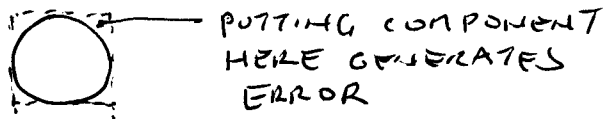


IN PCB LAYOUT WITH DESIGNSPARK. I'M ALTERING THE DESIGN IN SOME PLACES FOR BETTER LAYOUT. ~~GATE TO SOURCE~~
~~RESISTOR~~

- GATE PULLDOWN RESISTOR ON MAIN SWITCH Q1 WAS GOING TO LOGIC GND. CHANGED TO GO TO SOURCE OF TRANSISTOR.
- CURRENT SENSE ON INPUT WAS ON NEGATIVE LEAD OF SOLAR PANEL - MOVED TO POSITIVE.
- FOUND TWO SIDES OF RESISTOR CONNECTED TOGETHER BECAUSE BOTH NETS WERE NAMED 'MID-CURRENT-SENSE'. ERROR CRYPT IN ON RECENT CHANGE TO ACS723 ~~SENSOR~~ SENSOR, WHEN RESISTOR WAS ADDED. CHECKED OTHER INSTANCES FOR SIMILAR ERRORS - DID NOT FIND ANY. SHOULD DO A CHECK LATER TO SEE IF ANY NETS HAVE TWO CONNECTIONS TO THE SAME COMPONENT.
- DESIGNSPARK DRC ~~FIX~~ USES BOUNDING BOX FOR COMPONENT TO COMPONENT VIOLATIONS, NOT ACTUAL COMPONENT OUTLINE



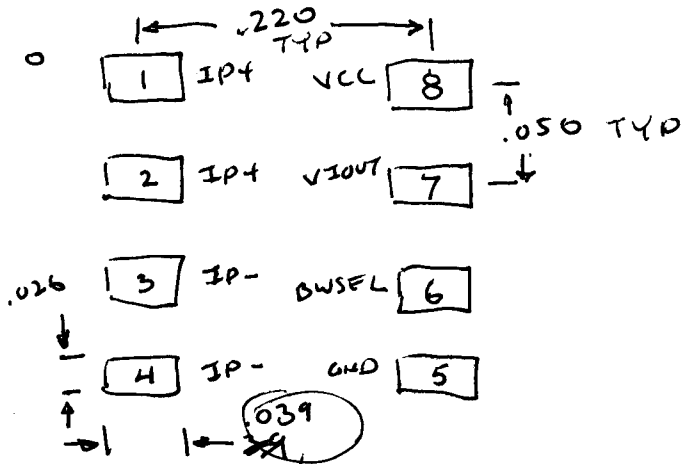
- CLAMP DIODE ON Q1 GATE, MOVED OFF LOGIC-GND TO SOURCE.
- DECIDED TO TRY TO PUT FILTER CAPACITORS FOR ANALOG SIGNALS CLOSE TO PROCESSOR.
- PUTTING CLAMP DIODES FOR ANALOG SIGNALS CLOSE TO PROCESSOR.

