

PROTEUS

The Complete Electronics Design System

Component Library Documentation

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Electronics



Description

This library contains general schematic symbols such as resistors, capacitors, diodes and transistors.

DEVICE.LIB also contains connector symbols for use on PCBs.

Contents

AERIAL	CONN-H2	DIODE-LED	NMOSFET	REG-NEG	SW-DIP4
BATTERY	CONN-H4	DIODE-SC	NPN	REG-POS	SW-DIP7
BRIDGE	CONN-H5	DIODE-TUN	OPAMP	REL-SPM:A	SW-DIP8
BUZZER	CONN-H6	DIODE-ZEN	OPTOCOUPLER	REL-SPM:B	TERMINAL
CAP	CONN-H10	FUSE	-NAND	RELAY:A	THYRISTOR
CAP-ELEC	CONN-H12	IND-AIR	OPTOCOUPLER	RELAY:B	TRAN-2P2S
CAP-POL	CONN-H15	IND-IRON	-NPN	RES	TRAN-2P3S
CAP-PRE	CONN-H16	INDUCTOR	PIN	RES-PRE	TRAN-2P5S
CAP-VAR	CONN-H20	LAMP-FIL	PJFET	RES-VAR	TRIAC
CELL	CONN-H32	LAMP-NEON	PMOSFET	RESPACK-7	VEROPIN
CONN-D9	CRYSTAL	LED	PNP	RESPACK-8	
CONN-D15	DIAC	METER	POT	SCR	
CONN-D25	DIODE	NJFET	PRESET	SPEAKER	

Notes

The generic parts such as NPN, PNP are unpackaged and are thus not intended for use on schematics where PCB manufacture is the end goal. This generic parts may of course be use as templates for specific device types.

The components have the appropriate properties for simulation where corresponding models exist.



Description

This library contains Virtual Instruments and Active Components that can be used during and Interactive simulation.

Contents

ALTERNATOR	LED-GREEN	SOUNDER
AMMETER	LED-RED	SPEAKER
AMMETER-AC	LOGIC ANALYSER	SW-DPDT
AMMETER-MICRO	LOGICPROBE	SW-DPDT-MOM
AMMETER-MICRO-AC	LOGICPROBE (BIG)	SW-DPST
AMMETER-MILLI	LOGICSTATE	SW-DPST-MOM
AMMETER-MILLI-AC	LOGICTOGGLE	SW-SPDT
AND	MOTOR	SW-SPDT-MOM
BATTERY	MOTOR-DC	SW-SPST
BUTTON	MOTOR-SERVO	SW-SPST-MOM
BUZZER	MOTOR-STEPPER	SWITCH
CAPACITOR	NAND	TRAFFIC LIGHTS
CLOCK	NOR	VOLTMETER
COMPIM	NOT	VOLTMETER-AC
DFFF	OR	VOLTMETER-MICRO
FUSE	OSCILLOSCOPE	VOLTMETER-MICRO-AC
JKFF	PATTGEN	VOLTMETER-MILLI
KEYPAD-CALCULATOR	POT-LIN	VOLTMETER-MILLI-AC
KEYPAD-PHONE	POT-LOG	VTERM
KEYPAD-SMALLCALC	RELAY	XOR
LAMP	SIGNAL GENERATOR	



Description

This library contains diodes and bridge rectifiers from a number of manufacturers. All the parts in this library are packaged for PCB design and have appropriate simulator properties and/or models although some of the models are generic to a particular category of diode – e.g. small signal switching diode.

Contents

1M110ZS5	1N976B	1N4742A	1N5239B	1N5280B	1N5373BRL
1M120ZS5	1N977B	1N4743A	1N5240B	1N5281B	1N5374BRL
1M130ZS5	1N978B	1N4744A	1N5241B	1N5333BRL	1N5375BRL
1M150ZS5	1N979B	1N4745A	1N5242B	1N5334BRL	1N5377BRL
1M160ZS5	1N980B	1N4746A	1N5243B	1N5335BRL	1N5378BRL
1M180ZS5	1N981B	1N4747A	1N5244B	1N5336BRL	1N5379BRL
1M200ZS5	1N982B	1N4748A	1N5245A	1N5337BRL	1N5380BRL
1N746A	1N983B	1N4749A	1N5245B	1N5338BRL	1N5381BRL
1N747A	1N984B	1N4750A	1N5246B	1N5339BRL	1N5382BRL
1N748A	1N985B	1N4751A	1N5247B	1N5340BRL	1N5383BRL
1N749A	1N986B	1N4751B	1N5248B	1N5341BRL	1N5384BRL
1N750A	1N987B	1N4752A	1N5249B	1N5342BRL	1N5385BRL
1N751A	1N988B	1N4753A	1N5250B	1N5343BRL	1N5386BRL
1N752A	1N989B	1N4754A	1N5251B	1N5344BRL	1N5387BRL
1N753A	1N990B	1N4755A	1N5252B	1N5345BRL	1N5388BRL
1N754A	1N991B	1N4756A	1N5253B	1N5346BRL	1N5400
1N755A	1N992B	1N4757A	1N5254B	1N5347BRL	1N5401
1N756A	1N4001	1N4758A	1N5255B	1N5348BRL	1N5402
1N757A	1N4002	1N4759A	1N5256B	1N5349BRL	1N5404
1N758A	1N4003	1N4760A	1N5257B	1N5350BRL	1N5406
1N759A	1N4004	1N4761A	1N5258B	1N5351BRL	1N5407
1N914	1N4005	1N4762A	1N5259B	1N5352BRL	1N5408
1N916	1N4006	1N4763A	1N5260B	1N5353BRL	1N5913B
1N957B	1N4007	1N4764A	1N5261B	1N5354BRL	1N5914B
1N958B	1N4148	1N5221B	1N5262B	1N5355BRL	1N5915B
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1N961B	1N4372A	1N5224B	1N5265B	1N5358BRL	1N5918B
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1N965B	1N4731A	1N5228B	1N5269B	1N5362BRL	1N5922B
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1N967B	1N4733A	1N5230B	1N5271B	1N5364BRL	1N5924B
1N968B	1N4734A	1N5231B	1N5272B	1N5365BRL	1N5925B
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1N971B	1N4737A	1N5234B	1N5275B	1N5368BRL	1N5928B
1N972B	1N4738A	1N5235B	1N5276B	1N5369BRL	1N5929B
1N973B	1N4739A	1N5236B	1N5277B	1N5370BRL	1N5930B
1N974B	1N4740A	1N5237B	1N5278B	1N5371BRL	1N5931B
1N975B	1N4741A	1N5238B	1N5279B	1N5372BRL	1N5932B

1N5933B	1N6019B	3EZ270D5	BZT03C160	BZX55C4V7	BZX79C2V7RL
1N5934B	1N6020B	3EZ300D5	BZT03C180	BZX55C4V7RL	BZX79C3V0
1N5935B	1N6021B	3EZ330D5	BZT03C200	BZX55C5V1	BZX79C3V0RL
1N5936B	1N6022B	3EZ360D5	BZT03C220	BZX55C5V1RL	BZX79C3V3
1N5937B	1N6023B	3EZ400D5	BZT03C270	BZX55C5V6	BZX79C3V3RL
1N5938B	1N6024B	AA119	BZV85C	BZX55C5V6RL	BZX79C3V6
1N5939B	1N6025B	BAR28	BZV85C5V1	BZX55C6V2	BZX79C3V6RL
1N5940B	3EZ3V9D5	BAX13	BZV85C5V6	BZX55C6V2RL	BZX79C3V9
1N5941B	3EZ4V3D5	BAX16	BZV85C6V2	BZX55C6V8	BZX79C3V9RL
1N5942B	3EZ4V7D5	BB212	BZV85C6V8	BZX55C6V8RL	BZX79C4V3
1N5943B	3EZ5V1D5	BY127	BZV85C7V5	BZX55C7V5	BZX79C4V3RL
1N5944B	3EZ5V6D5	BY206	BZV85C8V2	BZX55C7V5RL	BZX79C4V7
1N5945B	3EZ6V2D5	BYT30	BZV85C9V1	BZX55C8V2	BZX79C4V7RL
1N5946B	3EZ6V8D5	BYW51	BZV85C10	BZX55C8V2RL	BZX79C5V1
1N5947B	3EZ7V5D5	BYW80	BZV85C12	BZX55C9V1	BZX79C5V1RL
1N5948B	3EZ8V2D5	BYW98	BZV85C13	BZX55C9V1RL	BZX79C5V6
1N5949B	3EZ9V1D5	BZG03C10	BZV85C15	BZX55C10	BZX79C5V6RL
1N5950B	3EZ10D5	BZG03C12	BZV85C16	BZX55C10RL	BZX79C6V2
1N5951B	3EZ11D5	BZG03C15	BZV85C18	BZX55C11	BZX79C6V2RL
1N5952B	3EZ12D5	BZG03C18	BZV85C20	BZX55C11RL	BZX79C6V8
1N5953B	3EZ13D5	BZG03C20	BZV85C22	BZX55C12	BZX79C6V8RL
1N5954B	3EZ14D5	BZG03C24	BZV85C24	BZX55C12RL	BZX79C7V5
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1N5989B	3EZ22D5	BZT03C	BZV85C47	BZX55C18	BZX79C10RL
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1N6015B	3EZ190D5	BZT03C100	BZX55C3V9	BZX79C	BZX79C36RL
1N6016B	3EZ200D5	BZT03C120	BZX55C3V9RL	BZX79C2V4	BZX79C39
1N6017B	3EZ220D5	BZT03C130	BZX55C4V3	BZX79C2V4RL	BZX79C39RL
1N6018B	3EZ240D5	BZT03C150	BZX55C4V3RL	BZX79C2V7	BZX79C43RL

