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Keywords: FAQ, FAQs, frequently asked questions, questions, answers, support, tech support

APPLICATION NOTE 4193

Frequently Asked Questions (FAQs) for Technical Support

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Mar 13, 2008

Abstract: This application note lists answers to frequently asked questions (FAQs) submitted to Applications Technical Support.

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- [Package Information](#)
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Quality and Reliability

How can I get the failure rate (FIT or MTTF) for a part?

There are two ways to obtain this information:

- From the product's QuickView data sheet, click on the "Technical Documents" tab. Scroll down to the Reliability Reports heading. You can display FIT data, including FIT, conditions, process, and a link to additional calculations/FIT rate calculator.
- Go to the Quality Assurance site and select "Maxim Device FIT Information." Direct link: www.maximintegrated.com/qa/reliability/fit.cfm.

How can I obtain a reliability report?

- From the product's QuickView data sheet, click on the "Technical Documents" tab. Scroll down to the Reliability Reports heading.
- Go to www.maximintegrated.com/reliability-reports (or search for "Reliability Reports").
- If no reliability report is listed, you can request a custom reliability report from our Reliability Department. Go to www.maximintegrated.com/reliability-reports (or search for "Reliability Reports") and "request a customer reliability report."

I cannot find a reliability report on your website for the part that I am using. Is there a similar device with a reliability report that I can use?

No, every device is different. If you do not find a reliability report for a part, you can request a customized reliability report from our Reliability Department. Go to www.maximintegrated.com/reliability-reports (or search for "Reliability Reports") and "request a customer reliability report."

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Orders and Samples

I have some Maxim parts in stock. I want to know if they are authentic Maxim parts. How can I do that?

It is often very hard to identify counterfeit parts. The only way to be certain is to purchase parts from Maxim Direct or an authorized distributor. Authorized sales channels can be found at: www.maximintegrated.com/sales.

I ordered some parts from Maxim Direct and still have not received the parts. I suspect a problem. How do I check my order?

You can view your Order Status through Maxim Direct's online store. Use the MyOrders link on the Maxim Direct page: <http://shop.maximintegrated.com/>.

If you cannot find your order, contact Customer Service: www.maximintegrated.com/sales.

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Package Information

How do I find the package drawing for a part?

- The best way is to follow the link to the package drawing from the Ordering Info tab of the QuickView data sheet.
- You can also find package drawings listed by package code at: www.maximintegrated.com/design/packaging/index.mvp?a=1&f=
- Some product data sheets include a package drawing, but the most up-to-date information is on the website, as described above.

Does my part have an exposed pad?

Review the product data sheet for package information or examine the package dimension drawing. To find package drawings, see the question above, "How do I find the package drawing for a part?"

The data sheet will also indicate an exposed pad. See:

- The Ordering Information table or the Pin Configuration drawing on page 1.
- The Pin Description table. The exposed pad connection is described here, usually the last entry in the table.

If any questions remain, contact Applications Engineering/Technical Support:
www.maximintegrated.com/support.

Can I get a copy of the land pattern for my part?

Rather than providing unique land patterns for its packages, Maxim relies on industry-standard JEDEC patterns. JEDEC patterns can be found at: www.ipc.org/. Commercial land-pattern software will also reference the industry-standard JEDEC number.

Refer to the "Notes" section of the package dimension drawing to find the JEDEC number. To find package drawings, see the question above, "How do I find the package drawing for a part?"

When purchasing parts on tape and reel, how many parts are on each reel? For example, what does "68L QFN package" mean?

You will find most information at: www.maximintegrated.com/design/packaging/smd_tape_reel.cfm. If you have other packaging questions, including questions about packages not listed on this website, contact Technical Support: www.maximintegrated.com/support.

Can I get an ID on this top mark?

Go to the "Top-Mark Coding" page on the website at: www.maximintegrated.com/topmark.

If you do not find your information, contact Applications Engineering/Technical Support:
www.maximintegrated.com/support.

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Part Numbering

What is the G16 part-number suffix?

The Generic Special G16 suffix is specific to bumped construction (flip-chip) devices and the European Union's RoHS Directive exemption for those devices. Request the G16 document from Maxim Customer Service or a distributor when you place an order for this device.

What is the G45 part-number suffix?

G45 denotes a special protective die coating added to some wafer-level packages.

What does the # at the end of the part number indicate?

A # at the end of any Maxim part number indicates that part is RoHS-compliant and exempt from lead-free requirements. For more information, go to: www.maximintegrated.com/emmi/lead_free_info.cfm.

What does "-D" mean at the end of a part number?