18 OCT 15 - MOVED IN-VOLTAGE-SENSE TO MONITOR SOLAR PANEL BEFORE CURRENT SENSOR. EASIER LAYOUT.

CHECK FOOTPRINTS OF ALL COMPONENTS.
PADS & PINOUTS

ACS723LLCTR-40AU-T

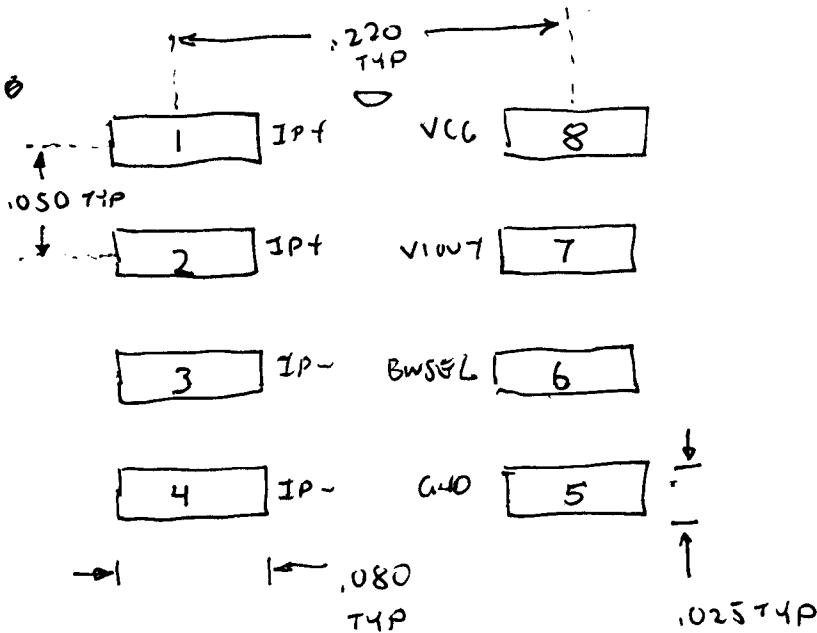
DIMENSIONS IN INCHES



SHOULD BE $.069$

USE S08 PCB LAYOUT
NOT S01C8 IN USER.PSL

09 OCT 15 REVISED ACS723LLCTR-40AU-T FOOTPRINT



09 OCT 2015;
RODRICK

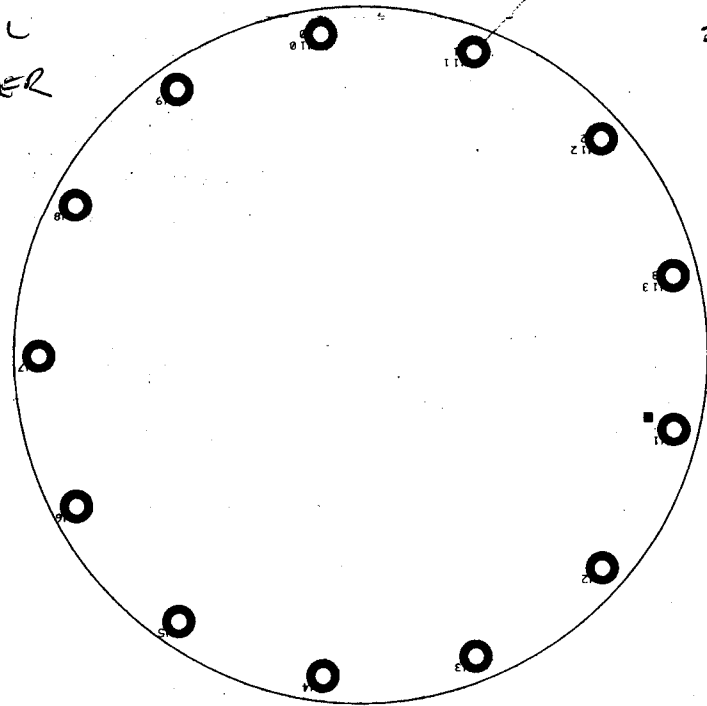
ARC REACTOR FOOTPRINT

IN CHECKING FOOTPRINTS, ALWAYS START FROM COMPONENT
IN SCHEMATIC, AND CLICK DOWN TO FOOTPRINT, JUST IN CASE
MIGHT BE USING SOME ROGUE VERSION OF COMPONENT.

CHECKED SYMBOL VS. PCB PADS - OK,
~~HOLES ARE~~ PADS ARE ON BOTH SIDES.

PART ORIGINALLY GENERATED FROM PHYSICAL
INDUCTOR. PLOT BELOW LOOKS $\approx 1-2$ mm
SMALL BUT TRUST OLD KNOWLEDGE.

PUNCHED ACTUAL
HOLES IN PAPER
TO GENERATE
MODEL.



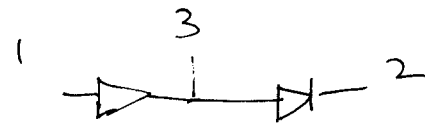
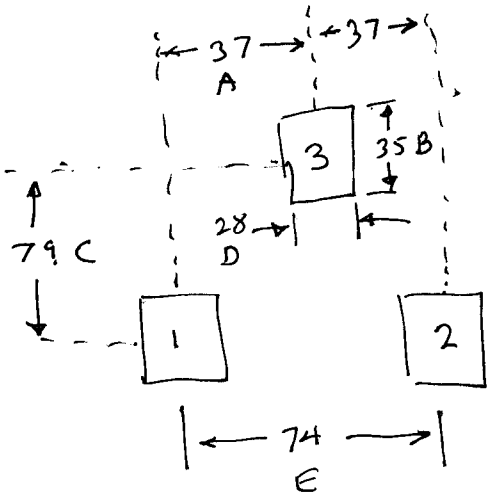
HOLE SIZE 86 THOU
PAD 172 THOU
ALL HOLES CHECKED.

#12 WIRE = 81 THOU
PIA

#14 = 64 MIL
ACTUAL MEASURED WIRE =
 $\frac{1}{16} \pm \frac{1}{128}$
MAY WANT TO
PUT "FLAGS"
OF COPPER ON
POWER TRACES
TO DISSIPATE
HEAT

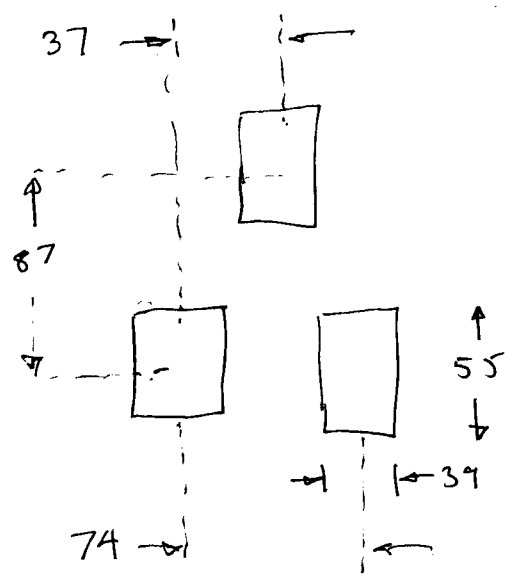
DIAMETER 3606 THOU
OF RING - MATCHES RULER - MAYBE 0.5 mm SMALL

BAY 99 FOOTPRINT



RECOMMENDED LAND PATTERN FROM FAIRCHILD DATASHEET

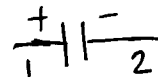
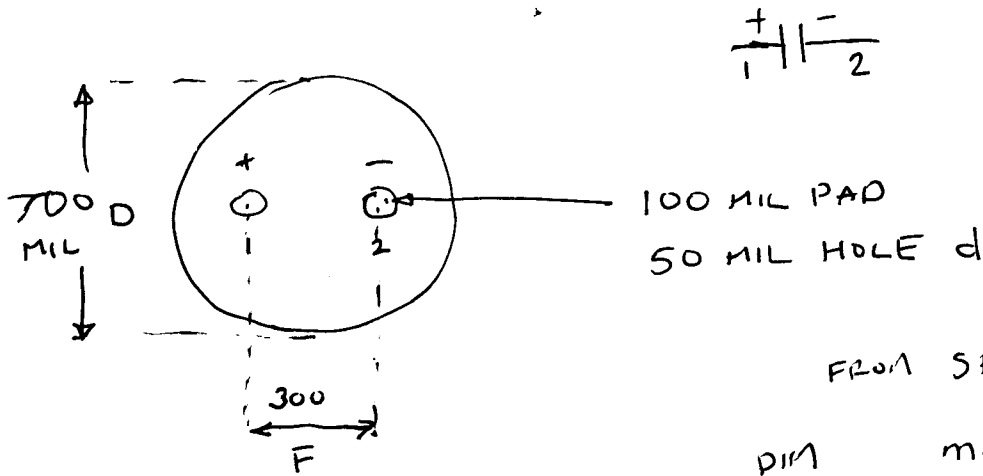
A (mm) DIMENSION	mm	(DEFINED) MIL
A	0.95	37 ✓
B	1.40	55
C	1.90 2.20	87
D	1.00	39
E	1.90	75 ✓



MODIFIED TO THIS

SOT-23 FOOTPRINT ALSO AFFECT BCX71K. BUT FOUND THAT NEED HIGHER VOLTAGE FOR V_{CEO} ? MAYBE NOT

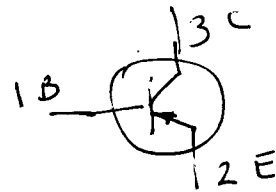
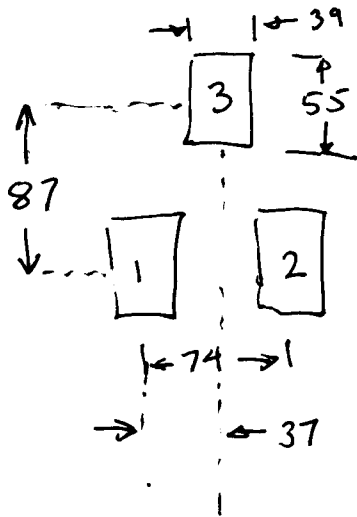
BCA0050 FOOTPRINT.



