

EVERYTHING* YOU ALWAYS WANTED TO KNOW ABOUT TRANSISTORS,
AND HAVE BEEN ASKING, AND ASKING, AND ASKING.

Q. For years and years I've been using 151-0190's and 151-0188's for everything. Is there anything better now?

A. No.

Q. I've been using 151-0341-00's and 151-0342-00's; is there anything better?

A. No.

Q. 151-0302-00's and 151-0301-00's seem to work well in my applications; is there anything better?

A. No.

Q. Which part do you recommend; -0190, -0341, or -0302?

A. Whichever works best in your circuit.

Q. What's our cheapest transistor today?

A. Who really cares? Actually I'm not sure. However for your application we probably won't be buying it today. When your new instrument goes into production it will probably have changed. Besides inexpensive is the word we prefer in the cheap transistor business.

Q. O.K., what will be the least expensive transistor over the life of my instrument, in your educated opinion?

A. Let me give you several comparisons to put things in better perspective, O.K.?

Q. O.K.?

A.	O.K.	151-0341-00	NPN	^{.080} 5¢ to 10¢	TO-106, 200 mW, 3 pF, 100 MHz, 100 μ A to 10 mA
		151-0342-00	PNP	^{.100}	
		151-0190-00	NPN	^{.125} 7¢ to 12¢	TO-92, 310 mW, 4 pF 300 MHz, 1 mA to 50 mA
		151-0188-00	PNP	^{.155}	
		151-0302-00	NPN	^{.150} 9¢ to 14¢	TO-18, 500 mW, 8 pF 250 MHz, 5 mA to 500 mA
		151-0301-00	PNP	^{.160}	

Q. Hey, prices kind of overlap, don't they?

A. Yes, that's why I say to use the one that works best. You'll probably save money.

Q. I thought -0302 was our cheapest transistor.

A. Wrong, but it was our least expensive. It's one of our best. We have bought them for 6¢ each (less than any other) but that was not a reasonable price based on cost.

- Q. What's the cheapest to build?
- A. There's that word again. The least expensive is T0-92 package, next is T0-106, and T0-18 is most expensive.
- Q. Why don't prices reflect this?
- A. They will, but not for awhile.
- Q. Why not?
- A. Prices are based on cost, production, inventory, and competition. For instance, last summer, inventories were very high of 2N2222A, the competition very stiff, costs relatively high and we paid 6¢. Right now production and inventories of T0-106 products are pretty high, and competition is pretty stiff. Companies who build both T0-92 and T0-106 would rather taper down T0-106 production while T0-92 is building up. If prices were the same, T0-106 volume would plummet and inventories start to soar. Also, the T0-92 competition haven't been cutting prices under each other yet. It's a relatively easy way to effectively raise prices.
- Q. Is there ever going to be a standard, general purpose transistor?
- A. Yes, 2N3904 & 6 in T0-92, 2N2222A & 2N2907A in T0-18, 2N2219A & 2N2905A in T0-5.
- Q. We already have those as -0190 & -0188, -0302 & -0301, and -0103 & -0134?
- A. Yes, what a coincidence. The 2N2218-22A family and 2N2904-7A family have been standards for some time, even though they were rather expensive.
- Q. Are they still expensive?
- A. No, they are all less than 20¢ on current quotes.
- Q. You can't call the 2N3904 & 6 standards when they come in a whole assortment of packages, can you?
- A. No. However, virtually every manufacturer of plastic transistors is now, or soon will be, producing the T0-92 package, and the 2N3904 & 6 dice or chips.
- Q. Can you summarize the situation?
- A. Yes, but it takes two pages to do it.
- Q. It's only taken two pages so far!
- A. True, but it never ends there.
- Q. What do you mean?
- A. They always ask me to summarize and that usually fills up the rest of the page.
- Q. Thank you and good night Eric Clarified.
- A. Good night, Dick. Good night, Jane. Good night, Spot.

*This isn't everything you always wanted to know, but what is?