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BZX79C56	BZX84C11	BZX85C24RL	MMBZ5233B	MZD24	MZP4763A
BZX79C56RL	BZX84C12	BZX85C27	MMBZ5234B	MZD27	MZP4764A
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BZX79C68RL	BZX84C15	BZX85C30	MMBZ5236B	MZD33	MZPY4V3RL
BZX79C75	BZX84C16	BZX85C30RL	MMBZ5237B	MZD36	MZPY4V7RL
BZX79C75RL	BZX84C18	BZX85C33	MMBZ5238B	MZD39	MZPY5V1RL
BZX79C82RL	BZX84C20	BZX85C33RL	MMBZ5239B	MZD43	MZPY5V6RL
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BZX79C100RL	BZX84C24	BZX85C39RL	MMBZ5241B	MZD51	MZPY6V8RL
BZX79C110RL	BZX84C27	BZX85C43RL	MMBZ5242B	MZD56	MZPY7V5RL
BZX79C120RL	BZX84C30	BZX85C47RL	MMBZ5243B	MZD62	MZPY8V2RL
BZX79C130RL	BZX84C33	BZX85C51RL	MMBZ5244B	MZD68	MZPY9V1RL
BZX79C150RL	BZX84C36	BZX85C56RL	MMBZ5245B	MZD75	MZPY10RL
BZX79C160RL	BZX84C47	BZX85C62RL	MMBZ5246B	MZD82	MZPY11RL
BZX79C180RL	BZX85C	BZX85C68RL	MMBZ5247B	MZD91	MZPY12RL
BZX79C200RL	BZX85C3V3	BZX85C75RL	MMBZ5248B	MZD100	MZPY13RL
BZX83C2V7RL	BZX85C3V3RL	BZX85C82RL	MMBZ5249B	MZD110	MZPY15RL
BZX83C3V0RL	BZX85C3V6	BZX85C91RL	MMBZ5250B	MZD120	MZPY16RL
BZX83C3V3RL	BZX85C3V6RL	BZX85C100RL	MMBZ5251B	MZD130	MZPY18RL
BZX83C3V6RL	BZX85C3V9	BZX284C2V4	MMBZ5252B	MZD150	MZPY20RL
BZX83C3V9RL	BZX85C3V9RL	BZX284C2V7	MMBZ5253B	MZD160	MZPY22RL
BZX83C4V3RL	BZX85C4V3	BZX284C3V0	MMBZ5254B	MZD180	MZPY24RL
BZX83C4V7RL	BZX85C4V3RL	BZX284C3V3	MMBZ5255B	MZD200	MZPY27RL
BZX83C5V1RL	BZX85C4V7	BZX284C3V6	MMBZ5256B	MZP4728A	MZPY30RL
BZX83C5V6RL	BZX85C4V7RL	BZX284C3V9	MMBZ5257B	MZP4729A	MZPY33RL
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BZX83C6V8RL	BZX85C5V1RL	BZX284C4V7	MR754	MZP4731A	MZPY39RL
BZX83C7V5RL	BZX85C5V6	BZX284C5V1	MV2108	MZP4732A	MZPY43RL
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BZX83C10RL	BZX85C6V2RL	BZX284C6V8	MZ5522B	MZP4735A	MZPY56RL
BZX83C11RL	BZX85C6V8	BZX284C7V5	MZ5523B	MZP4736A	MZPY62RL
BZX83C12RL	BZX85C6V8RL	BZX284C8V2	MZ5524B	MZP4737A	MZPY68RL
BZX83C13RL	BZX85C7V5	BZX284C9V1	MZ5525B	MZP4738A	MZPY75RL
BZX83C15RL	BZX85C7V5RL	BZX284C10	MZ5526B	MZP4739A	MZPY82RL
BZX83C16RL	BZX85C8V2	BZX284C11	MZ5527B	MZP4740A	MZPY91RL
BZX83C18RL	BZX85C8V2RL	BZX284C12	MZ5528B	MZP4741A	MZPY100RL
BZX83C20RL	BZX85C9V1	BZX284C13	MZ5529B	MZP4742A	OA47
BZX83C22RL	BZX85C9V1RL	BZX284C15	MZ5530B	MZP4743A	OA90
BZX83C24RL	BZX85C10	BZX284C16	MZD3V9	MZP4744A	OA91
BZX83C27RL	BZX85C10RL	BZX284C18	MZD4V3	MZP4745A	OA95
BZX83C30RL	BZX85C11	BZX284C20	MZD4V7	MZP4746A	OA202
BZX83C33RL	BZX85C11RL	BZX284C22	MZD5V1	MZP4747A	P600
BZX84C2V4	BZX85C12	BZX284C24	MZD5V6	MZP4748A	PW01
BZX84C2V7	BZX85C12RL	BZX284C27	MZD6V2	MZP4749A	PW06
BZX84C3V0	BZX85C13	BZX284C30	MZD6V8	MZP4750A	S04
BZX84C3V3	BZX85C13RL	BZX284C33	MZD7V5	MZP4751A	S005
BZX84C3V9	BZX85C15	BZY88C	MZD8V2	MZP4752A	SK202L5
BZX84C4V3	BZX85C15RL	GBPC802	MZD9V1	MZP4753A	SK204L5
BZX84C4V7	BZX85C16	GBPC804	MZD10	MZP4754A	UF4001
BZX84C5V1	BZX85C16RL	GBPC808	MZD11	MZP4755A	UF4002
BZX84C5V6	BZX85C18	MMBZ5226B	MZD12	MZP4756A	UF4003
BZX84C6V2	BZX85C18RL	MMBZ5227B	MZD13	MZP4757A	UF4004
BZX84C6V8	BZX85C20	MMBZ5228B	MZD15	MZP4758A	UF5400
BZX84C7V5	BZX85C20RL	MMBZ5229B	MZD16	MZP4759A	UF5401

UF5402
UF5404
UF5406
W01
W02
W04
W005
ZPD2V7RL
ZPD3V0RL
ZPD3V3RL
ZPD3V6RL
ZPD3V9RL
ZPD4V3RL
ZPD4V7RL
ZPD5V1RL
ZPD5V6RL
ZPD6V2RL
ZPD6V8RL
ZPD7V5RL
ZPD8V2RL
ZPD9V1RL
ZPD10RL
ZPD11RL
ZPD12RL
ZPD13RL
ZPD15RL
ZPD16RL
ZPD18RL
ZPD20RL
ZPD22RL
ZPD24RL
ZPD27RL
ZPD30RL
ZPD33RL



DISPLAY.LIB

Description

This library contains parts for a variety of LCD and LED displays.

Contents

7SEG-BCD	LED-BARGRAPH-	LM4229	MATRIX-8X8-RED
7SEG-COM-ANODE	RED	LM4265	MDLS40466
7SEG-COM-	LGM12641BS1R	LM4267	MILFORD-2X16-
CATHODE	LM016L	LM4283	BKP
7SEG-DIGITAL	LM017L	LM4287	MILFORD-2X20-
7SEG-MPX2-CA	LM018L	MATRIX-5X7-BLUE	BKP
7SEG-MPX2-CC	LM020L	MATRIX-5X7-	MILFORD-2X40-
7SEG-MPX4-CA	LM032L	GREEN	BKP
7SEG-MPX4-CC	LM041L	MATRIX-5X7-	MILFORD-4X20-
7SEG-MPX6-CA	LM044L	ORANGE	BKP
7SEG-MPX6-CC	LM3228	MATRIX-5X7-RED	PG12864F
AMPIRE128X64	LM3229	MATRIX-8X8-BLUE	PG24064F
HD44780	LM3267	MATRIX-8X8-	PG128128A
KS0108	LM3283	GREEN	PG160128A
LED-BARGRAPH-	LM3287	MATRIX-8X8-	
GRN	LM4228	ORANGE	



BIPOLAR.LIB

Description

This library contains bipolar transistors from a number of manufacturers. All the parts in this library are packaged for PCB design and have appropriate simulator properties and/or models although some of the models are generic to a particular category of transistor – e.g. small signal low frequency.

Contents

2N697	2N5551	BC213	BD712	MJ15004	ZTX107
2N706	2N6545	BC214	BD743	MJE340	ZTX108
2N1711	2N6547	BC237	BD911	MJE350	ZTX109
2N1893	2N6609	BC239	BD912	MJE13005	ZTX300
2N2219	2SA715	BC301	BDX53	MJE13007	ZTX302
2N2222	2SA872	BC303	BDX54	MPS3638	ZTX304
2N2369	2SA1085	BC327	BF173	MPSA14	ZTX313
2N2905	2SB716	BC328	BF180	MPSA42	ZTX450
2N2907	2SB718	BC337	BF259	MPSA65	ZTX451
2N2926	2SC1162	BC338	BF337	MPSA92	ZTX453
2N3019	2SC2547	BC441	BF494	MPSH10	ZTX455
2N3053	2SD756	BC461	BFY50	TIP31	ZTX500
2N3054	2SD758	BC478	BFY51	TIP32	ZTX502
2N3055	AC127	BC547	BFY52	TIP33	ZTX504
2N3702	AC128	BC548	BFY90	TIP34	ZTX541
2N3703	BC107	BC549	BSX20	TIP35	ZTX542
2N3704	BC108	BC550	BU208	TIP36	ZTX550
2N3705	BC109	BC557	BU407	TIP41	ZTX551
2N3706	BC140	BC558	BU426	TIP42	ZTX650
2N3707	BC141	BC559	BU806	TIP47	ZTX651
2N3708	BC142	BC560	BUP35	TIP122	ZTX652
2N3711	BC143	BCY70	BUP41	TIP127	ZTX653
2N3771	BC160	BCY71	BUP49	TIP142	ZTX689
2N3772	BC161	BD131	BUP52	TIP147	ZTX704
2N3773	BC168	BD132	BUV46	TIP2955	ZTX750
2N3866	BC169	BD135	BUV47	TIP3055	ZTX751
2N3903	BC171	BD136	BUV48	TIPL760	ZTX752
2N3904	BC177	BD139	BUW49	TIPL762	ZTX753
2N3905	BC178	BD140	MJ423	TIPL763	ZTX851
2N3906	BC179	BD437	MJ2501	TIPL770	ZTX853
2N4401	BC182	BD438	MJ2955	TIPL791	ZTX857
2N4427	BC183	BD539	MJ3001	TIPP31	
2N5401	BC184	BD540	MJ11015	TIPP32	
2N5415	BC212	BD711	MJ11016	TIPP112	



Description

This library contains field effect transistors (JFETs and MOSFETs) from a number of manufacturers. All the parts in this library are packaged for PCB design and have appropriate simulator properties and/or models although some of the models are generic to a particular category of transistor – e.g. small signal low frequency.