FROM SPEC SHEET

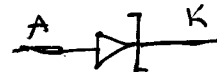
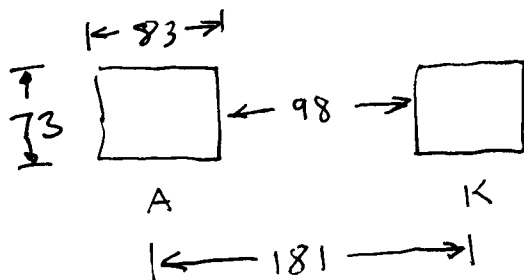
DIM	mm	MILS CALCULATED
D	18	709
F	7.5	295
LEAD DIAMETER - d	0.8	31.5

BCX71K FOOTPRINT



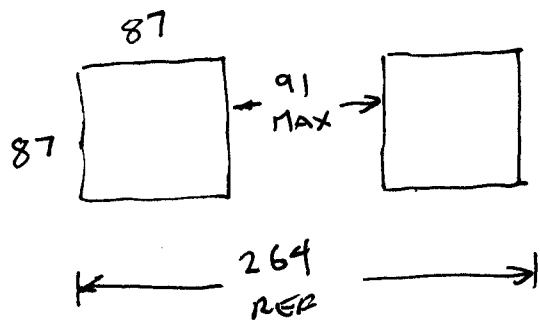
PINOUT OK.
 SAME FOOTPRINT AS BAV99,
 NO SURPRISE, SINCE BOTH FROM
 FAIRCHILD.

BZG03CA7 FOOTPRINT

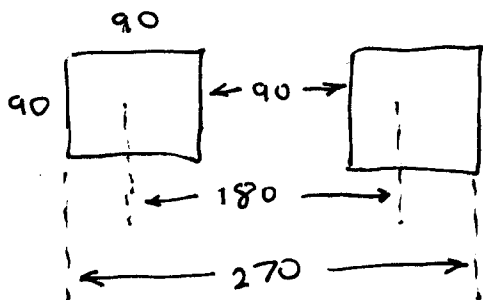


10.OCT.15; Roderick.

BZ603C47 FOOTPRINT RECOMMENDATION FROM VISHAY

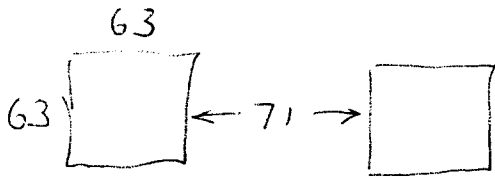


REVISING FOOTPRINT TO:



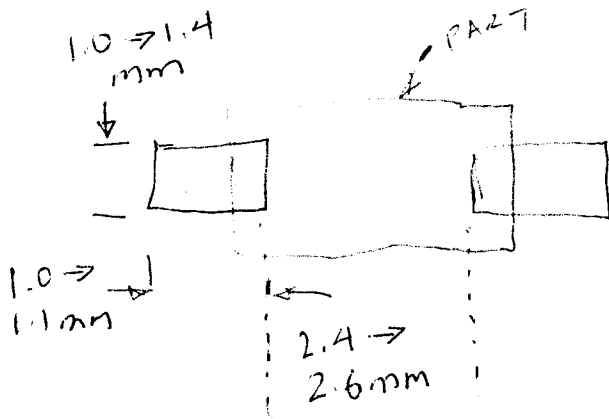
LARGER IS OK FOR HEAT SINKING. PADS ON 5 MIL BOUNDARIES MAKE FOR EASIER LAYOUT.

