

Digital Camera Failure Rates: Panasonic most reliable manufacturer of Point-and-shoot Cameras

Synopsis: SquareTrade analyzed three year failure rates for over 60,000 new Digital Cameras covered by SquareTrade Care Plans. We looked at failures both by price point and manufacturer.

Highlights of the study include:

- On average, 10.7% of digital cameras fail within two years, and 15.6% are projected to fail within three years.
- Accidents account for slightly less than 40% of camera failures
- More expensive cameras tend to be more reliable than cheaper models.
- For Point-and-shoot cameras under \$300, Panasonic cameras had the lowest 2 year malfunction rates (5.3%), and Polaroid and Casio had the highest malfunction rates (11.9% and 13.0%).
- For DSLR Cameras, Nikon and Canon were equally reliable.

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Introduction: Digital camera reliability

In an effort to keep consumers more informed about the reliability of the products they buy, over the past year and a half, SquareTrade has taken a look at the failure rates of many types and brands of laptops, cell phones, and game consoles. This time we turn our attention to digital cameras.

In this reliability report, SquareTrade examines digital camera reliability from a few different angles. We start with an overview of digital camera failures, both from manufacturer defects and accidents. We then compare camera reliability by brand and price point.

This analysis examines customer reported failure data from a sample of over 60,000 new digital cameras purchased by SquareTrade warranty customers (see Appendix for sample details). SquareTrade offers warranty plans that cover accidental damage as well as hardware failures, and we consider malfunctions from normal usage (“malfunctions”) separate from accidents (“accidents”) in our analysis. We refer to “total failure rate” as the sum of failure rates due to malfunctions and accidents.

Among our conclusions, we found that almost 11% of digital cameras fail over the first 2 years of ownership, with 6.6% of failures coming from malfunctions and 4.1% from accidents. We also found the least expensive point-and-shoot digital cameras to be the least reliable, while expensive DSLR cameras tended to be the most reliable. This correlation between price and reliability was also found in SquareTrade’s earlier research on laptop computers as well.

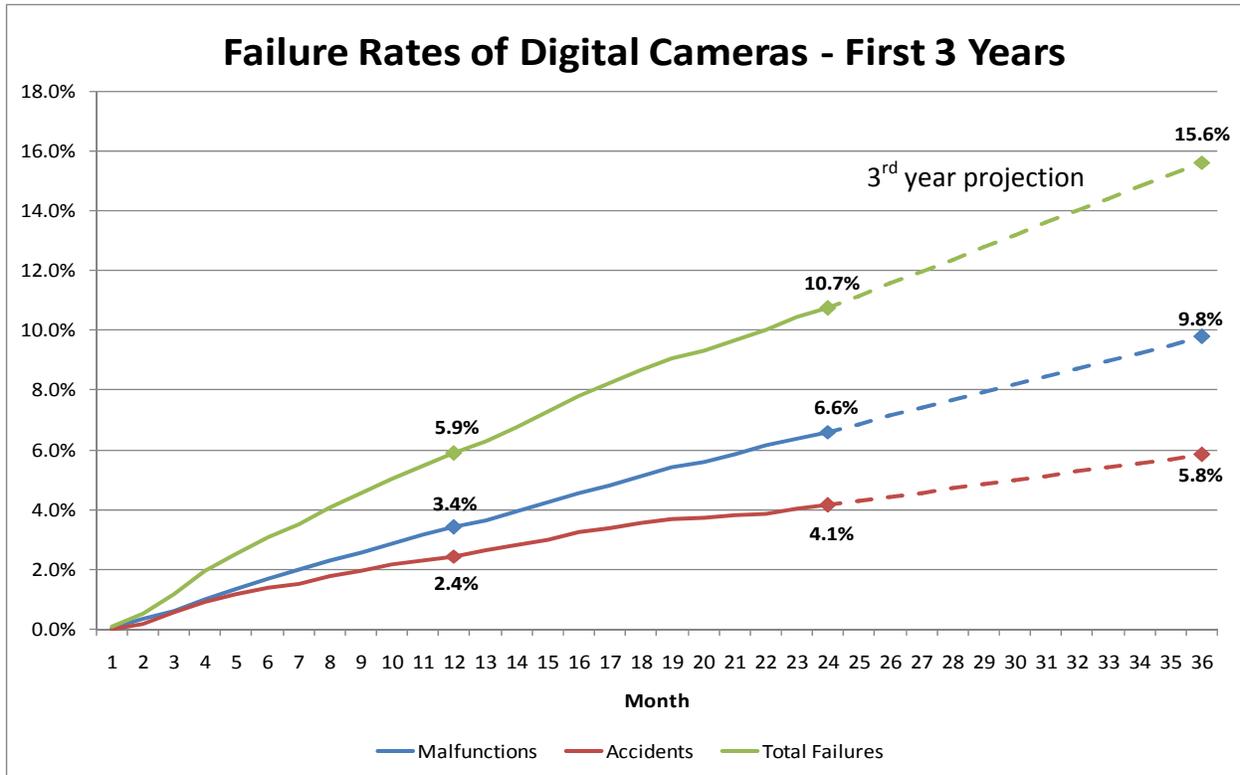
When we break the reported malfunction analysis down by brand and price, Panasonic clearly emerges as the most reliable brand of point-and-shoots. For example, on inexpensive point-and-shoot cameras, Panasonic had a malfunction rate of just 5.3% over the first 2 years. On the opposite end of the spectrum are Casio and Polaroid, with 2 year malfunction rates of 13.0% and 11.9% respectively.

