int_to_col(icol)
icol2 <- set_alpha(icol, 0.5)
int_to_col(icol2)
```

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