





Part #:	Medical Disposables	  
Description:	Easily Secure Your Medical Disposables: Keep Patient Safety at the Forefront	 Download Datasheet

EEVblog Electronics Community Forum

A Free & Open Forum For Electronics Enthusiasts & Professionals

Welcome, **Guest**. Please login or register.
Did you miss your activation email?


This topic

Forever

Login with username, password and session length

- Home
- Help
- Search
- About us
- Links
- HashTags
- Login
- Register

EEVblog Electronics Community Forum » Electronics » Repair » Repair of Tek TDS3014B - need a source for a DS1742W NVRAM




« previous next »

Pages: [1] [Go Down](#)

[PRINT](#) [SEARCH](#)

Author

Topic: [Repair of Tek TDS3014B - need a source for a DS1742W NVRAM](#) (Read 3474 times)

0 Members and 1 Guest are viewing this topic.

ArcticGeek

Regular Contributor



Posts: 67

Country:

Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« on: March 07, 2017, 02:31:00 am »

Hello all,

I have a TDS3014B that no longer keeps the date/time...and I'm quite certain that the RTC NVRAM part has exhausted it's battery. The part is a 24 pin Maxim DS1742W-150, and I can't find anyplace that has them because it is now obsolete. I have found them on Ebay and Aliexpress, but I have been burned by counterfeit parts and would really prefer a place that is more of a real distributor. Digikey and Mouser both have small quantities of the DS1742 (no "W") part, but that is a 5V part and will not work. I need either the DS1742W-150 or DS1742W-120 part, and have had no luck.

I've also found a number of brokers that CLAIM they have thousands of these parts, but you have to fill in a request of how many and submit an RFQ. I personally think most of these sites are full of \$hit - and in the past I've had no luck purchasing parts from these types of places.

Does anyone know where to buy a couple of these parts?

Thanks



Maxim DS1742W.JPG (511.41 kB, 1632x1224 - viewed 585 times.)

Logged

MarkL

Supporter



Posts: 1469

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #1 on:** March 07, 2017, 05:52:02 am »

I don't know of a distributor source, but some of the ebay listings don't look too untrustworthy. One of them even has a US phone number so you call them to see what guarantee they can make about authenticity and the device date code:

<http://www.ebay.com/itm/282116689792>

Alternatively, it appears that the battery might be accessible without too much trouble (photo attached below of the ebay listing). The bulge from the battery is obvious. You might be able to dig through the encapsulation and replace the battery like this person did:

http://worldphaco.com/uploads/TEKTRONIX_2465b_OSCILLOSCOPE_CALIBRATION__REPOWERING_THE

I have a TDS3054 purchased in 1999. I'm sure I'll be facing the same problem soon.



DS1742W_ebay_282116689792.png (113.38 kB, 399x287 - viewed 497 times.)

Logged

JRosario

Contributor

Posts: 9

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #2 on:** March 07, 2017, 06:25:11 am »

Just wondering if there are criteria that you look for when going with an eBay seller?

Are their basic red flags or signs of quality? (I don't know if the reviews on the site are easy to fake).

The phone number seems like a good litmus test, but I am not sure how common that is.

I have not been burned too bad, but I would like to avoid it as long as possible.

Logged

MarkL

Supporter



Posts: 1469

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #3 on:** March 07, 2017, 07:42:38 am »

Quote from: JRosario on March 07, 2017, 06:25:11 am

Just wondering if there are criteria that you look for when going with an eBay seller?
...

Unfortunately, I don't have magic formula. I've been burned too. I fully agree with the OP's sentiments and I personally won't order anything from China ever again. I've had to invoke ebay buyer protection too many times.

The previously referenced seller in HK looks like they've built a substantial business selling semiconductors. They've been around for 4 years, offer 60 day return/replacement, and make themselves available via phone to answer questions (presumably in english). It doesn't strike me as a typical "sell and run" operation.