1206 FOOTPRINTS

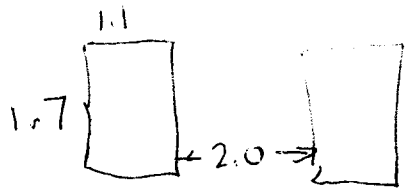


DEJINJSPARK
 DEFAULT
 PROBABLY DERIVED FROM
 METRIC 3216

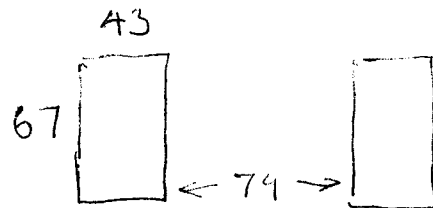
VIOMAY RECOMMEND FOR FLOW (WAVE) SOLDER



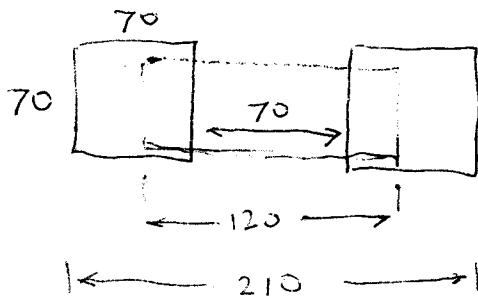
REFLOW RECOMMEND



IN MILS

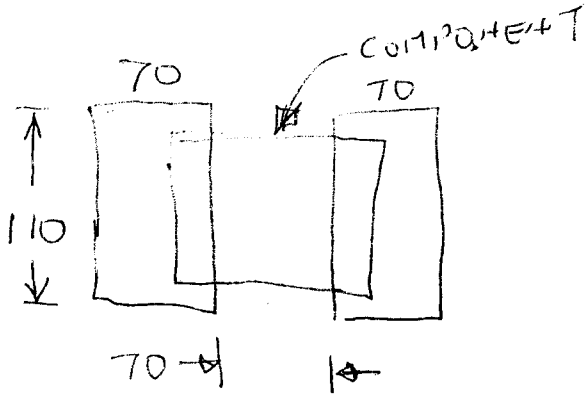


CHANGED 1206 FOOTPRINTS TO

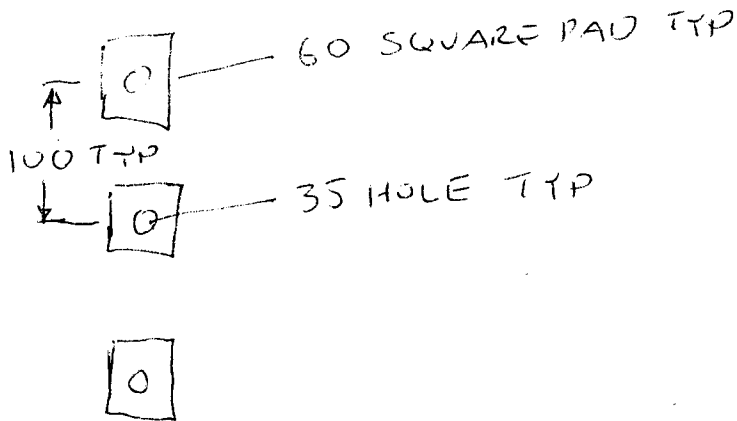


- ON 5 MIL GRID
- LOTS OF EDGE ROOT FOR HAND SOLDERING

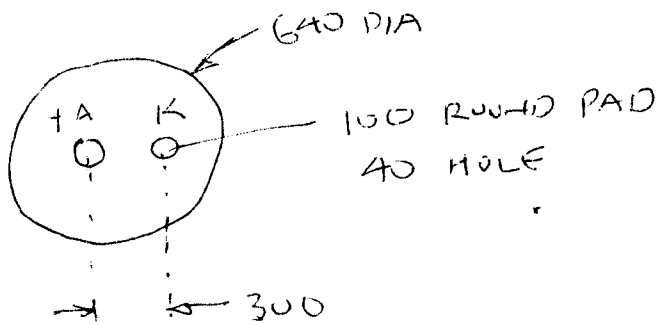
CAP1210 FOOTPRINT



CON4-SIL-3 FOOTPRINT - PICAXE SERIAL CONNECTION

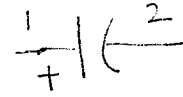
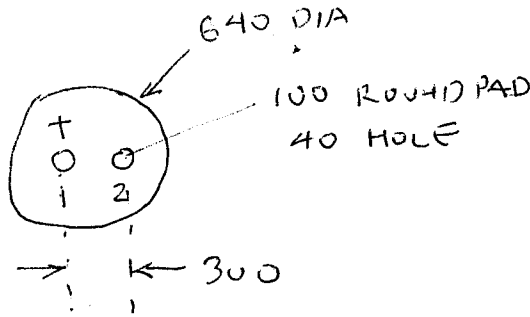


CP6 FOOTPRINT - 1000µF CAPS



ANODE AND CATHODE ARE REVERSED IN MY SCHEMATIC - CHANGE COMPONENT TO USE AMERICAN SYMBOL.

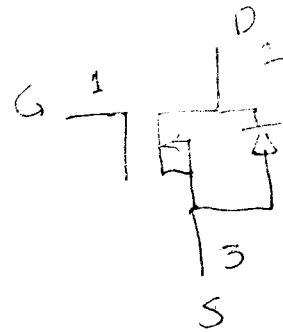
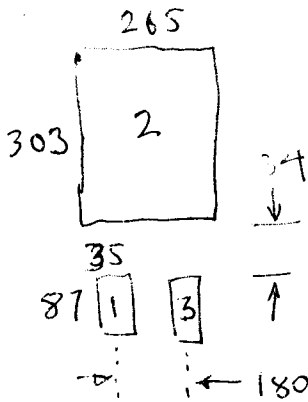
ELECTROLYTIC FOOTPRINT - DERIVED FROM CP6



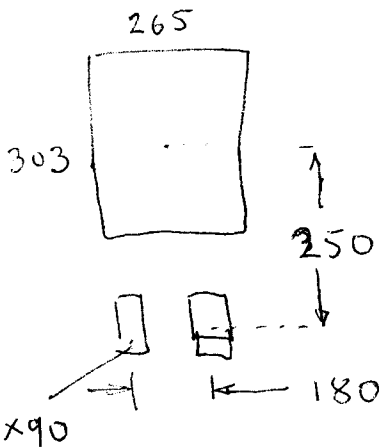
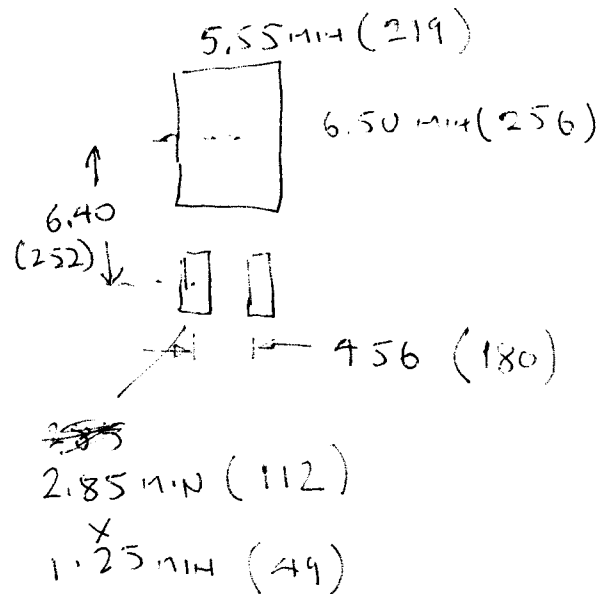
CAPS 1"1 VS146 - EEU - FR1H102

DIA 16mm (630 mil)
 LEN 25mm
 LEAD DIA 0.8mm (32)
 LEAD SPA 7.5mm (295)

FDD 86326 FOOTPRINT (DPAK)