Contents

2N3819	BUK453	IRF730	TN0110	TP2510	VN2210
2N5459	BUK455	IRF740	TN0604	TP2520	VN2222
2N5460	BUK456	IRF820	TN0606	TP2522	VN2222LL
2N6660	BUZ10	IRF830	TN0610	TP2535	VN2224
2N6661	BUZ11	IRF840	TN0702	TP2540	VN2406L
2N7000	BUZ20	IRF9520	TN2106	TP2635	VN2410L
2N7002	BUZ21	IRF9530	TN2124	TP2640	VN3205
2N7008	BUZ31	IRFP250	TN2130	VN10	VN3515
2SJ48	DN2530	IRFP450	TN2501	VN10K	VN3515L
2SJ49	DN2535	J109	TN2504	VN66	VN4012L
2SJ50	DN2540	J112	TN2510	VN0104	VP0104
2SJ56	IRF130	LND150	TN2524	VN0106	VP0106
2SJ118	IRF330	LND250	TN2535	VN121	VP0109
2SJ162	IRF510	LP0701	TN2540	VN0300L	VP0550
2SK133	IRF520	MPF102	TN2640	VN0606L	VP1304
2SK134	IRF530	MTH40N06	TP0604	VN0808L	VP1306
2SK135	IRF540	SMP60N06	TP0606	VN1206L	VP1310
2SK176	IRF620	SNW60N10	TP0610T	VN1306	VP2106
2SK413	IRF630	TD9944	TP0620	VN1310	VP2110
2SK1058	IRF640	TN0104	TP2104	VN2106	VP2210
BF244	IRF720	TN0106	TP2502	VN2110	



REALTIME.LIB

Description

This library contains a series of primitives for constructing component models used in Interactive simulation.

Contents

RTDBREAK	RTDBREAK_16	RTDSTATE	RTIPROBE
RTDBREAK_1	RTDPROBE	RTDSTATE_1	RTSWITCH
RTDBREAK_2	RTDPROBE_1	RTDSTATE_2	RTVBREAK
RTDBREAK_3	RTDPROBE_2	RTDSTATE_3	RTVBREAK_1
RTDBREAK_4	RTDPROBE_3	RTDSTATE_4	RTVBREAK_2
RTDBREAK_8	RTDPROBE_4	RTIBREAK	RTVPROBE



ASIMMDLS.LIB

Description

This library contains analog primitives that can be used as 'building blocks' to construct analogue simulation models for use with the ProSPICE simulator.

Content

ACCCS	CSWITCH	NJFET	VCCS
ACCVS	CSWITCH2	NMESFET	VCR
ADC	DAC	NMOSFET	VCVS
AVCCS	DELAY	NMOSFET3	VEXP
AVCVS	DIODE	NPN	VPULSE
CAPACITOR	IEXP	PJFET	VPWLIN
CCCS	INDUCTOR	PMESFET	VSFFM
CCCS2	IPULSE	PMOSFET	VSINE
CCR	IPWLIN	PMOSFET3	VSOURCE
CCR2	ISFFM	PNP	VSWITCH
CCVS	ISINE	RESISTOR	
CCVS2	LOSSYLINE	SUMMER	
CSOURCE	MULTIPLIER	URCLINE	



DSIMMDLS.LIB

Description

This library contains Digital primitives that can be used to create custom digital simulation models.

Content

ADC_8	COUNTER_12	FUSE_3	MEMORY_13_8	OR_5.DM
ADC_12	COUNTER_14	FUSE_4	MEMORY_14_8	OR_6.DM
ADC_16	DAC_8	FUSE_8	MEMORY_15_8	OR_7
AND_2	DAC_12	GENERATOR	MEMORY_16_8	OR_8
AND_2.DM	DAC_16	INVERTER	NAND_2	OR_10
AND_3	DECODER_2_4	JK	NAND_2.DM	OR_12
AND_4	DECODER_3_8	JKFF	NAND_3	OR_14
AND_5	DECODER_4_7	LATCH_3	NAND_4	OR_16
AND_7	DECODER_4_10	LATCH_4	NAND_5	PULLDOWN
AND_8	DECODER_4_16	LATCH_6	NAND_8	PULLUP
AORB_1	DECODER_5_8	LATCH_7	NAND_12	PULSE
AORB_4	DEGLITCH	LATCH_8	NAND_13	SELECTOR_1
AORB_5	DELAY_1	MATRIX_16_64.4	NOR_2	SELECTOR_2
BISTABLE	DELAY_4	MATRIX_16_64.8	NOR_2.DM	SELECTOR_3
BOOL_3	DELAY_12	MATRIX_16_64.8A	NOR_3	SELECTOR_4
BOOL_4	DELAY_14	MATRIX_16_64.8B	NOR_3.DM	SHIFTREG_4
BOOL_5	DIODE-DSIM	MATRIX_16_64.B8	NOR_4	SHIFTREG_5
BOOL_6	DSWITCH	MATRIX_20_64.4	NOR_4.DM	SHIFTREG_8
BOOL_7	DTFF	MATRIX_20_64.B8	NOR_5	SHIFTREG_10
BOOL_8	ENCODER_8_3	MATRIX_20_80.4	NOR_6	SHIFTREG_16
BUFFER	ENCODER_10_4	MATRIX_22_120	NOR_7	TRIBUFFER
BUFFER_4	FSEL_2	MATRIX_22_122	OR_2	TRIBUFFER.DM
BUFFER_8	FSEL_4	MATRIX_22_132	OR_2.DM	XNOR_8
COMPARATOR_4	FUNCTION_2_2	MATRIX_22_132.B	OR_3	XOR_2
COUNTER_3	FUNCTION_4_4	MATRIX_29_188	OR_3.DM	XOR_9
COUNTER_4	FUNCTION_4_8	MCELL	OR_4	
COUNTER_8	FUSE_1	MEMORY_4_4	OR_4.DM	
COUNTER_10	FUSE_2	MEMORY_12_8	OR_5	



Description

This library contains both specific and generic symbols for thermionic valves. The parts are not packaged for PCB since we have been unable to locate a reliable source of mechanical data, but most of the specific types are linked to SPICE models.

Contents

5AR4	6DJ8	12AX7	ECC83	EL84
5U4GB	6L6GC	12BH7	ECC88	GZ34
5V3A	6V6GTA	DIODE	ECF82	KT88
5V4GA	12AT7	ECC81	EF86	PENTODE
5Y3GT	12AU7	ECC82	EL34	TRIODE

Notes

We have chosen to draw dual valve types as single element parts because of the difficulties that arise with common heaters and in some cases cathode pins. Circuit simulations may fail if unused parts of the valves are not connected to ground.

We have not provided models for the valve heaters.



74STD.LIB

Description

This library contains standard TTL parts from the 74 series. All the parts are packaged for through hole PCB layout and most have corresponding simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

7400	7416 .IEC	7446 .IEC	74122	74163	74199
7400 .DM	7417	7447	74122 .IEC	74163 .IEC	74221
7400 .IEC	7417 .DM	7447 .IEC	74123	74164 .IEC	74221 .IEC
7401	7417 .IEC	7448	74123 .IEC	74165	74247
7401 .DM	7420	7448 .IEC	74125	74165 .IEC	74248
7401 .IEC	7420 .DM	7450	74125 .DM	74166	74249
7402	7420 .IEC	7451	74125 .IEC	74166 .IEC	74251
7402 .DM	7422	7451 .IEC	74126	74167	74251 .IEC
7402 .IEC	7422 .DM	7454	74126 .DM	74170	74259
7403	7422 .IEC	7470	74126 .IEC	74173	74259 .IEC
7403 .IEC	7425	7470 .IEC	74128	74173 .IEC	74273
7404	7425 .DM	7472	74128 .DM	74174	74273 .IEC
7404 .DM	7426	7472 .IEC	74128 .IEC	74174 .IEC	74276
7404 .IEC	7426 .DM	7473	74132	74175	74276 .IEC
7405	7426 .IEC	7473 .IEC	74132 .DM	74175 .IEC	74279
7405 .DM	7427	7474	74132 .IEC	74176	74279 .IEC
7405 .IEC	7427 .DM	7474 .IEC	74136	74177	74283
7406	7427 .IEC	7475	74136 .IEC	74178	74283 .IEC
7406 .DM	7430	7475 .IEC	74141	74179	74284
7406 .IEC	7430 .DM	7476	74145	74180	74284 .IEC
7407	7430 .IEC	7476 .IEC	74147	74181	74285
7407 .DM	7432	7482	74147 .IEC	74181 .IEC	74285 .IEC
7407 .IEC	7432 .DM	7483	74148	74182	74290
7408	7432 .IEC	7485	74148 .IEC	74182 .IEC	74298
7408 .DM	7433	7485 .IEC	74150	74184	74298 .IEC
7408 .IEC	7433 .DM	7486	74151	74185	74365
7409	7433 .IEC	7486 .IEC	74151 .IEC	74190	74365 .IEC
7409 .DM	7437	7490	74153	74190 .IEC	74366
7409 .IEC	7437 .DM	7491	74153 .IEC	74191	74366 .IEC
7410	7437 .IEC	7492	74154	74191 .IEC	74367
7410 .DM	7438	7493	74154 .IEC	74192	74367 .IEC
7410 .IEC	7438 .IEC	7495	74155	74192 .IEC	74368
7412	7439	7496	74155 .IEC	74193	74368 .IEC
7412 .DM	7439 .DM	7497	74156	74193 .IEC	74376
7412 .IEC	7439 .IEC	74100	74156 .IEC	74194	74376 .IEC
7413	7440	74107	74157	74194 .IEC	74390
7413 .DM	7440 .DM	74107 .IEC	74157 .IEC	74195	74390 .IEC
7413 .IEC	7440 .IEC	74109	74159	74195 .IEC	74393
7414	7442	74109 .IEC	74160	74196	74393 .IEC
7414 .DM	7442 .IEC	74111	74160 .IEC	74196 .IEC	74425
7414 .IEC	7445	74111 .IEC	74161	74197	74425 .DM
7416	7445 .IEC	74116	74161 .IEC	74197 .IEC	74490
7416 .DM	7446	74121	74162 .IEC	74198	74490 .IEC