Now let’s delve into the data and take a look at the numbers. Please note that this study only includes *digital* cameras. Whenever we use the word camera, we are only referring to digital cameras.

Digital Camera Failure Rates

We first start with an overall view of camera failures. In Figure 1, we show the failure curves of cameras over two years, as well as the predicted failure rates in the third year of ownership. The malfunction rate and the accident rate are shown separately, as well as the total failure rate.

Figure 1. Malfunction and accident rates – all digital cameras



Looking at total failure rate, we find that 5.9% of camera owners reported a failure of some kind in the first year, and 10.7% by the end of the second year. Of these, roughly 60% were from malfunctions, and 40% were from accidents.

Looking at malfunctions specifically, we found 3.4% of cameras failed in the first year and an additional 3.2% in the second. This curve showing somewhat higher failure rates in the first year is similar to patterns we see in other consumer electronics, and which we've reported in previous laptop and smartphone studies.

The accident rate is worth noting as well. While the rate itself is not as high as other categories like cell phones, which see rates above 20%, they do still account for about 40% of failures. Accidents also tend to be more catastrophic than malfunctions and have a higher cost of repair. The average cost to fix an accidentally damaged camera is 20% higher than the cost to fix a manufacturer defect.

Now let's dig into a bit more depth and look at different price points of cameras.