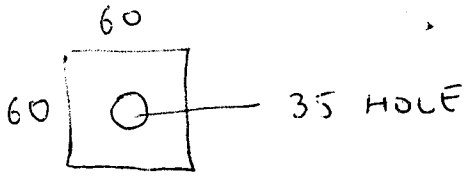


RECOMMENDED LAND



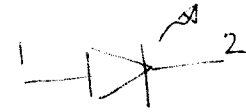
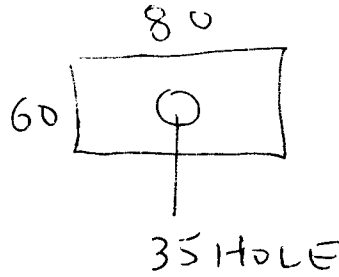
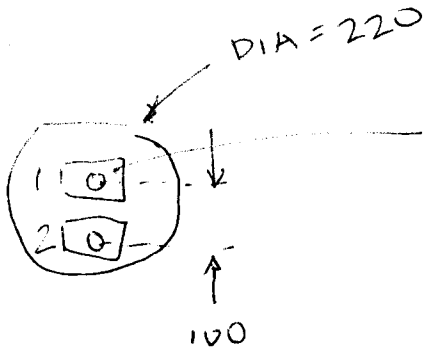
NEW LAND

GATE WINDING FOOTPRINT



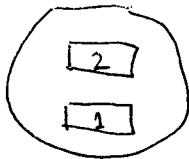
20 WIRE IS 32 MIL IN DIAMETER

LED 035 FOOTPRINT

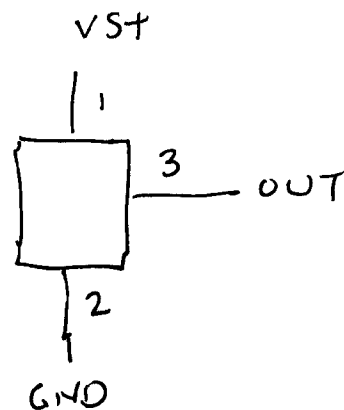
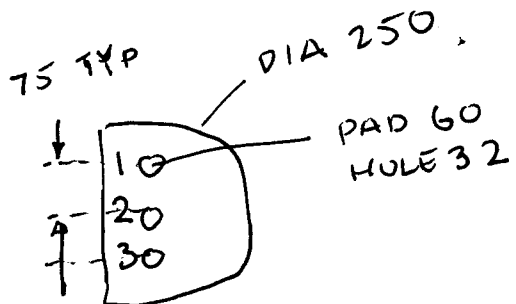


IN DATASHEETS, LEAD DIA IS 20 MIL
FLAT DENOTES CATHODE

NEW ASSIGNMENT

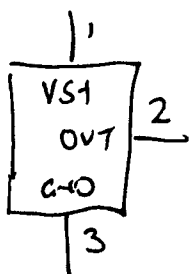


LM34DZ (TO 92 TEMP SENSOR) FOOTPRINT



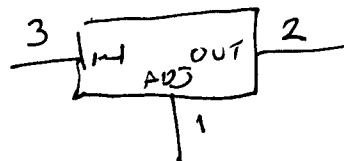
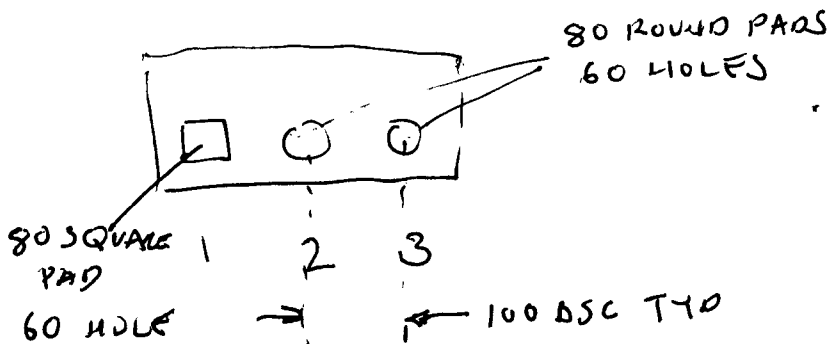
TO 92 GENERAL PACKAGE SHOWS 20 MIL LEADS, SPACED 50 MIL. BETTER TO SPREAD LEADS, ANYWAY.

LM34DZ DATASHEET SHOWS PIN 2 = \emptyset V_{OUT}, 3 = GND. CHANGED SYMBOL, NOW



MATCHES DATA SHEET.

LM317AHT FOOTPRINT

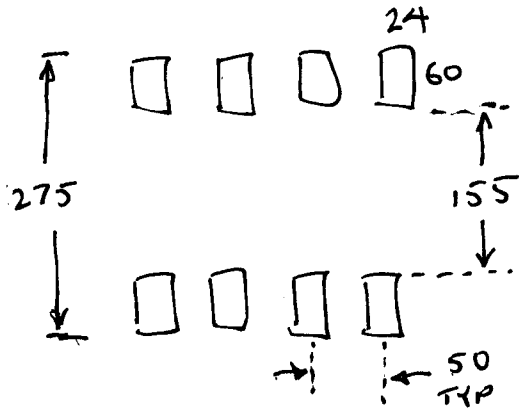


LEAD SIZE 0.6 mm 1.0mm
24mm
40mm
47 MIL OH DIAGONAL

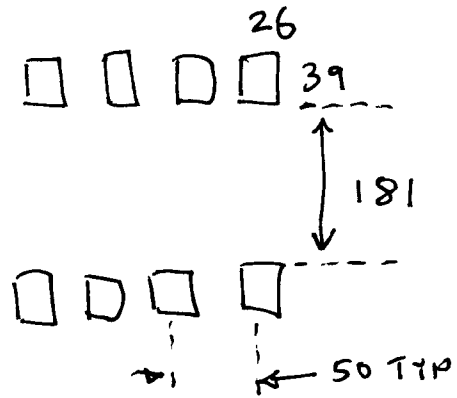
PIHOUT OK

LM393 FOOTPRINT - ON SEMI LM393DG

RECOMMENDED



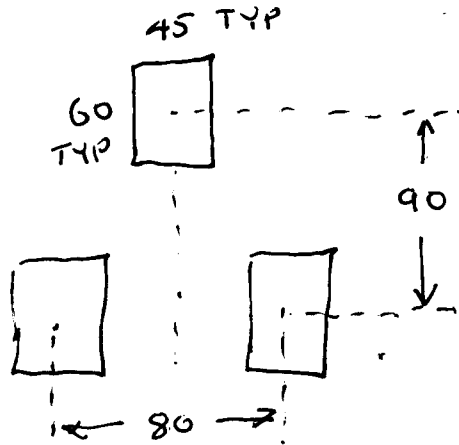
CURRENT



CHANGE TO USE SOL FOOTPRINT LIKE OTHER IC'S.