Description

This library contains standard TTL parts from the 74 series. All the parts are packaged for through hole PCB layout and most have corresponding simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74AS00	74AS137 .IEC	74AS244	74AS643
74AS00 .DM	74AS138	74AS244 .IEC	74AS643 .IEC
74AS00 .IEC	74AS138 .IEC	74AS245	74AS644
74AS02	74AS139	74AS245 .IEC	74AS644 .IEC
74AS02 .DM	74AS139 .IEC	74AS251	74AS645
74AS02 .IEC	74AS151	74AS251 .IEC	74AS645 .IEC
74AS04	74AS151 .IEC	74AS257	
74AS04 .DM	74AS153	74AS257 .IEC	
74AS04 .IEC	74AS153 .IEC	74AS258	
74AS08	74AS157	74AS258 .IEC	
74AS08 .DM	74AS157 .IEC	74AS280	
74AS08 .IEC	74AS158	74AS280 .IEC	
74AS10	74AS158 .IEC	74AS298	
74AS10 .DM	74AS160	74AS298 .IEC	
74AS10 .IEC	74AS160 .IEC	74AS299	
74AS11	74AS161	74AS299 .IEC	
74AS11 .DM	74AS161 .IEC	74AS323	
74AS11 .IEC	74AS162 .IEC	74AS323 .IEC	
74AS20	74AS163	74AS352	
74AS20 .DM	74AS163 .IEC	74AS352 .IEC	
74AS20 .IEC	74AS168	74AS353	
74AS21	74AS168 .IEC	74AS353 .IEC	
74AS21 .DM	74AS169	74AS373	
74AS21 .IEC	74AS169 .IEC	74AS373 .IEC	
74AS27	74AS174	74AS374	
74AS27 .DM	74AS174 .IEC	74AS374 .IEC	
74AS27 .IEC	74AS175	74AS573	
74AS30	74AS175 .IEC	74AS573 .IEC	
74AS30 .DM	74AS181	74AS574	
74AS30 .IEC	74AS181 .IEC	74AS574 .IEC	
74AS32	74AS182	74AS575	
74AS32 .DM	74AS182 .IEC	74AS576	
74AS32 .IEC	74AS194	74AS577	
74AS34	74AS194 .IEC	74AS580	
74AS34 .DM	74AS195	74AS638	
74AS34 .IEC	74AS195 .IEC	74AS638 .IEC	
74AS74	74AS240	74AS639	
74AS74 .IEC	74AS240 .IEC	74AS639 .IEC	
74AS95	74AS241	74AS640	
74AS109	74AS241 .IEC	74AS640 .IEC	
74AS109 .IEC	74AS242	74AS641	
74AS136	74AS242 .IEC	74AS641 .IEC	
74AS136 .IEC	74AS243	74AS642	
74AS137	74AS243 .IEC	74AS642 .IEC	



Description

This library contains LS TTL parts from the 74 series. All the parts are packaged for through hole PCB layout and most have corresponding simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74LS00	74LS19	74LS47 .IEC	74LS114	74LS163 .IEC	74LS243 .IEC
74LS00 .DM	74LS19 .DM	74LS48	74LS114 .IEC	74LS164 .IEC	74LS244
74LS00 .IEC	74LS19 .IEC	74LS48 .IEC	74LS122	74LS165	74LS244 .IEC
74LS01	74LS20	74LS49	74LS122 .IEC	74LS165 .IEC	74LS245
74LS01 .DM	74LS20 .DM	74LS49 .IEC	74LS123	74LS166	74LS245 .IEC
74LS01 .IEC	74LS20 .IEC	74LS51	74LS123 .IEC	74LS166 .IEC	74LS247
74LS02	74LS21	74LS51 .IEC	74LS125	74LS169	74LS248
74LS02 .DM	74LS21 .DM	74LS54	74LS125 .DM	74LS169 .IEC	74LS249
74LS02 .IEC	74LS21 .IEC	74LS55	74LS125 .IEC	74LS170	74LS251
74LS03	74LS22	74LS56	74LS126	74LS171	74LS251 .IEC
74LS03 .IEC	74LS22 .DM	74LS57	74LS126 .DM	74LS173	74LS257
74LS04	74LS22 .IEC	74LS63	74LS126 .IEC	74LS173 .IEC	74LS257 .IEC
74LS04 .DM	74LS24	74LS63 .DM	74LS132	74LS174	74LS258
74LS04 .IEC	74LS24 .DM	74LS68	74LS132 .DM	74LS174 .IEC	74LS258 .IEC
74LS05	74LS24 .IEC	74LS69	74LS132 .IEC	74LS175	74LS259
74LS05 .DM	74LS26	74LS73	74LS136	74LS175 .IEC	74LS259 .IEC
74LS05 .IEC	74LS26 .DM	74LS73 .IEC	74LS136 .IEC	74LS181	74LS266
74LS08	74LS26 .IEC	74LS74	74LS137	74LS181 .IEC	74LS266 .IEC
74LS08 .DM	74LS27	74LS74 .IEC	74LS137 .IEC	74LS183	74LS273
74LS08 .IEC	74LS27 .DM	74LS75	74LS138	74LS190	74LS273 .IEC
74LS09	74LS27 .IEC	74LS75 .IEC	74LS138 .IEC	74LS190 .IEC	74LS279
74LS09 .DM	74LS28	74LS76	74LS139	74LS191	74LS279 .IEC
74LS09 .IEC	74LS28 .DM	74LS76 .IEC	74LS139 .IEC	74LS191 .IEC	74LS280
74LS10	74LS28 .IEC	74LS78	74LS145	74LS192	74LS280 .IEC
74LS10 .DM	74LS30	74LS78 .IEC	74LS147	74LS192 .IEC	74LS283
74LS10 .IEC	74LS30 .DM	74LS83	74LS147 .IEC	74LS193	74LS283 .IEC
74LS11	74LS30 .IEC	74LS85	74LS148	74LS193 .IEC	74LS290
74LS11 .DM	74LS32	74LS85 .IEC	74LS148 .IEC	74LS194	74LS293
74LS11 .IEC	74LS32 .DM	74LS86	74LS153	74LS194 .IEC	74LS295
74LS12	74LS32 .IEC	74LS86 .IEC	74LS153 .IEC	74LS195	74LS298
74LS12 .DM	74LS33	74LS90	74LS155	74LS195 .IEC	74LS298 .IEC
74LS12 .IEC	74LS33 .DM	74LS91	74LS155 .IEC	74LS196	74LS299
74LS13	74LS33 .IEC	74LS92	74LS156	74LS196 .IEC	74LS299 .IEC
74LS13 .DM	74LS37	74LS93	74LS156 .IEC	74LS197	74LS323
74LS13 .IEC	74LS37 .DM	74LS95	74LS157	74LS197 .IEC	74LS323 .IEC
74LS14	74LS37 .IEC	74LS96	74LS157 .IEC	74LS221	74LS347
74LS14 .DM	74LS38	74LS107	74LS158	74LS221 .IEC	74LS347 .IEC
74LS14 .IEC	74LS38 .IEC	74LS107 .IEC	74LS158 .IEC	74LS240	74LS352
74LS15	74LS40	74LS109	74LS160	74LS240 .IEC	74LS352 .IEC
74LS15 .DM	74LS40 .DM	74LS109 .IEC	74LS160 .IEC	74LS241	74LS353
74LS15 .IEC	74LS40 .IEC	74LS112	74LS161	74LS241 .IEC	74LS353 .IEC
74LS18	74LS42	74LS112 .IEC	74LS161 .IEC	74LS242	74LS354
74LS18 .DM	74LS42 .IEC	74LS113	74LS162 .IEC	74LS242 .IEC	74LS354 .IEC
74LS18 .IEC	74LS47	74LS113 .IEC	74LS163	74LS243	74LS355

74LS355.IEC	74LS373.IEC	74LS386.IEC	74LS540.IEC	74LS639.IEC	74LS670.IEC
74LS356	74LS374	74LS390	74LS541	74LS640	74LS682
74LS356.IEC	74LS374.IEC	74LS390.IEC	74LS541.IEC	74LS640.IEC	74LS682.IEC
74LS357	74LS375	74LS393	74LS590	74LS641	74LS683
74LS357.IEC	74LS375.IEC	74LS393.IEC	74LS590.IEC	74LS641.IEC	74LS683.IEC
74LS365	74LS377	74LS395	74LS591	74LS642	74LS684
74LS365.IEC	74LS377.IEC	74LS398	74LS591.IEC	74LS642.IEC	74LS684.IEC
74LS366	74LS378	74LS399	74LS592	74LS643	74LS685
74LS366.IEC	74LS379	74LS423	74LS592.IEC	74LS643.IEC	74LS685.IEC
74LS367	74LS381	74LS423.IEC	74LS629	74LS644	
74LS367.IEC	74LS381.IEC	74LS447	74LS629.IEC	74LS644.IEC	
74LS368	74LS382	74LS490	74LS638	74LS645	
74LS368.IEC	74LS382.IEC	74LS490.IEC	74LS638.IEC	74LS645.IEC	
74LS373	74LS386	74LS540	74LS639	74LS670	