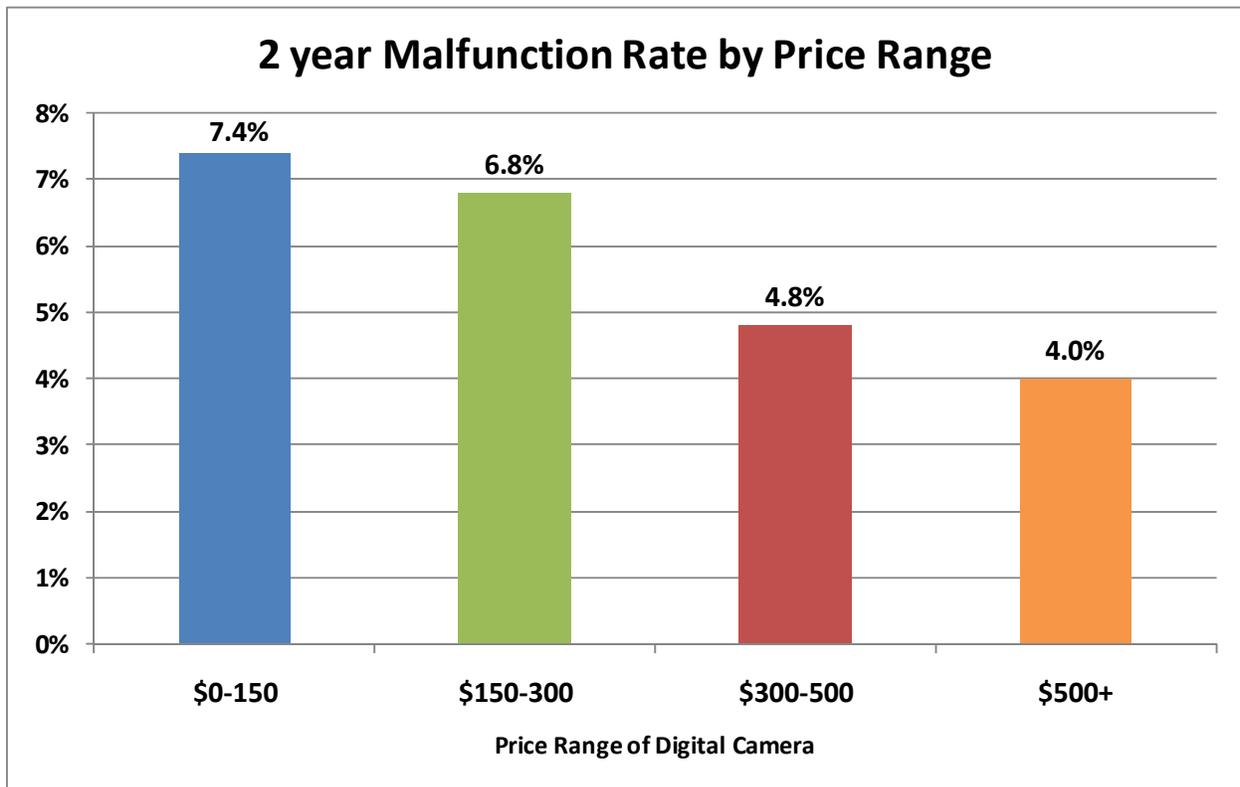
Camera Failures by Price

We next turn our attention to the reliability of cameras by price point. We have categorized cameras into 4 price ranges that signify the typical consumer camera market segments.

- Under \$150: Value point-and-shoot cameras with limited features, not much zoom control, and are competitively priced.
- \$150-300: Mid-Range point-and-shoot cameras with numerous features and zoom capabilities
- \$300-\$500: Premium point-and-shoot cameras with the best feature sets.
- Greater than \$500: Almost exclusively Digital SLR cameras.

In Figure 2, we break down malfunctions by the price ranges described above. Note that this analysis only considers failures due to malfunctions, not accidents.

Figure 2. Relative occurrence of camera malfunctions in the first 2 years by price range.



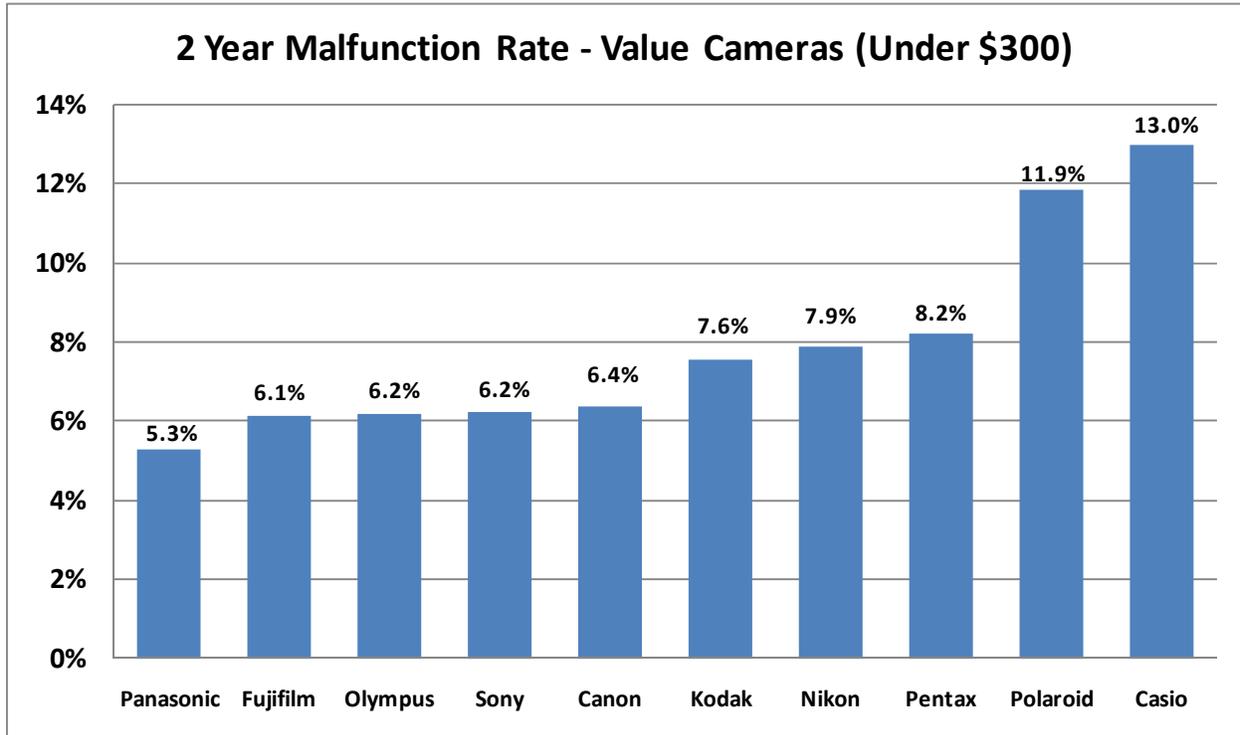
There is a clear correlation between the price of the camera and its likelihood of malfunctioning. Value point & shoot category showed the least reliability with 7.4% of cameras malfunctioning in two years, with mid-range models close behind at 6.8%.