DONE.

DID RE-DO OF SOT23 FOOTPRINT, APPLYING TO PNP TRANSISTOR, DARLINGTONS, BAV99 DIODE. MOVED PADS OUT TO BE ON 5-MIL GRID, AND ENLARGED THEM SO OLD PAD AREA STILL COVERED



GO BACK & CHECK PINOUTS

BAV99 - OK

BCX71K - OK

MMBT6427 - OK

13 OCT 15; Roderick.

CHANGING PACKAGE NAMES TO BE MORE DISTINCT.

PREVIOUSLY HAD NAMES LIKE "SM", DESIGNSPARK

CANNOT MAKE REPORT OF NAMES OF PCB FOOTPRINTS,

SO WILL USE PACKAGE NAMES LIKE "1206", "SOT23"

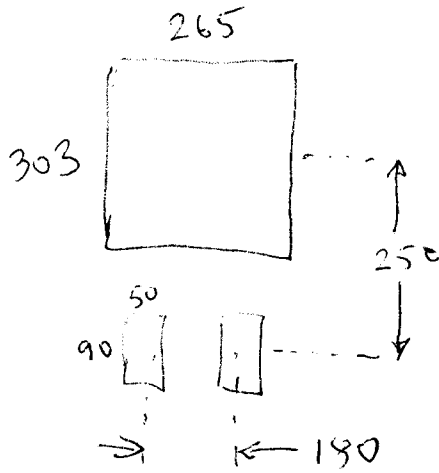
"SO8L" WILL NEED TO MAKE ANOTHER PASS OF

PINOUT CHECK TO BE SURE I DIDN'T MESS ANYTHING

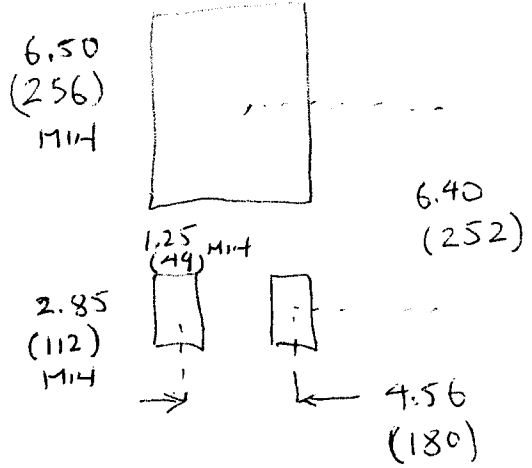
UP.

FDD 86326 FOOTPRINT

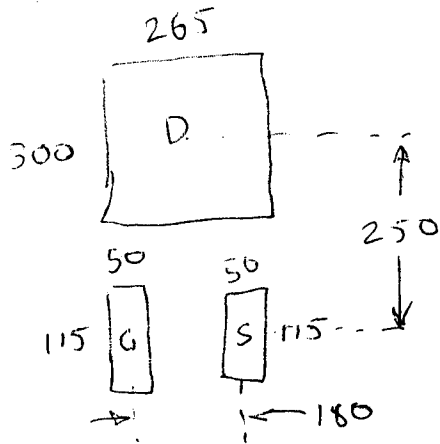
MILS



RECOMMENDED mm(mils)
5.55 MIL (219)



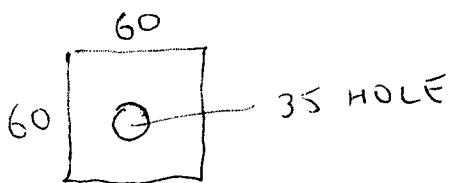
REVISED TO



PIHOUT OK.