74ALS.LIB

Description

This library contains ALS TTL parts from the 74 series. All the parts are packaged for through hole PCB layout, but there are no simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74ALS00	74ALS15.IEC	74ALS40.DM	74ALS158.IEC	74ALS242.IEC	74ALS540
74ALS00.DM	74ALS20	74ALS40.IEC	74ALS160	74ALS243	74ALS540.IEC
74ALS00.IEC	74ALS20.DM	74ALS74	74ALS160.IEC	74ALS243.IEC	74ALS541
74ALS01	74ALS20.IEC	74ALS74.IEC	74ALS161	74ALS244	74ALS541.IEC
74ALS01.DM	74ALS21	74ALS86	74ALS161.IEC	74ALS244.IEC	74ALS573
74ALS01.IEC	74ALS21.DM	74ALS86.IEC	74ALS162.IEC	74ALS245	74ALS573.IEC
74ALS02	74ALS21.IEC	74ALS109	74ALS163	74ALS245.IEC	74ALS574
74ALS02.DM	74ALS22	74ALS109.IEC	74ALS163.IEC	74ALS257	74ALS574.IEC
74ALS02.IEC	74ALS22.DM	74ALS112	74ALS164.IEC	74ALS257.IEC	74ALS575
74ALS03	74ALS22.IEC	74ALS112.IEC	74ALS165	74ALS258	74ALS576
74ALS03.IEC	74ALS28	74ALS113	74ALS165.IEC	74ALS258.IEC	74ALS577
74ALS04	74ALS28.DM	74ALS113.IEC	74ALS166	74ALS259	74ALS580
74ALS04.DM	74ALS28.IEC	74ALS114	74ALS166.IEC	74ALS259.IEC	74ALS638
74ALS04.IEC	74ALS30	74ALS114.IEC	74ALS168	74ALS273	74ALS638.IEC
74ALS05	74ALS30.DM	74ALS133	74ALS168.IEC	74ALS273.IEC	74ALS639
74ALS05.DM	74ALS30.IEC	74ALS133.DM	74ALS169	74ALS280	74ALS639.IEC
74ALS05.IEC	74ALS32	74ALS133.IEC	74ALS169.IEC	74ALS280.IEC	74ALS640
74ALS08	74ALS32.DM	74ALS136	74ALS174	74ALS299	74ALS640.IEC
74ALS08.DM	74ALS32.IEC	74ALS136.IEC	74ALS174.IEC	74ALS299.IEC	74ALS641
74ALS08.IEC	74ALS33	74ALS137	74ALS175	74ALS323	74ALS641.IEC
74ALS09	74ALS33.DM	74ALS137.IEC	74ALS175.IEC	74ALS323.IEC	74ALS642
74ALS09.DM	74ALS33.IEC	74ALS138	74ALS190	74ALS352	74ALS642.IEC
74ALS09.IEC	74ALS34	74ALS138.IEC	74ALS190.IEC	74ALS352.IEC	74ALS643
74ALS10	74ALS34.DM	74ALS139	74ALS191	74ALS353	74ALS643.IEC
74ALS10.DM	74ALS34.IEC	74ALS139.IEC	74ALS191.IEC	74ALS353.IEC	74ALS644
74ALS10.IEC	74ALS35	74ALS151	74ALS192	74ALS373	74ALS644.IEC
74ALS11	74ALS35.DM	74ALS151.IEC	74ALS192.IEC	74ALS373.IEC	74ALS645
74ALS11.DM	74ALS35.IEC	74ALS153	74ALS193	74ALS374	74ALS645.IEC
74ALS11.IEC	74ALS37	74ALS153.IEC	74ALS193.IEC	74ALS374.IEC	
74ALS12	74ALS37.DM	74ALS156	74ALS240	74ALS518	
74ALS12.DM	74ALS37.IEC	74ALS156.IEC	74ALS240.IEC	74ALS519	
74ALS12.IEC	74ALS38	74ALS157	74ALS241	74ALS520	
74ALS15	74ALS38.IEC	74ALS157.IEC	74ALS241.IEC	74ALS521	
74ALS15.DM	74ALS40	74ALS158	74ALS242	74ALS522	



Description

This library contains Schottky TTL parts from the 74 series. All the parts are packaged for through hole PCB layout and most have corresponding simulator models. De Morgan (negative Ilogic) and IEC versions are provided where appropriate

Contents

74S00	74S11.DM	74S40.IEC	74S134	74S174	74S257
74S00.DM	74S11.IEC	74S51	74S134.DM	74S174.IEC	74S257.IEC
74S00.IEC	74S15	74S51.IEC	74S134.IEC	74S175	74S258
74S02	74S15.DM	74S64	74S135	74S175.IEC	74S258.IEC
74S02.DM	74S15.IEC	74S65	74S139	74S181	74S260
74S02.IEC	74S20	74S74	74S139.IEC	74S181.IEC	74S260.DM
74S03	74S20.DM	74S74.IEC	74S140	74S182	74S280
74S03.IEC	74S20.IEC	74S85	74S140.DM	74S182.IEC	74S280.IEC
74S04	74S22	74S85.IEC	74S140.IEC	74S194	74S283
74S04.DM	74S22.DM	74S86	74S151	74S194.IEC	74S283.IEC
74S04.IEC	74S22.IEC	74S86.IEC	74S151.IEC	74S195	74S299
74S05	74S30	74S112	74S153	74S195.IEC	74S299.IEC
74S05.DM	74S30.DM	74S112.IEC	74S153.IEC	74S196	74S373
74S05.IEC	74S30.IEC	74S113	74S157	74S196.IEC	74S373.IEC
74S08	74S32	74S113.IEC	74S157.IEC	74S197	74S374
74S08.DM	74S32.DM	74S114	74S158	74S197.IEC	74S374.IEC
74S08.IEC	74S32.IEC	74S114.IEC	74S158.IEC	74S240	74S381
74S09	74S37	74S124	74S162.IEC	74S240.IEC	74S381.IEC
74S09.DM	74S37.DM	74S132	74S163	74S241	
74S09.IEC	74S37.IEC	74S132.DM	74S163.IEC	74S241.IEC	
74S10	74S38	74S132.IEC	74S168	74S244	
74S10.DM	74S38.IEC	74S133	74S168.IEC	74S244.IEC	
74S10.IEC	74S40	74S133.DM	74S169	74S251	
74S11	74S40.DM	74S133.IEC	74S169.IEC	74S251.IEC	



Description

This library contains FAST TTL parts from the 74 series. All the parts are packaged for through hole PCB layout but there are no simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74F00	74F10.DM	74F32.IEC	74F138	74F191	74F283.IEC
74F00.DM	74F10.IEC	74F38	74F138.IEC	74F191.IEC	74F373
74F00.IEC	74F11	74F38.IEC	74F139	74F193	74F373.IEC
74F02	74F11.DM	74F74	74F139.IEC	74F193.IEC	74F374
74F02.DM	74F11.IEC	74F74.IEC	74F153	74F195	74F374.IEC
74F02.IEC	74F14	74F85	74F153.IEC	74F195.IEC	74F377
74F04	74F14.DM	74F85.IEC	74F157	74F240	74F377.IEC
74F04.DM	74F14.IEC	74F86	74F157.IEC	74F240.IEC	74F521
74F04.IEC	74F20	74F86.IEC	74F160	74F244	74F541
74F06	74F20.DM	74F109	74F160.IEC	74F244.IEC	74F541.IEC
74F06.DM	74F20.IEC	74F109.IEC	74F161	74F245	74F543
74F06.IEC	74F27	74F112	74F161.IEC	74F245.IEC	74F573
74F07	74F27.DM	74F112.IEC	74F163	74F257	74F573.IEC
74F07.DM	74F27.IEC	74F125	74F163.IEC	74F257.IEC	74F574
74F07.IEC	74F30	74F125.DM	74F164.IEC	74F260	74F574.IEC
74F08	74F30.DM	74F125.IEC	74F166	74F260.DM	
74F08.DM	74F30.IEC	74F132	74F166.IEC	74F273	
74F08.IEC	74F32	74F132.DM	74F169	74F273.IEC	
74F10	74F32.DM	74F132.IEC	74F169.IEC	74F283	



Description

This library contains high speed CMOS parts from the 74 and 4000 series. All the parts are packaged for through hole PCB layout and most have simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74HC00	74HC32	74HC137	74HC190	74HC298	74HC574
74HC00.DM	74HC32.DM	74HC137.IEC	74HC190.IEC	74HC298.IEC	74HC574.IEC
74HC00.IEC	74HC32.IEC	74HC138	74HC191	74HC299	74HC590
74HC02	74HC42	74HC138.IEC	74HC191.IEC	74HC299.IEC	74HC590.IEC
74HC02.DM	74HC42.IEC	74HC139	74HC192	74HC323	74HC592
74HC02.IEC	74HC51	74HC139.IEC	74HC192.IEC	74HC323.IEC	74HC592.IEC
74HC03	74HC51.IEC	74HC147	74HC193	74HC352	74HC640
74HC03.IEC	74HC73	74HC147.IEC	74HC193.IEC	74HC352.IEC	74HC640.IEC
74HC04	74HC73.IEC	74HC148	74HC194	74HC353	74HC643
74HC04.DM	74HC74	74HC148.IEC	74HC194.IEC	74HC353.IEC	74HC643.IEC
74HC04.IEC	74HC74.IEC	74HC151	74HC195	74HC354	74HC670
74HC05	74HC75	74HC151.IEC	74HC195.IEC	74HC354.IEC	74HC670.IEC
74HC05.DM	74HC75.IEC	74HC153	74HC221	74HC356	74HC4002
74HC05.IEC	74HC76	74HC153.IEC	74HC221.IEC	74HC356.IEC	74HC4002.DM
74HC07	74HC76.IEC	74HC154	74HC238	74HC365	74HC4002.IEC
74HC07.DM	74HC77	74HC154.IEC	74HC238.IEC	74HC365.IEC	74HC4016
74HC07.IEC	74HC77.IEC	74HC155	74HC240	74HC366	74HC4016.IEC
74HC08	74HC85	74HC155.IEC	74HC240.IEC	74HC366.IEC	74HC4017
74HC08.DM	74HC85.IEC	74HC157	74HC241	74HC367	74HC4017.IEC
74HC08.IEC	74HC86	74HC157.IEC	74HC241.IEC	74HC367.IEC	74HC4020
74HC09	74HC86.IEC	74HC158	74HC243	74HC368	74HC4020.IEC
74HC09.DM	74HC93	74HC158.IEC	74HC243.IEC	74HC368.IEC	74HC4022
74HC09.IEC	74HC107	74HC160	74HC244	74HC373	74HC4022.IEC
74HC10	74HC107.IEC	74HC160.IEC	74HC244.IEC	74HC373.IEC	74HC4024
74HC10.DM	74HC109	74HC161	74HC245	74HC374	74HC4024.IEC
74HC10.IEC	74HC109.IEC	74HC161.IEC	74HC245.IEC	74HC374.IEC	74HC4028
74HC11	74HC112	74HC162.IEC	74HC251	74HC375	74HC4028.IEC
74HC11.DM	74HC112.IEC	74HC163	74HC251.IEC	74HC375.IEC	74HC4040
74HC11.IEC	74HC113	74HC163.IEC	74HC257	74HC377	74HC4040.IEC
74HC14	74HC113.IEC	74HC164.IEC	74HC257.IEC	74HC377.IEC	74HC4046
74HC14.DM	74HC123	74HC165	74HC258	74HC386	74HC4046.IEC
74HC14.IEC	74HC123.IEC	74HC165.IEC	74HC258.IEC	74HC386.IEC	74HC4049
74HC20	74HC125	74HC166	74HC259	74HC390	74HC4049.DM
74HC20.DM	74HC125.DM	74HC166.IEC	74HC259.IEC	74HC390.IEC	74HC4049.IEC
74HC20.IEC	74HC125.IEC	74HC173	74HC266	74HC393	74HC4050
74HC21	74HC126	74HC173.IEC	74HC266.IEC	74HC393.IEC	74HC4050.DM
74HC21.DM	74HC126.DM	74HC174	74HC273	74HC423	74HC4050.IEC
74HC21.IEC	74HC126.IEC	74HC174.IEC	74HC273.IEC	74HC423.IEC	74HC4051
74HC27	74HC132	74HC175	74HC279	74HC540	74HC4051.IEC
74HC27.DM	74HC132.DM	74HC175.IEC	74HC279.IEC	74HC540.IEC	74HC4052
74HC27.IEC	74HC132.IEC	74HC181	74HC280	74HC541	74HC4052.IEC
74HC30	74HC133	74HC181.IEC	74HC280.IEC	74HC541.IEC	74HC4053
74HC30.DM	74HC133.DM	74HC182	74HC283	74HC573	74HC4053.IEC
74HC30.IEC	74HC133.IEC	74HC182.IEC	74HC283.IEC	74HC573.IEC	74HC4060