Above \$300, the camera malfunction rates fell significantly. Premium point & shoot cameras failed 4.8% of the time, making them about one-third less likely to fail over the same period of time. Cameras over \$500, nearly all of which were DSLRs, were the most reliable, with only 4% malfunctioning over two years.

Point-and-shoots under \$300: Panasonic most reliable

Building on the above analysis, we next turn our attention to the relative reliability of different camera manufacturers across different price points. First we will look at the most inexpensive models: all cameras under \$300.

Figure 3. Reliability of cameras under \$300, by manufacturer.



In Figure 3 we break out the 2 year failure rate by manufacturer. Panasonic takes the cake, being the only manufacturer to have a failure rate below 6%. Close behind are Fujifilm, Olympus, Sony, and Canon, all virtually tied for 2nd place, and all having a failure rate at just above 6%.

Kodak, Nikon, and Pentax have slightly above average malfunction rates, ranging between 7.6% and 8.2%.

The brands with the highest rate of malfunction in our study are Polaroid and Casio. Polaroid has a malfunction rate just under 12%, and Casio comes in right at 13%, more than double the malfunction rate of the top 5 brands.

Premium Point-and-shoot Cameras: Panasonic wins again!

Next we examine the reliability of cameras sold at a price point between \$300 and \$500, which we call Premium point & shoot cameras. Since some manufacturers do not make many cameras in this price range, we only included those for which we have ample data.

Figure 4. Reliability of cameras between \$300 and \$500, by manufacturer.