I'd be willing to risk \$20 that their DS1742W is real and works. If not, there's plenty of avenues to resolve any issues.

Besides, it's only a clock chip. It's either going to work or not. And if they're not being completely honest about it being new, then it could be dead in a couple of years instead of 10, and the OP is no worse off. Hopefully the replacement hassle will include installation of a socket to try again, if needed.

Logged

Bushougoma

Regular Contributor



Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #4 on:** March 07, 2017, 07:51:42 am »

Posts: 63

Country: 

I try to only use E-bay as a last resort way too many counterfeit reprinted parts. Sometimes you make out great other times you get burned. Here's one of my experiences.

I purchased a bunch of simple 27C128 ST CMOS EPROMs from a seller. I put one in my EPROM programmer and read the permanently embedded device code and it turns out it was a National Semiconductor NMOS EPROM 70 nanoseconds access time on an NMOS EPROM? Not a chance.

Upon closer inspection of a few of the parts I could see they scrubbed the original part numbers off apparently not well enough on some of them. I could still see the faint wavy double N National Semiconductor logo on some of them. Another giveaway is the pins were dipped in solder to make them look shiny and new something I've never seen on any IC that I've bought from a reputable distributor. I found other uses for them but I still was pretty pissed.

On a positive note I am better at inspecting ICs that I do have to buy from E-bay now.

On the Dallas ICs they like to scrub the old part numbers off and reprint them with a newer date code. Even though if you looked it up the date code will most likely be AFTER the manufacturer ceased production.

I suppose if you really wanted to you could use the 5V part and install it on a custom PCB with a logic level converter you'd have to take the 5 volt supply from somewhere else on the board of course.

The simplest solution would be to carefully cut into the epoxy and extract the old battery you should then be able to solder some jumper wires from the IC to an external 2032 battery holder which you could then superglue to the case. I recommend a BRxxxx series (lithium carbon monofluoride) cell it's what they used from the factory due to their relatively stable voltage as they discharge they also have a very low self discharge rate when compared to the more common CRxxxx series. Look at the discharge curves of a CR and BR series battery and you'll see what I mean.

« Last Edit: March 07, 2017, 08:29:20 am by Bushougoma »


 Logged

 ArcticGeek

Regular Contributor



Posts: 67

Country: 

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #5 on: March 07, 2017, 08:57:37 am »

That is interesting with the ebay seller having the USA contact number, I didn't notice that. What's odd is that I sent a question to that seller via Ebay asking what date code the parts are, and the response I got was in "Chenglish" saying that they did not know what datecode the parts are. My concern is that since these parts have internal lithium batteries I don't want something with a date code of 2002. I might give the telephone number a call.

I have been burned too many times on Ebay with fake components, so I really hesitate to buy anything from China unless it's absolutely the last resort. It's not so much the money I'm worried about, its just the hassle of installing a new part only to find out it doesn't work 2 days later. I did consider the daughter-board approach and am still thinking about that. There is a DS1744W part that is identical except it has 32K or memory instead of 2k, and that part is still available from Digikey and Mouser. I could build a smaller daughter card adapter that tied all the unused address pins to VCC and it should work - but that's a hassle as well as the \$50 or so to design the daughtercard.


 Logged

 MarkL

Supporter



Posts: 1469

Country: 

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #6 on: March 07, 2017, 09:42:14 am »

The first number on the fourth line is definitely a date code. Below is a photo of mine, from 1999.

It appears Dallas/Maxim stopped production last year, as per the attached doc. And the seller is showing a part with a 2014 date code, so they apparently have recent stock and it doesn't say something inconsistent like 2017.

If they don't send you one that's recent like the one they've pictured, that's "not as described" and you get your \$20 back. The adapter card approach seems like a lot more work.

Interesting that the EOL notice says last delivery "21-Apr-2018", so does that mean someone is still taking delivery of these? Maybe those brokers are buying them all up now while they can.

