

INDEX

A	
aluminium electrolytic capacitor (see capacitor dielectric)	14
amplifiers	77
analogue devices	77
analogue to digital converter (ADC)	88
B	
beads (see ferrite)	31
bipolar junction transistor (BJT)	53
bypass capacitor (see capacitors)	19
C	
cable	95
co-axial	98
ribbon	97
twisted pair	96
capacitors	13
applications	25
bypass	19
decoupling (see also digital logic)	20
dielectric	16
feedthrough	23
impedance	17
parallel resonance	22
self resonant frequency	18
three terminal	25
clock circuits	65
decoupling	66
layout	127
code (see programming)	161
combinational logic	69
connectors	100
D	
DC-DC converters	113
dielectric (see capacitors)	16
E	
digital clocks (see clock circuits)	65
digital logic	69
decoupling	20, 70
IC's	61
microprocessors	70
diodes	44
rectifier	46
Schottky	48
small signal	46
Zener	48
E	
electrical length (PCB)	149
electromechanical relay	109
electrolytic capacitors	15
F	
ferrite	28
beads	31
clamps	31
inductors	26
transformers	34
field effect transistor (FET)	54
filters	34, 40
fuses	104
G	
gas surge arrester	59
ground	128
grid	130
plane	133
guard ring	129
H	
heatsinks	106
hybrid components	111

I		printed circuit board (PCB)	118
impedance		pre-preg	120
capacitor	17	programmable devices	76
inductor	29	programming	161
resistor	11	Q	
transformer	39	quality factor	30
wire	95	R	
inductor	26	rectifier (see diodes)	46
insulated gate bipolar transistors (IGBT)	56	relay	
interface devices	83	electromechanical	109
J		solid state (SSR)	112
junction field effect transistor (JFET)	57	resistors	9
L		applications	12
laminate	120	carbon body	9
light emitting diodes (LED's)	49	carbon film	10
M		construction	9
memory	76	noise voltage	11
microstrip (see transmission lines)	143	wire wound	9
microprocessor	70	resonance	
moats (PCB)	124	capacitor	17, 22
MOSFET (see field effect transistor)	54	inductor	29
motors	109	ribbon cable	96
O		S	
opto-isolator	111	segmentation	124
orthogonal tracking	135	self resonant frequency	
oscillator		capacitor	17
digital clock	65	inductor	29
P		silicon controlled rectifier (SCR)	58
packaging		skin depth	99
discrete components	43	sockets	100, 106
integrated circuits	63	software	161
passive components	6	solenoid	108
parasitic effects (see packaging)		solid state relay (SSR)	112
passive components	6	spread spectrum clocks	65
power supply unit (PSU)	91	stripline (see transmission lines)	146
linear	35	switches	104
switched mode (SMPS)	36	T	
		tantalum capacitor (see capacitor dielectric)	15

-
- | | | |
|--------------------------------------|-----|----------|
| termination | | |
| transmission lines | 149 | |
| serial interfaces | 83 | |
| three terminal capacitor | 25 | |
| thyristor | 58 | |
| transformers | 34 | |
| construction | 34 | |
| mains | 35 | |
| pulse | 36 | |
| shielding | 38 | |
| transient blocking unit (TBU) | 57 | |
| transient voltage suppressor (TVS) | 50 | |
| transistors | 53 | |
| bipolar | 53 | |
| FET | 54 | |
| IGBT | 56 | |
| JFET | 57 | |
| transmission lines | | |
| microline | 143 | |
| stripline | 146 | |
| | | |
| V | | |
| varistor | | 50 |
| vias | | 119, 138 |
| voltage dependant resistor (VDR) | | 50 |
| voltage regulators | | 82 |
| | | |
| W | | |
| watchdog circuit | | 74 |
| watchdog programming | | 162 |
| wire | | 95 |
| wire wound resistors (see resistors) | | 9 |
| | | |
| Z | | |
| Zener diodes | | 48 |
| zero crossing topologies | | 93, 110 |