74HC4060.IEC	74HC4072.DM	74HC4078.DM	74HC4514	74HC4520	74HC40102
74HC4066	74HC4072.IEC	74HC4078.IEC	74HC4514.IEC	74HC4520.IEC	74HC40103
74HC4066.IEC	74HC4075	74HC4094	74HC4515	74HC4538	74HC40105
74HC4067	74HC4075.DM	74HC4094.IEC	74HC4515.IEC	74HC4538.IEC	
74HC4067.IEC	74HC4075.IEC	74HC4511	74HC4518	74HC4543	
74HC4072	74HC4078	74HC4511.IEC	74HC4518.IEC	74HC4543.IEC	



Description

This library contains high speed CMOS (TTL compatible) parts from the 74 and 4000 series. All the parts are packaged for through hole PCB layout and most have simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

74HCT00	74HCT73.IEC	74HCT157	74HCT258	74HCT4002.DM
74HCT00.DM	74HCT74	74HCT157.IEC	74HCT258.IEC	74HCT4002.IEC
74HCT00.IEC	74HCT74.IEC	74HCT158	74HCT259	74HCT4016
74HCT02	74HCT75	74HCT158.IEC	74HCT259.IEC	74HCT4016.IEC
74HCT02.DM	74HCT75.IEC	74HCT160	74HCT273	74HCT4017
74HCT02.IEC	74HCT85	74HCT160.IEC	74HCT273.IEC	74HCT4017.IEC
74HCT03	74HCT85.IEC	74HCT161	74HCT283	74HCT4020
74HCT03.IEC	74HCT86	74HCT161.IEC	74HCT283.IEC	74HCT4020.IEC
74HCT04	74HCT86.IEC	74HCT163	74HCT299	74HCT4024
74HCT04.DM	74HCT93	74HCT163.IEC	74HCT299.IEC	74HCT4024.IEC
74HCT04.IEC	74HCT107	74HCT164.IEC	74HCT365	74HCT4040
74HCT08	74HCT107.IEC	74HCT165	74HCT365.IEC	74HCT4040.IEC
74HCT08.DM	74HCT109	74HCT165.IEC	74HCT367	74HCT4046
74HCT08.IEC	74HCT109.IEC	74HCT166	74HCT367.IEC	74HCT4046.IEC
74HCT10	74HCT112	74HCT166.IEC	74HCT373	74HCT4051
74HCT10.DM	74HCT112.IEC	74HCT173	74HCT373.IEC	74HCT4051.IEC
74HCT10.IEC	74HCT123	74HCT173.IEC	74HCT374	74HCT4052
74HCT11	74HCT123.IEC	74HCT174	74HCT374.IEC	74HCT4052.IEC
74HCT11.DM	74HCT125	74HCT174.IEC	74HCT377	74HCT4053
74HCT11.IEC	74HCT125.DM	74HCT175	74HCT377.IEC	74HCT4053.IEC
74HCT14	74HCT125.IEC	74HCT175.IEC	74HCT390	74HCT4059
74HCT14.DM	74HCT126	74HCT190	74HCT390.IEC	74HCT4059.IEC
74HCT14.IEC	74HCT126.DM	74HCT190.IEC	74HCT393	74HCT4060
74HCT20	74HCT126.IEC	74HCT191	74HCT393.IEC	74HCT4060.IEC
74HCT20.DM	74HCT132	74HCT191.IEC	74HCT423	74HCT4066
74HCT20.IEC	74HCT132.DM	74HCT193	74HCT423.IEC	74HCT4066.IEC
74HCT21	74HCT132.IEC	74HCT193.IEC	74HCT540	74HCT4075
74HCT21.DM	74HCT137	74HCT221	74HCT540.IEC	74HCT4075.DM
74HCT21.IEC	74HCT137.IEC	74HCT221.IEC	74HCT541	74HCT4075.IEC
74HCT27	74HCT138	74HCT238	74HCT541.IEC	74HCT4094
74HCT27.DM	74HCT138.IEC	74HCT238.IEC	74HCT573	74HCT4094.IEC
74HCT27.IEC	74HCT139	74HCT240	74HCT573.IEC	74HCT4511
74HCT30	74HCT139.IEC	74HCT240.IEC	74HCT574	74HCT4511.IEC
74HCT30.DM	74HCT147	74HCT241	74HCT574.IEC	74HCT4514
74HCT30.IEC	74HCT147.IEC	74HCT241.IEC	74HCT640	74HCT4514.IEC
74HCT32	74HCT151	74HCT244	74HCT640.IEC	74HCT4520
74HCT32.DM	74HCT151.IEC	74HCT244.IEC	74HCT643	74HCT4520.IEC
74HCT32.IEC	74HCT153	74HCT245	74HCT643.IEC	74HCT4538
74HCT42	74HCT153.IEC	74HCT245.IEC	74HCT670	74HCT4538.IEC
74HCT42.IEC	74HCT154	74HCT257	74HCT670.IEC	74HCT40103
74HCT73	74HCT154.IEC	74HCT257.IEC	74HCT4002	74HCT40105



ANALOG.LIB

Description

This library contains miscellaneous but commonly used analog devices including regulators, amplifiers and data acquisition ICs. The data was taken from a number of sources. All the parts are packaged for PCB layout and a few have simulator models.

Contents

78L05	79L15	7905	DAC0808	LM3914	ULN2002A
78L08	79L24	7908	DG507	LM3915	ULN2003A
78L12	555	7912	HI-507	LM3916	ULN2004A
78L15	7555	7915	LM317L	LMC835	ZN426
78L24	7805	7924	LM337L	M145026	ZN427
78S40	7808	ADC0808	LM380	M145027	ZN428
79L05	7812	DAC0800	LM833N	NE555	ZN448
79L08	7815	DAC0801	LM837	NE565	
79L12	7824	DAC0802	LM1877	ULN2001A	



CAPACITORS.LIB

Description

This library contains a large number of commonly used capacitors. Data was collated from a several sources and all parts have simulation models attached to them.

Content

AUDIO1U	CERAMIC220P	GENELECT22U16V	HITEMPAX100U35V
AUDIO1U5	CERAMIC270P	GENELECT22U35V	HITEMPAX100U63V
AUDIO2U2	CERAMIC330P	GENELECT22U63V	HITEMPAX220U16V
AUDIO4U7	CERAMIC390P	GENELECT33U16V	HITEMPAX220U35V
AUDIO8U	CERAMIC470P	GENELECT33U25V	HITEMPAX470U10V
AUDIO10U	CERAMIC560P	GENELECT33U35V	HITEMPAX470U16V
AUDIO15U	CERAMIC680P	GENELECT47U6V3	HITEMPAX470U25V
AUDIO100N	CERAMIC820P	GENELECT47U16V	HITEMPAX470U63V
AUDIO220N	CERARIC2P2	GENELECT47U35V	HITEMPAX1000U10V
AUDIO330N	CERARIC2P7	GENELECT100N63	HITEMPAX1000U16V
AUDIO680N	CLASSX1-1N	GENELECT100U6V3	HITEMPAX1000U35V
AX22U50V	CLASSX1-1U	GENELECT100U16V	HITEMPAX1000U63V
AX47U16V	CLASSX1-2N2	GENELECT100U25V	HITEMPAX2200U35V
AX100U25V	CLASSX1-3N3	GENELECT220N63	HITEMPAX2200U50V
AX1000U16V	CLASSX1-4N7	GENELECT220U10V	HITEMPAX2200U63V
CERAMIC1N	CLASSX1-10N	GENELECT470N63V	HITEMPAX4700U35V
CERAMIC1N5	CLASSX1-22N	HITEMP1U100V	MICA1N
CERAMIC1N8	CLASSX1-47N	HITEMP2U2100V	MICA5P
CERAMIC1P8	CLASSX2-1U	HITEMP4U7100V	MICA10P
CERAMIC2N2	CLASSX2-10N	HITEMP10U50V	MICA47P
CERAMIC2N7	CLASSX2-22N	HITEMP10U100V	MICA100P
CERAMIC3N3	CLASSX2-33N	HITEMP22U50V	MICA120P
CERAMIC3P3	CLASSX2-47N	HITEMP22U100V	MICA150P
CERAMIC4N7	CLASSX2-100N	HITEMP47U50V	MICA180P
CERAMIC4P7	CLASSX2-220N	HITEMP47U100V	MICA470P
CERAMIC5P6	CLASSX2-330N	HITEMP100U25V	MICA680P
CERAMIC6P8	CLASSX2-470	HITEMP100U50V	MINELECT1U63V
CERAMIC8P2	CLASSX2-680	HITEMP100U100V	MINELECT2U263V
CERAMIC10N	DISC10N50V	HITEMP220U50V	MINELECT4U763V
CERAMIC10P	DISC22N50V	HITEMP470U25V	MINELECT10U16V
CERAMIC12P	DISC47N16V	HITEMP470U50V	MINELECT10U35
CERAMIC15P	DISC47N50V	HITEMP470U100V	MINELECT10U50V
CERAMIC18P	DISC100N16V	HITEMP1000U16V	MINELECT22U16V
CERAMIC22N	DISC100N50V	HITEMP1000U25V	MINELECT22U35V
CERAMIC22P	DISC220N16V	HITEMP1000U63V	MINELECT47U16V
CERAMIC27P	DISC220N25V	HITEMP2200U25V	MINELECT100N63V
CERAMIC33P	GENELECT1U63V	HITEMP2200U50V	MINELECT100U10V
CERAMIC39P	GENELECT2U250V	HITEMPAX1U100V	MINELECT100U16V
CERAMIC47P	GENELECT2U263V	HITEMPAX2U2100V	MINELECT220U10V
CERAMIC56P	GENELECT3U350V	HITEMPAX10U25V	MINELECT470N63V
CERAMIC68P	GENELECT4U716V	HITEMPAX10U63V	MONORES1N
CERAMIC82P	GENELECT4U750V	HITEMPAX22U63V	MONORES2N2
CERAMIC100P	GENELECT6U850V	HITEMPAX47U16V	MONORES3N3
CERAMIC120P	GENELECT10U16V	HITEMPAX47U45V	MONORES4N7
CERAMIC150P	GENELECT10U35V	HITEMPAX47U63V	MONORES6N8
CERAMIC180P	GENELECT10U50V	HITEMPAX100U10V	MONORES10N