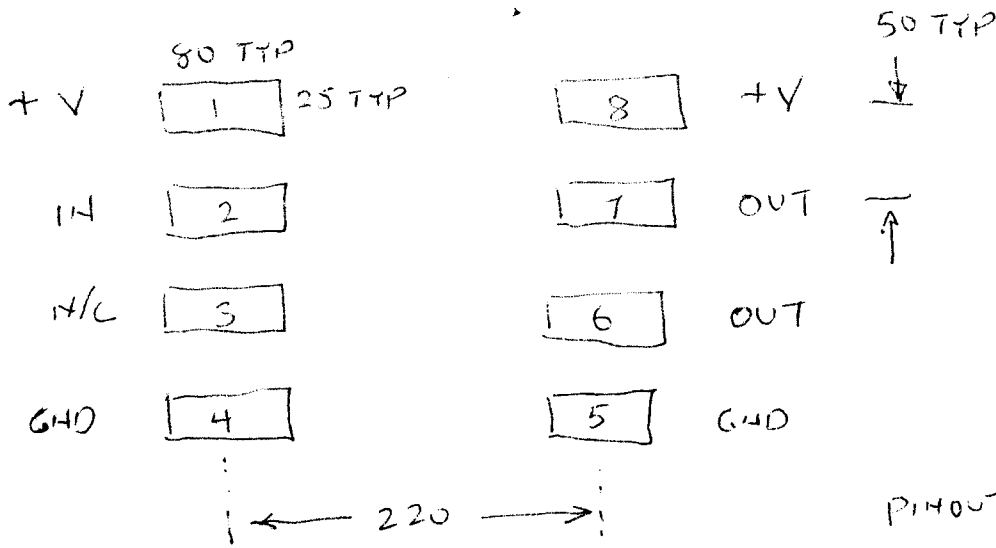
CHANGING PALKACE NAME
TO DPAK

GATE WINDING FOOTPRINT



#20 WIRE IS 32 MILS DIA

MIL 4452 FOOTPRINT

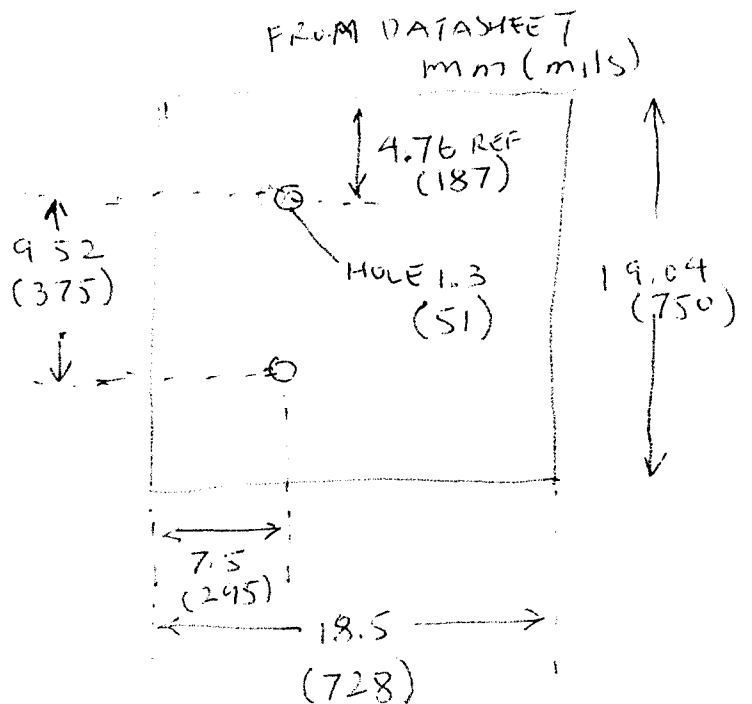
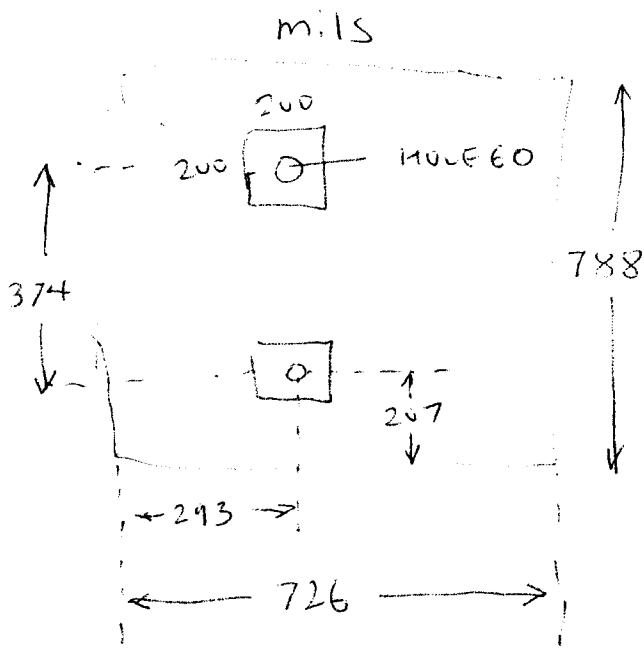


PINOUT GOOD
LAYOUT GOOD.

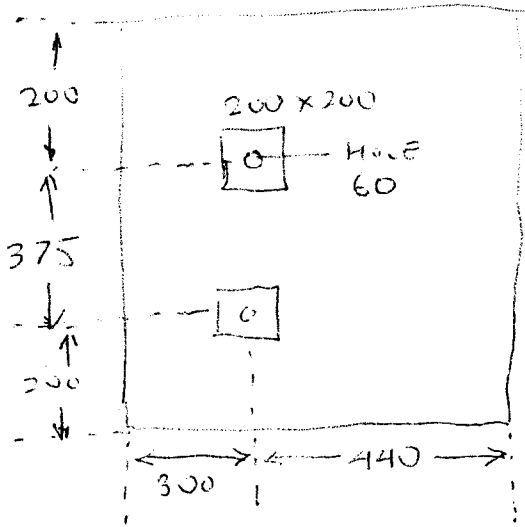
MMBT6427 - CHECKED PREVIOUSLY

NMOS (IRFB4110) FOOTPRINT - CHANGED TO MATCH LM317AHV.

PHOENIX 1720017 FOOTPRINT



NEW LAYOUT FOR 1720017



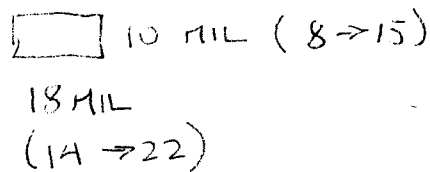
PICAXE-20M2 FOOTPRINT

PICAXE BASED ON PIC16F1825

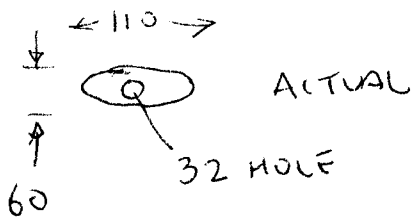
LATEST PACKAGING AT www.microchip.com/packaging