EDIT: I'll mention again, but more explicitly, that no matter what I'd highly recommend soldering in a socket once you go through the trouble of removing the old part. If the replacement dies it's not a big deal to pop it out.



img_5232_640x480.jpg (109.07 kB, 640x480 - viewed 536 times.)

DS1742_EOL_M000829.pdf (17.54 kB - downloaded 186 times.)

« Last Edit: March 07, 2017, 09:50:39 am by MarkL »

Logged

Bushougoma

Regular Contributor



Posts: 63

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #7 on: March 07, 2017, 10:02:25 am »

Quote from: MarkL on March 07, 2017, 09:42:14 am

EDIT: I'll mention again, but more explicitly, that no matter what I'd highly recommend soldering in a socket once you go through the trouble of removing the old part. If the replacement dies it's not a big deal to pop it out.

Make sure it's a dual wipe socket and not a machine pin socket the pins on these ICs are very thin and it doesn't take much to bend them. Machine pin sockets require significantly more force to insert the IC.

« Last Edit: March 07, 2017, 10:31:30 am by Bushougoma »

Logged

MarkL

Supporter



Posts: 1469

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #8 on: March 08, 2017, 03:07:44 am »

Ok, so I decided to order one from the HK seller while they're still available at sane prices. They accepted an offer of \$10.00. I know a dead battery is waiting for me in my very near future. Fortunately, according to another eevblog thread, the cal data is not stored in this device.

When I get it I'll check for any indications of date code scrubbing, but I'm not going to install it until I have to. I'll post back to this thread what date code I received.

Logged

ArcticGeek

Regular Contributor



Posts: 67

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #9 on: March 08, 2017, 09:49:46 am »

I actually ordered 2 from a different China seller off Ebay, I'll post my results as well when I receive them and get a chance to install them in the scope.

Logged

james_s

Super Contributor



Posts: 8167

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #10 on: March 08, 2017, 09:52:54 am »

If you can't find a suitable replacement, you can actually replace the batteries in these, or at least disconnect them and glue a lithium coin cell holder on top. You have to grind into the end or top, Dremel type rotary tool with a sanding drum works well. I've seen pictures online and videos on youtube that make it a bit easier. The battery is on top under a layer of epoxy.

Logged

drussell

Super Contributor



Posts: 1047

Country:

Hardcore Geek

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #11 on: March 08, 2017, 02:51:12 pm »

With the Dallas parts, even when they are older stock, if they have never been powered up they will last longer than you might expect because they have a system in there to keep the battery disconnected and "freshness sealed" until you power it the first time.

I keep meaning to build a little board with power to a bunch of sockets to stick all the battery backed NVRAMs that I don't use regularly but still have some juice left into so that they don't drain the remaining battery power any faster than necessary also... I really should get around to doing that (and backing up the CURRENT contents!) before I lose the contents on various old equipment...

Logged

Bushougoma

Regular Contributor



Posts: 63

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #12 on: March 12, 2017, 02:03:18 pm »

Quote from: drussell on March 08, 2017, 02:51:12 pm

With the Dallas parts, even when they are older stock, if they have never been powered up they will last longer than you might expect because they have a system in there to keep the battery disconnected and "freshness sealed" until you power it the first time.

Only the newer Dallas components have this "freshness seal" as they call it older parts don't and have the battery connected from the factory. I can't seem to find what year they first introduced this feature.

I replace these on sight in any old test gear I buy since I find they are at least 20 years old at a minimum. Rule of thumb if your NVSRAM is almost old enough for a drink replace it 🙄.

If you don't have a programmer to backup and copy the contents get a TL866. When I first bought it I had a few other programmers that were more expensive and I thought I wouldn't use it often but it quickly became the go to programmer on my bench it definitely punches above its weight.