MONORES10P	PCELECT22U25V	POLYESTER10N	POLYLAYER330N
MONORES22N	PCELECT22U50V	POLYESTER15N	POLYLAYER390N
MONORES22P	PCELECT22U63V	POLYESTER22N	POLYLAYER470N
MONORES33N	PCELECT22U100V	POLYESTER33M	POLYLAYER560N
MONORES47N	PCELECT33U35V	POLYESTER47N	POLYLAYER680N
MONORES47P	PCELECT33U63V	POLYESTER68N	POLYPROPYLENE1U
MONORES68N	PCELECT47U25V	POLYESTER100N	POLYPROPYLENE100N
MONORES100N	PCELECT47U50V	POLYESTER150N	POLYPROPYLENE220N
MONORES100P	PCELECT47U63V	POLYESTER220	POLYPROPYLENE470N
MONORES220N	PCELECT47U100V	POLYESTER330N	POLYSTYRENE2N2
MONORES220P	PCELECT47U450V	POLYESTER470N	POLYSTYRENE4N7
MONORES470N	PCELECT100U10V	POLYFILM1N	POLYSTYRENE22P
MONORES470P	PCELECT100U25V	POLYFILM2N2	POLYSTYRENE68P
MYLAR1N1	PCELECT100U35V	POLYFILM4N7	POLYSTYRENE100P
MYLAR2N2	PCELECT100U63V	POLYFILM10N	POLYSTYRENE150P
MYLAR4N7	PCELECT100U100V	POLYFILM22N	POLYSTYRENE220P
MYLAR10N	PCELECT220U16V	POLYFILM47N	POLYSTYRENE680P
MYLAR22N	PCELECT220U35V	POLYFILM100N	TANTALUM1U35V
MYLAR47N	PCELECT220U63V	POLYFILM220N	TANTALUM1U535V
MYLAR100N	PCELECT220U100V	POLYFILM470N	TANTALUM2U235V
MYLAR220N	PCELECT330U50V	POLYLAYER1U	TANTALUM3U335V
NP1U5100V	PCELECT470U16V	POLYLAYER2N2	TANTALUM4U716V
NP2U2100V	PCELECT470U35V	POLYLAYER3N3	TANTALUM4U735V
NP3U3100V	PCELECT470U63V	POLYLAYER4N7	TANTALUM10U16V
NP10U50V	PCELECT470U100V	POLYLAYER6N8	TANTALUM10U25V
NP22U100V	PCELECT1000U16V	POLYLAYER8N2	TANTALUM10U35V
NP47U100V	PCELECT1000U35V	POLYLAYER10N	TANTALUM22U16V
NP100U100V	PCELECT1000U63V	POLYLAYER22N	TANTALUM22U25
NP220U100V	PCELECT1000U100V	POLYLAYER33N	TANTALUM33U10
PCELEC1U100V	PCELECT220U16V	POLYLAYER47N	TANTALUM47U10
PCELECT1U450V	PCELECT220U35V	POLYLAYER68N	TANTALUM47U16V
PCELECT2U2100V	PCELECT220U63V	POLYLAYER100N	TANTALUM100N35V
PCELECT4U763V	PCELECT4700U16V	POLYLAYER120N	TANTALUM100U10V
PCELECT4U7100V	PCELECT4700U35V	POLYLAYER150N	TANTALUM220N35V
PCELECT4U7450V	PCELECT10000U16V	POLYLAYER180N	TANTALUM330N35V
PCELECT10U50V	POLYESTER1U	POLYLAYER220N	TANTALUM470N35V
PCELECT10U100V	POLYESTER2U2	POLYLAYER270N	



Description

This library contains CMOS parts from the 4000 series. All the parts are packaged for through hole PCB layout and most have simulator models. De Morgan (negative logic) and IEC versions are provided where appropriate.

Contents

4000	4020	4046	4071.IEC	4503	4543
4000.IEC	4020.IEC	4046.IEC	4072	4508	4543.IEC
4001	4021	4047	4072.DM	4508.IEC	4555
4001.DM	4021.IEC	4047.IEC	4072.IEC	4510	4555.IEC
4001.IEC	4022	4048	4073	4510.IEC	4556
4002	4022.IEC	4049	4073.DM	4511	4556.IEC
4002.DM	4023	4049.DM	4073.IEC	4511.IEC	4559
4002.IEC	4023.DM	4049.IEC	4075	4512	4560
4006	4023.IEC	4050	4075.DM	4512.IEC	4584
4006.IEC	4024	4050.DM	4075.IEC	4513	4584.DM
4007	4024.IEC	4050.IEC	4076	4514	4585
4008	4025	4051	4076.IEC	4514.IEC	4585.IEC
4008.IEC	4025.DM	4051.IEC	4077	4515	40102
4009	4025.IEC	4052.IEC	4077.IEC	4515.IEC	40103
4009.DM	4026	4053	4078	4516	40104
4010	4027	4053.IEC	4078.DM	4516.IEC	40105
4010.DM	4027.IEC	4054	4078.IEC	4518	40106
4011	4028	4055	4081	4518.IEC	40106.DM
4011.DM	4028.IEC	4056	4081.DM	4520	40106.IEC
4011.IEC	4029	4059	4081.IEC	4520.IEC	40160
4012	4029.IEC	4059.IEC	4082	4522	40160.IEC
4012.DM	4030	4060	4082.DM	4522.IEC	40161
4012.IEC	4030.IEC	4060.IEC	4082.IEC	4526	40161.IEC
4013	4033	4063	4085	4526.IEC	40162
4013.IEC	4034	4066	4085.IEC	4528	40162.IEC
4014	4035	4066.IEC	4089	4528.IEC	40163
4014.IEC	4035.IEC	4067	4093	4529	40163.IEC
4015	4040	4067.IEC	4093.DM	4530	40174
4015.IEC	4040.IEC	4068	4093.IEC	4532	40174.IEC
4016	4041	4068.DM	4094	4532.IEC	40175
4016.IEC	4041.DM	4068.IEC	4094.IEC	4537	40175.IEC
4017	4041.IEC	4069	4095	4538	40192
4017.IEC	4042	4069.IEC	4096	4538.IEC	40192.IEC
4018	4042.IEC	4070	4098	4539	40193
4018.IEC	4043	4070.IEC	4099	4539.IEC	40193.IEC
4019	4043.IEC	4071	4502	4541	40194
4019.IEC	4044	4071.DM	4502.IEC	4541.IEC	40194.IEC



Description

This library contains parts from the ECL 10000 series. The parts are packaged for through hole PCB layout but there are no simulator models.

Contents

10113	10130	10137	10159	10166	10178
10115	10131	10138	10161	10173	10181
10116	10133	10141	10162	10174	10186A
10124	10135	10145	10164	10175	
10125	10136	10158	10165	10176	



I2CMEM.LIB

Description

This library contains a number of I2C memory parts from Arizona Microchip, Fairchild and SG Micro Electronics. Each part is fully simulatable within the VSM simulation architecture.

Contents

24AA00	24C02B	24LC16B	FM24C32	M24C04	NM24C08F
24AA01	24C02C	24LC32A	FM24C32F	M24C08	NM24C09
24AA02	24C04A	24LC64	FM24C64	M24C16	NM24C09F
24AA04	24C08B	24LC128	FM24C64F	M24C32	ST24E16
24AA08	24C16B	24LC256	FM24C128	M24C64	ST24W01
24AA16	24C32A	FM24C02	FM24C128	M24128B	ST24W02
24AA32A	24FC128	FM24C02F	F	M24256B	ST24W04
24AA64	24FC256	FM24C03	FM24C256	M24512	ST24W08
24AA128	24LC00	FM24C03F	FM24C256	NM24C04	ST24W16
24AA256	24LC01B	FM24C16	F	NM24C04F	
24C00	24LC02B	FM24C16F	FM34W02	NM24C05	
24C01B	24LC04B	FM24C17	M24C01	NM24C05F	
24C01C	24LC08B	FM24C17F	M24C02	NM24C08	



MEMORY.LIB

Description

This library contains a number of miscellaneous but useful memory devices.

Content

1_ ORD : 1+TP	2_ ORD : POLY	OP : ADD	PZ : P+Z REAL
1_ ORD : 1-TP	CTRL : ADVANCE	OP : DELAY	PZ : Z REAL
1_ ORD : HP	CTRL : DELAY	OP :	SCH : C(P)
1_ ORD : HP_F	CTRL : P	DIFFERENTIATE	SCH : E(P)
1_ ORD : LP	CTRL : P D	OP : DIVIDE	SCH : F(P)
1_ ORD : LP_F	CTRL : P I	OP : GAIN	SCH : G(P)
1_ ORD : POLY 1	CTRL : P I D	OP : INTEGRATE	SCH : H(P)
1_ ORD : POLY 2	NL : AMP DZ	OP : MULTIPLY	SCH : R(P)
1_ ORD : POLY 3	NL : AMP PL	OP : SUBTRACT	SCH : S(P)
2_ ORD : BP	NL : AMP SAT	PROC : BROIDA	SCH : T(P)
2_ ORD : HP	NL : SW HYST	PROC : PURE DLY	
2_ ORD : LP	NL : SWITCH	PROC : ZIEGLER	
2_ ORD : NOTCH	NL : SWITCH DZ	PZ : P REAL	



MEMORY.LIB

Description

This library contains commonly used memory ICs from a number of manufacturers. All the parts are packaged for through hole PCB design but there are no simulator models.