PINS 0.1" APART, 0.3" ROWS DIP

ACTUAL PIN CROSS SECTION

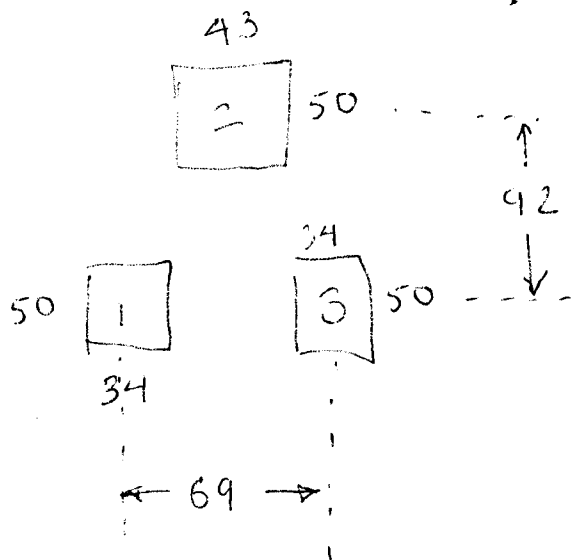


PINOUT OK
USING PART

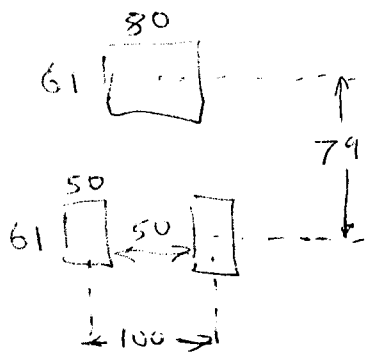


PVZ3A FOOTPRINT

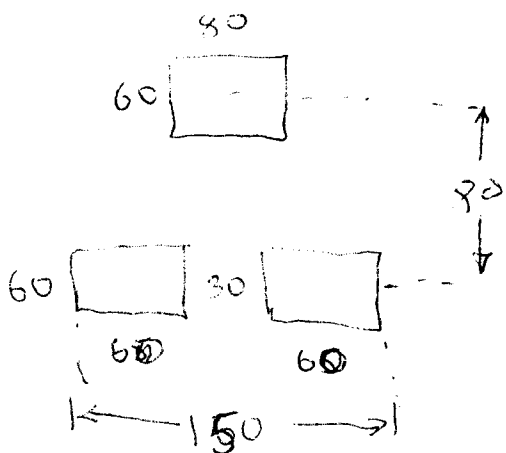
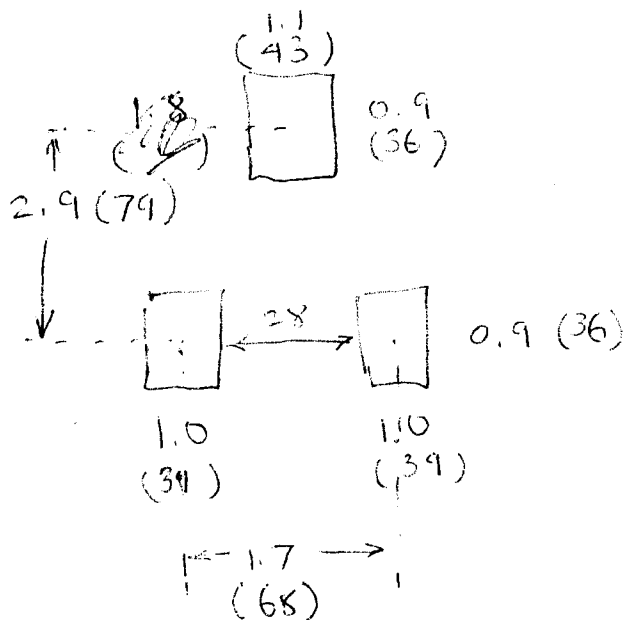
mils



ROHM'S 3214W RECOMMEND



PVZ3A RECOMMEND mm (mils)

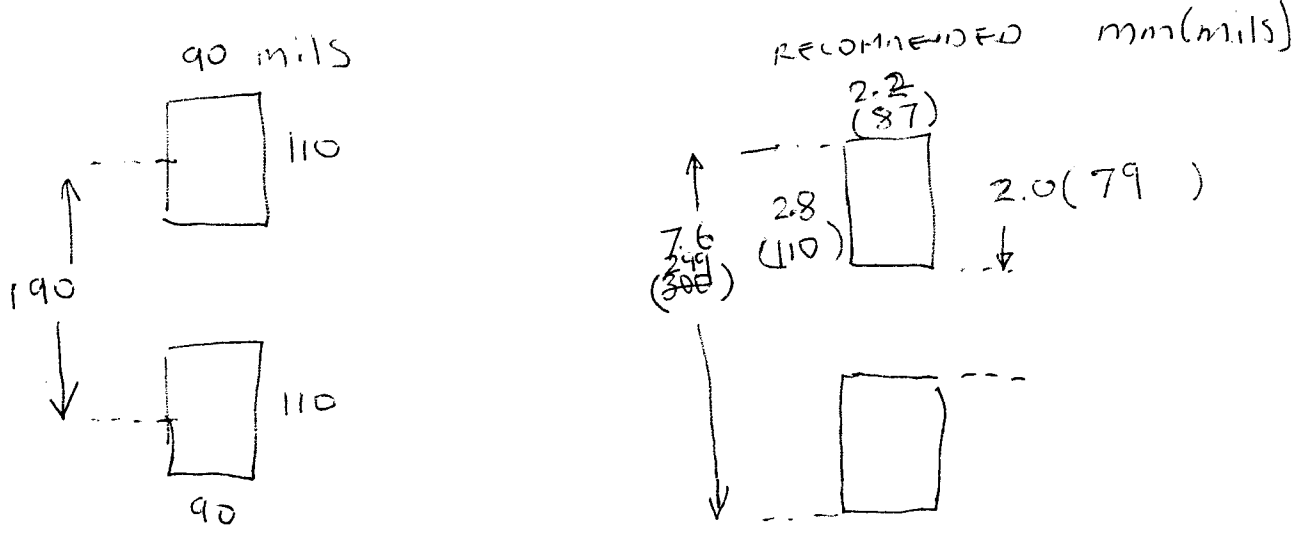


UNIVERSAL FOOTPRINT

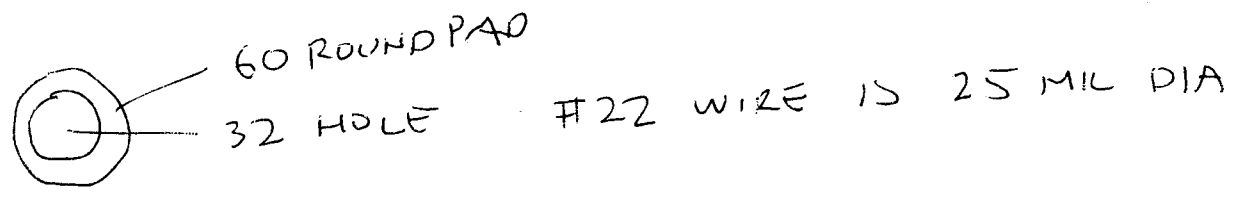
PVZ3A IS CHEAP @ Mouser,
 BUT GOT A DEAL ON 3214W
 AT FLEA MKT - 50/\$1.

RES 1206 FOOTPRINT - IDENTICAL TO CAP1206 NOW,

TECON 147873-2 FOOTPRINT - SM PUSHBUTTON SWITCH



TESTPOINT032 FOOTPRINT



TESTPOINT 471206 FOOTPRINT - IDENTICAL TO CAP1206 NOW,

ALL PARTS CHECKED. NOW BACK TO LAYOUT,