« Last Edit: March 12, 2017, 02:34:35 pm by Bushougoma »

Logged

 Pinkus

Frequent Contributor



Posts: 588

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #13 on: March 20, 2017, 11:32:19 pm »

Quote from: james_s on March 08, 2017, 09:52:54 am

If you can't find a suitable replacement, you can actually replace the batteries in these, or at least disconnect them and glue a lithium coin cell holder on top. You have to grind into the end or top, Dremel type rotary tool with a sanding drum works well. I've seen pictures online and videos on youtube that make it a bit easier. The battery is on top under a layer of epoxy.

+1

done this several times. It is not very difficult, the battery is located on the top. Just start using the dremel at the top and you will find the battery quickly.

Logged

 MarkL

Supporter



Posts: 1469

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #14 on: March 24, 2017, 01:02:21 pm »

Ok, as promised I'm posting back to the thread with photos of the DS1742W-120 I received from this listing:

<http://www.ebay.com/itm/282116689792>

The date code is 1410 (10th week of 2014). The padded envelope it came in was from Futian Shenzhen and not Hong Kong, which is where the seller said it was shipping from. That's exactly what I was trying to avoid. Oh well.

Also, the customs declaration said it was Fashion Jewelry. I wasn't planning on wearing it, but I suppose it would make an interesting conversation piece. Perhaps by some stretch it could be considered a time piece.

I'm no expert in counterfeit parts, but I don't see anything that makes me believe this is fake. The date stamp looks like it was done at the same time as the rest of the markings. And the pins look untouched, so it's not a pull.

Any other opinions welcome. As I mentioned, I'm not installing this until I have to, so I guess it will have to keep it's battery freshness seal until then.



[img_5337_crop_640x480.jpg](#) (43.3 kB, 640x299 - viewed 365 times.)



[img_5338_crop.jpg](#) (356.25 kB, 1840x1026 - viewed 369 times.)



img_5341_crop_640x480.jpg (32.6 kB, 640x231 - viewed 294 times.)

Logged

Armadillo

Super Contributor



Posts: 1725

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #15 on:** March 24, 2017, 02:14:24 pm »

The surface don't look like it comes from the mold. Looks like a fresh blacktopping with fine glass additive - the peak and valley are too uniform, pointing to the direction of spray, example largely unidirectional.

Can you look thru the microscope of the surfaces and compare the two?

« *Last Edit:* March 24, 2017, 02:39:35 pm by Armadillo »

Logged

Armadillo

Super Contributor



Posts: 1725

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #16 on:** March 24, 2017, 10:34:29 pm »

From the photos, seem like the distance and depth are different.



H3.JPG (50.26 kB, 502x546 - viewed 515 times.)

Logged

james_s

Super Contributor



Posts: 8167

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #17 on:** March 25, 2017, 02:27:35 am »

The font is different between those two parts. I'm skeptical of it being genuine, although that's not to say it won't work. It could be counterfeit, or it could be a remark, hard to say for sure.

Logged

pamphonica

Contributor

Posts: 28

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #18 on:** January 05, 2018, 03:41:23 am »

Were you successful with your NVRAM replacement?

I'm about to do the same, although there are no signs (yet) of problems holding date and time. My NVRAM code shows Year 2000 Manufacture.

I've ordered one from China/HK. Let's see...

By the way, does anyone know if you can dump the DS1742W-120+ NVRAM contents (cal data etc presumably) via an EPROM programmer, in case I need them for the new NVRAM.

My programmers are all elderly so don't list Dallas/Maxim devices like this and I assume I'll need something a bit modern anyway as it uses a 3.3V rail. Don't want to blow it up.

Any hints gratefully received.

Happy New Year all.

Logged

james_s

Super Contributor



Posts: 8167

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« **Reply #19 on:** January 05, 2018, 07:05:49 am »

I have bought several DSxxxx parts from China and so far none have been what they said they were. Two were genuine but old stock that had been relabeled and the others are obvious fakes, in all cases confirmed with xrays compared to known genuine parts. Of the about half of them turned out to be defective.