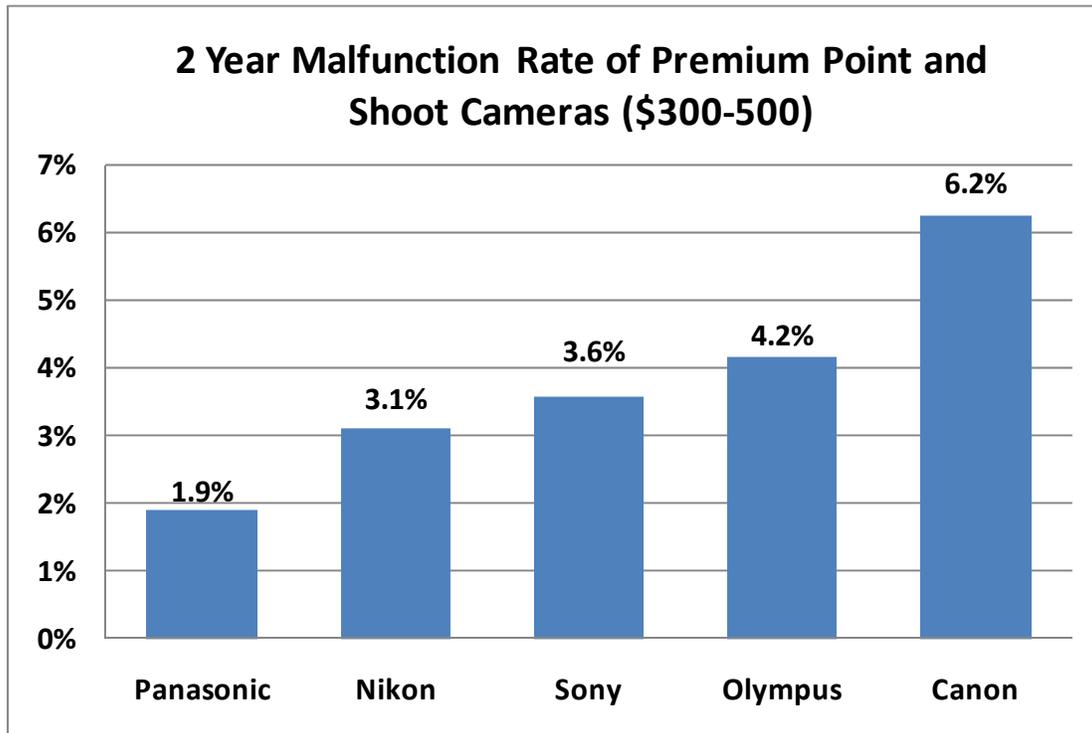


Figure 4 shows that of the five brands considered, Panasonic is again the most reliable, with less than 2% of Premium Point-and-shoot cameras malfunctioning within two years. This is quite impressive as it beats even the average reliability of DSLRs and is well below the other 4 brands examined here.

In the middle of the pack, Nikon, Sony, and Olympus have failure rates of 3.1%, 3.6%, and 4.2% respectively. Canon's Premium Point-and-shoot cameras were the least reliable amongst the 5 brands and showed little improvement over the reliability of their value cameras (6.2% malfunction rate for Premium and 6.4% for Value cameras).

Digital SLRs

Now some readers are undoubtedly wondering, who makes the most reliable DSLR camera? When you are about to drop close to \$1000 on a nice camera that you hope to have for years to come, it certainly begs the question. All we can say at this point is that there is no significant difference between Nikon and Canon's reliability in the \$500+ item price range; they both have about a 4% failure rate at the 2 year mark. At this time we do not have a large enough sample to say anything about the reliability of other DSLR manufacturers.

Conclusions on Digital Camera Reliability

In this study, we have found that digital cameras have about an 11% failure rate over two years when we include accidents. Over the typical 3 year lifespan of a point and shoot camera, we project nearly 16% of them to fail.

When breaking apart failure rates by price range, we do see that less expensive cameras fail more often than their more expensive counterparts. Above \$300, the reliability of cameras improved significantly.

Of the brands we examined, Panasonic is the clear leader in digital camera reliability. They are the only manufacturer to have less than a 6% failure rate for sub-\$300 models, and they achieved a less than 2% failure rate for \$300-500 models, much better than the other brands we looked at.

SquareTrade will continue to provide updates as more data becomes available. Over time we hope to include more brands in the various price point analyses, and hopefully we can shed some more light on who makes the most reliable DSLR camera.

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Appendix: Notes about the Data and Methodology Used

SquareTrade collected and analyzed failure data from over 60,000 digital cameras purchased since 2006 for this analysis. We included only items that were purchased brand new (i.e. not refurbished or used).

The following disclaimers apply to our data and analysis:

- As there is no sharp price point which divides DSLR cameras from Point-and-shoot Cameras; some manufacturers make Point-and-shoot cameras that cost more than some DSLR cameras made by other manufacturers. We have picked price points that we feel represent the most logical cutoff.
- Only malfunctions reported directly to SquareTrade are included in the data. Other malfunctions, including software/hardware issues handled directly by the retailer, problems associated with product recalls, and those fixed by software/firmware updates, may not be represented in this data.
- We did not take into consideration purchase location of the camera.

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