We have done lots of calculations
of the power dissipated by resistors and
the limits to which they should be pushed.

For example, for 1/8 W resistors

$$P_{C} = \frac{V_{\text{Max}}^{2}}{R} = \frac{1}{8}W$$

$$V=\sqrt{\frac{R}{8}}$$

| | | T | 47年9年1月日本 |
|----------------|---------|-------|-----------|
| IRA h Vmak | R | Vmax | |
| 1 H/1 V162 V/1 | loon | 3.592 | -V |
| 10/4/ /35.4/ | 20052 | 5 V | |
| 1664 ///81/ | 50052 | 7.9 V | |
| | 100052 | 11.2V | |
| | 10, KSZ | 35,4V | |
| | 100 KS | 112V | |
| • | | | |

BTW, this is an argument for how to

size resistors, One rule of thumb is to make

Sure that, if the biggest voltage in your

(220b

| | circuit was put across any resistor in that | | | |
|--|---|--|--|--|
| | | | | |
| | system, that resistor will not be out | | | |
| | | | | |
| | of spec. So, if you have a ckt that runs | | | |
| | on ±10V, for a maximum difference of 20V, | | | |
| | the smallest 1/8W resistor you could use would | | | |
| | be about 3 ks (exactly: R= 8 Vmay= 3200 sz) | | | |
| | 에 많았는데 생물을 보고 있었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 | | | |
| | Your could even make a table that would show | | | |
| | the smallest power rating that could be | | | |
| | Used for each value of resistor, Max DV= 20 V | | | |
| | Max DV= 20 V | | | |
| On additional control and an account of the control and account of the cont | R Smallest Power Rating | | | |
| | 1 400 W | | | |
| | 10 40W | | | |
| DOI-84/100/CPC-05/CPC-06/CPC-05/CPC-06/CPC-0 | 100 / 4W | | | |
| Martin Commission and | 1 K ,4W | | | |
| to talket dan et ministrik blokken en en en state de visit beskin til de visit for en en en en en en en en en e | 10K 104W | | | |
| were soft and the soft and the international and the international and the soft and | | | | |
| Schools Communication of the American Communication of the America | | | | |
| a de contractor en contractor de contractor | | | | |

220C

OR, you could state the Available

Resistor Power Ratings and show the smallest R

that can be used:

| | 1.27 | taran da araba da ar | | |
|--|-----------|--|--|---|
| Ex | . O Vmas | = 20 V | | eterniorista esta esta esta esperago es |
| - Control of the Cont | | (Intermittent) | Routine | |
| | Available | Smallest R= +Vmax | expected | |
| | 1/8W | 3200SL | 1600 | |
| | 14W | 160052 | 800 | |
| eller og til fræde sik skippen forskale flesse men skip eller skip skippen skip eller skippen for skippen skip | 1/2W | 800 N | 400 | |
| | (W | 40052 | 200 | |
| a de la companya del la companya de | 2W | 20057 | 80 | |
| | 5W | 805 | | |
| erguspanharpsjonning (p. prijensko) op holysjoning om mandrans "Sper | | | The second secon | |
| | | | | |
| | | | + 90000 cm cm cm bear with in-additional environment and a constant and a const | |

Show what happens if exceeded:

 $\frac{\pm W,100n}{\pm W,1kn} \Rightarrow V_{max} = 5V$ $\pm W,1kn \Rightarrow V_{max} = 15.8$

(220d)

Capacitors are rated as follows:

Capacitance (C)
Working Voltage DC(WVDC)
Dielectric
Tolerance (J=±570, K=±1070, M=+20%)

OThe insulator between the plates, known

as dielectric determines the properties of

the capacitor. Some are good at high

Frequencies, Some at low, some have high

dielectric Constants (high capacitance for small

volume) others lower, some are cheap, some

have to lend themselves to high precision, etc.

The dielectric and the physical construction

lead to a maximum voltage (WVDC) the

Capacitor can withstand without breaking

down, usually shorting out.

(220e)

One way to get relatively high dielectric values is to use an electrolytic material. These materials are "stronger" in one direction than the other, so they are "polarited": + or + In one of those pitarre circumstances, the way they are marked in schematics is NOT the way they are marked in real life (Show electrolytics) where there is a "-" sign for one

If you reverse the voltage + exceed rating the dielectric breaks down + can even boil, leading to a mechanical failure.