I'm honestly not sure why they fake them, for the prices they ask I would gladly buy generic

"compatible" parts that do not pretend to be genuine and then I would not feel cheated when they turn out not to be. Of course they need to be functional as well, but I suspect that's mostly down to the quality of the soldering inside.

Logged

MarkL

Supporter



Posts: 1469

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #20 on: January 05, 2018, 11:10:27 am »

According to a report from another forum user, the NVRAM does not store the calibration data. It is used for settings, ref waveforms, other miscellaneous storage and, obviously, time-of-day.

I can't locate the post that talked about this, but you could try removing the old NVRAM, installing a socket as was discussed above, and plugging in the new NVRAM. The worst that could happen is that the post about the calibration data was wrong, and then you'll have to find a way to read the old one anyway.

I have a replacement NVRAM waiting for the one in my TDS3054 to die, which it hasn't yet. I may have an unpleasant surprise that it's a fake and doesn't work, in which case I'll try to find a genuine one or try the "dig out the old battery" method. And if it does die and the information about the calibration data was wrong, I'll be looking at a re-cal.

EDIT: Found the post on the calibration data (sounds like reliable info to me):

<https://www.eevblog.com/forum/testgear/tek-tds3000-series-and-dallas-nvram/>

« Last Edit: January 05, 2018, 11:21:31 am by MarkL »

Logged

JacquesBBB

Frequent Contributor



Posts: 784

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #21 on: January 06, 2018, 12:49:49 am »

Here is an example where I rescued a similar chip, the DS1220 by digging into the chip to access the battery.

Remove it, and replaced it by an external one. Not the most elegant, but it works.

<https://www.eevblog.com/forum/repair/hp-54601a-failed-checksum-test/msg548141/#msg548141>

Logged

voltsandjolts

Supporter



Posts: 660

Country:

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #22 on: January 06, 2018, 02:06:18 am »

Quote from: MarkL on January 05, 2018, 11:10:27 am

EDIT: Found the post on the calibration data (sounds like reliable info to me):

<https://www.eevblog.com/forum/testgear/tek-tds3000-series-and-dallas-nvram/>

Yeh, that was me and I stand by that.

Logged

texaspyro

Super Contributor



Posts: 1217

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #23 on: January 07, 2018, 03:30:30 pm »

Quote from: ArcticGeek on March 07, 2017, 02:31:00 am

I've also found a number of brokers that CLAIM they have thousands of these parts, but you have to fill in a request of how many and submit an RFQ. I personally think most of these sites are full of \$hit.

I once did a broker test looking for the part "FUK-U-2" (or something similar). Low and behold it started showing up available from several brokers.

Logged

james_s

Super Contributor

Re: Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

« Reply #24 on: January 09, 2018, 07:16:26 am »



Posts: 8167

Country:

Quote from: texaspyro on January 07, 2018, 03:30:30 pm

Quote from: ArcticGeek on March 07, 2017, 02:31:00 am

I've also found a number of brokers that CLAIM they have thousands of these parts, but you have to fill in a request of how many and submit an RFQ. I personally think most of these sites are full of \$hit.

I once did a broker test looking for the part "FUK-U-2" (or something similar). Low and behold it started showing up available from several brokers.

LOL! It would be funny to ask them for a datasheet.

Logged

Pages: [1] [Go Up](#)

PRINT SEARCH
« previous next »

Share me



EEVblog Electronics Community Forum » Electronics » Repair » Repair of Tek TDS3014B - need a source for a DS1742W NVRAM

Jump to: => Repair ▾ go



BUDGET MULTIMETERS !!

ANENG, UNI-T and more...



[EEVblog Main Site](#)

[EEVblog on Youtube](#)

[EEVblog on Twitter](#)

[EEVblog on Facebook](#)

SMF 2.0.15 | SMF © 2017, Simple Machines
Simple Audio Video Embedder
SMFAds for Free Forums
XHTML RSS Mobile WAP2