The "-D" indicates dry pack (for parts not Moisture Level 1).

What does "-W" mean at the end of a part number?

A "-W" indicates a waiver. Contact Customer Service for additional information:
www.maximintegrated.com/sales.

What do other part-number suffixes, including lead-free and RoHS markings, mean?

The most common suffix letters in a part number denote package, temperature range, and other options:

- A "+" symbol indicates that the part is qualified as lead-free. The + symbol is also marked on the package.
- A "#" symbol indicates that a part is RoHS-compliant and exempt from lead-free requirements. The # symbol is also marked on the package.
- A "T" or "T&R" indicates that the part is furnished on tape-and-reel.
- A "D" indicates dry pack (for parts not Moisture Level 1).
- For parts with DS prefix, "-U/+U" signifies cut tape.

Additional suffix codes are described in general terms at:

www.maximintegrated.com/qa/info/naming_conventions/.

Suffix codes for a particular part are detailed in the full data sheet. To find the data sheet, go to the QuickView for the device. First, do a part-number search for your part to find the QuickView data sheet. Then download the full (PDF) data sheet by using the link at the top of the QuickView or at the bottom under Links to More Information.

I have a part with a suffix that is not shown on the data sheet. Is the part number valid?

Occasionally a new package or new suffix is added before the device's data sheet can be revised to reflect that change. This question should always be directed to Applications Engineering/Technical Support: www.maximintegrated.com/support. Our engineers will tell you if the part number is valid, and will provide any additional support documents or information.

Does Maxim make the 5962-3812804MPA? If so, what is the Maxim part number?

Detailed listings and specifications for Maxim's Standard Military listings and Mil-Std-883B can be found at: www.maximintegrated.com/qa/info/milspecs/.

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General and Miscellaneous

Does Maxim make an "exact cross" for my part?

Use the cross-reference search at www.maximintegrated.com/xref to find Maxim replacements. Enter the part number for the industry-standard device and submit the query.

Make sure to download both data sheets (the industry-standard and the Maxim) to ensure that you select the same package type.

Note that not all replacements are listed. If you do not find a suitable substitute, please contact Applications Engineering/Technical Support: www.maximintegrated.com/support.

Can I get the hybrid reflow solder profile? What is the maximum reflow temperature?

The Maxim RoHS/Lead-Free Lookup site is: www.maximintegrated.com/leadfree. From there, click on

Lead-Free/RoHS FAQ in the list at the left edge of the page (www.maximintegrated.com/emmi/faq.cfm) to obtain solder reflow profiles for both lead-free and leaded components.

What is the difference between RoHS and lead-free?

RoHS compliance means that the part is free of lead, cadmium, chromium, mercury, PBBs, and PBDEs. Lead-free means that the part is free of lead, specifically.

No Maxim processes or parts use or contain cadmium, chromium, mercury, POBBs, and PBDEs. All our parts are "5 of 6" compliant. Lead is the only substance that applies to Maxim parts.

More information: www.maximintegrated.com/emmi.

Do you have a "5 of 6" compliance document?

Yes. Go to: www.maximintegrated.com/emmi/rohs_info.cfm.

What is the thermal impedance (thermal resistance) for my part? Theta-JA (Θ_{JA}), Theta-JC (Θ_{JC})?

Theta-JA and Theta-JC are both package-dependent numbers. If the information for a particular package is not in the Absolute Maximum Ratings in the product data sheet, contact Applications Engineering/Technical Support: www.maximintegrated.com/support. This information will be researched upon request.

For more information, see application note 4083, "[Thermal Characterization of IC Packages](#)," and application note 4186, "[Thermal Design Considerations for Video Filters](#)."

I saw your new part advertised but cannot find the data sheet. Why?

Occasionally a part number is advertised or listed on the website, but a data sheet is not available for download because of the highly proprietary nature of that product. In those cases, request the data sheet by completing the "Request Full Data Sheet" form in the product QuickView, and wait for a response.

If you enter a part number into the "Part Number Search" engine and get no results whatsoever, the part could be a "future" device, a product not yet introduced. In those cases, contact Applications Engineering/Technical Support: www.maximintegrated.com/support.

I want to build my next boards with a 3.3V version of the 5V part that I am already using. The package will be the same. What do you recommend?

Check the current version of the data sheet to determine if "Next Generation" devices are mentioned on the front page. Use the parametric search engine on the website at: www.maximintegrated.com. Then Click on "Parametric Search/Product Trees" and search for the part.

If you do not find what you need, contact Applications Engineering/Technical Support: www.maximintegrated.com/support.

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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 4193: <http://www.maximintegrated.com/an4193>

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