Contents

27C64	2149	4016	5513	6665	27512
27C128	2164	4164	5514	8128	27513
27C256	2600	4256	5516	8264	41256
2015	2620	4257	5517	8266	48416
2016	2716	4264	5564	8281	50256
2018	2732	4416	5565	8416	50257
2019	2764	4564	6116	8417	57256
2063	2816	4864	6164	8418	58064
2064	2817	5113	6256	8464	62256
2114	2864	5164	6257	27128	
2148	3764	5165	6264	27256	



Description

This library contains commonly used microprocessor ICs from a number of manufacturers. All the parts are packaged for PCB design but there are no simulator models.

Some of the parts are provided in both separately pinned and bus pinned versions.

Contents

80C31	87C524	AT90S2323	P87C51FC	PIC16C65B
80C31.BUS	87C528	AT90S2333	P87C51FC.BUS	PIC16C66
80C32	87C552	AT90S2343	P87C51RA+	PIC16C67
80C32.BUS	87C652	AT90S4433	P87C51RA+.BUS	PIC16C72A
80C51	87C654	AT90S4434	P87C51RB+	PIC16C73B
80C51.BUS	8039	AT90S8515	P87C51RB+.BUS	PIC16C74B
80C52	8039.BUS	AT90S8535	P87C51RC+	PIC16C76
80C52.BUS	8049	ATMEGA103	P87C51RC+.BUS	PIC16C77
80C54	8049.BUS	ATTINY10	P87C51RD+	PIC16F83
80C54.BUS	8255A	ATTINY11	P87C51RD+.BUS	PIC16F84A
80C58	68000	ATTINY12	PC-BUS	PIC16F870
80C58.BUS	68000.BUS	ATTINY15	PIC12C508A	PIC16F871
80C451	68008	AY-3-1015	PIC12C509A	PIC16F873
80C453	68008.BUS	ICM7170	PIC12C671	PIC16F874
80C528	68010	MC68HC11A8.EXP	PIC12C672	PIC16F876
80C575	68010.BUS	MC68HC11A8.SC	PIC12CE518	PIC16F877
80C652	AT-BUS	MC68HC11D3	PIC12CE519	PIC18C242
80CL31	AT89C51	MC68HC11E9.EXP	PIC12CE673	PIC18C252
80CL410	AT89C51.BUS	MC68HC11E9.SC	PIC12CE674	PIC18C442
83C504	AT89C51RB2	MC68HC24	PIC16C54	PIC18C452
83C508	AT89C51RB2.BUS	MC6850	PIC16C54.BUS	PIC18C601
83C576	AT89C51RC2	NM232CD	PIC16C55	PIC18C601.BUS
83C654	AT89C51RC2.BUS	P8XC592	PIC16C55.BUS	PIC18C658
83C748	AT89C51RD2	P8XCE598	PIC16C56	PIC18C801.BUS
83C749	AT89C51RD2.BUS	P83C524	PIC16C56.BUS	PIC18C858
83C750	AT89C52	P83CE558	PIC16C57	Z80
83C751	AT89C52.BUS	P83CE559	PIC16C57.BUS	Z80 CPU
83C752	AT89C55	P87C51FA	PIC16C61	Z80 CTC
83CL781	AT89C55.BUS	P87C51FA.BUS	PIC16C62B	Z80 DART
83L51FA	AT90S1200	P87C51FB	PIC16C63A	Z80 DMA
83L51FB	AT90S2313	P87C51FB.BUS	PIC16C64A	Z80 PIO



Description

This library contains Operational Amplifiers from a number of manufacturers. All the parts are packaged for through hole PCB layout and are linked to appropriate simulator macro models.

Contents

709	CA3130	LF355	LM6364	OP-77GP	TL062
741	CA3140	LF411	LT1013CN8	OP-90GP	TL064
747	CA3160	LF412CN	LT1014CN	OP-200GP	TL071
748	CA3240	LF441	LT1028	OP09	TL072
1458	CA3260	LF442	LT1077CN8	OP11	TL074
1558	CA5130	LF444	MC3403	OP14	TL075
3403	CA5160	LF13741	MC33078	OP215	TL081
4136	CA5260	LM124	MC33171P	OP220	TL082
4156	EL2020	LM224	MC33172P	OP221	TL084
4227G	EL2030CN	LM301	MC33174P	OP400	TL085
4559	EL2120CN	LM308	NE531	OPA121KP	TLC272
AD642	EL2232	LM324	NE5532	OPA404KP	TLC274
AD644	LF137	LM348	NE5534	OPA606KP	TLE2027C
AD647	LF147	LM358N	OP-07CN	OPA2107AP	TLE2037C
AD648JN	LF347	LM392	OP-27G	OPA2111KP	UA709
AD711JN	LF351	LM833N	OP-37GN	PM-1008GP	UA741
AD712JN	LF353N	LM837	OP-47G	TL061	UA747C

Notes

This library was created for PROTEUS 3.0 and many of the devices in it are now also available from the manufacturer specific libraries – NATOA, TEXOAC and LINTEC. The manufacturer specific libraries may have more accurate (manufacturer designed) SPICE models, whereas the parts in this library are modeled using generic macro model files.



Description

This library contains Programmable Logic Devices. The parts are packaged for through hole PCB design and contain appropriate property definitions for simulation.

The packaging and timing data was obtained from the relevant AMD data-book.

Contents

AM16L8	AM16R6	AM16V8	AM20R8	AM20V8	AM29M16
AM16R4	AM16R8	AM20R4	AM20RA10	AM22V10	AM29MA16



RESISTORS.LIB

Description

This library contains a large number of commonly used resistor parts. All parts are simulatable within the Proteus VSM simulation architecture.

Content

3WATT0R1	7WATT6R8	METALFILM12K	MINRES3M9
3WATT0R22	7WATT8R2	METALFILM22K	MINRES3R3
3WATT0R27	7WATT10R	METALFILM39K	MINRES3R9
3WATT0R33	7WATT15R	METALFILM47K	MINRES4K3
3WATT0R47	7WATT22R	METALFILM68R	MINRES4K7
3WATT0R68	7WATT47R	METALFILM100K	MINRES4M7
3WATT1K	7WATT100R	METALFILM100R	MINRES4R7
3WATT1K5	7WATT220R	METALFILM120K	MINRES5K1
3WATT1R	7WATT470R	METALFILM120R	MINRES5K6
3WATT2K2	10WATT0R1	METALFILM150R	MINRES5M6
3WATT2R2	10WATT0R22	METALFILM180R	MINRES5R6
3WATT2R7	10WATT0R47	METALFILM220K	MINRES6K2
3WATT3K3	10WATT0R56	METALFILM220R	MINRES6K8
3WATT3R3	10WATT1K	METALFILM270R	MINRES6M8
3WATT3R9	10WATT1R	METALFILM330R	MINRES6R8
3WATT4K7	10WATT2R2	METALFILM390R	MINRES7K5
3WATT4R7	10WATT3R3	METALFILM470K	MINRES8K2
3WATT6R8	10WATT3R9	METALFILM470R	MINRES8M2
3WATT8R2	10WATT4K7	METALFILM680R	MINRES8R2
3WATT10K	10WATT4R7	MINRES1K	MINRES9K1
3WATT10R	10WATT5R6	MINRES1K1	MINRES10K
3WATT15R	10WATT6R8	MINRES1K2	MINRES10M
3WATT18R	10WATT8R2	MINRES1K3	MINRES10R
3WATT22R	10WATT10R	MINRES1K5	MINRES11
3WATT27R	10WATT22R	MINRES1K6	MINRES11R
3WATT33R	10WATT33R	MINRES1K8	MINRES12
3WATT47R	10WATT47R	MINRES1M	MINRES12R
3WATT68R	10WATT51R	MINRES1M2	MINRES13
3WATT100R	10WATT68R	MINRES1M5	MINRES13R
3WATT150R	10WATT100R	MINRES1M8	MINRES15K
3WATT180R	10WATT470R	MINRES1R	MINRES15R
3WATT220R	HIGHVOLTAGE1M	MINRES1R2	MINRES16K
3WATT330R	HIGHVOLTAGE2M2	MINRES1R5	MINRES16R
3WATT470R	HIGHVOLTAGE4M7	MINRES1R8	MINRES18K
7WATT0R1	HIGHVOLTAGE10M	MINRES2K	MINRES18R
7WATT0R22	HIGHVOLTAGE15M	MINRES2K2	MINRES20K
7WATT0R27	HIGHVOLTAGE22M	MINRES2K4	MINRES20R
7WATT0R33	HIGHVOLTAGE33M	MINRES2M2	MINRES22K
7WATT0R47	HIGHVOLTAGE47M	MINRES2M7	MINRES22R
7WATT0R68	METALFILM1K	MINRES2R2	MINRES24K
7WATT1K	METALFILM1K5	MINRES2R7	MINRES24R
7WATT1R	METALFILM1M	MINRES3K	MINRES27K
7WATT2R2	METALFILM2K2	MINRES3K3	MINRES27R
7WATT3R9	METALFILM4K7	MINRES3K6	MINRES30K
7WATT4R7	METALFILM5K6	MINRES3K9	MINRES30R
7WATT5R6	METALFILM10K	MINRES3M3	MINRES33K

MINRES33R	MINRES75R	MINRES180R	MINRES430R
MINRES36K	MINRES82K	MINRES200K	MINRES470K
MINRES36R	MINRES82R	MINRES200R	MINRES470R
MINRES39K	MINRES91K	MINRES220K	MINRES510K
MINRES39R	MINRES91R	MINRES220R	MINRES510R
MINRES43K	MINRES100K	MINRES240K	MINRES560K
MINRES43R	MINRES100R	MINRES240R	MINRES560R
MINRES47K	MINRES110K	MINRES270K	MINRES620K
MINRES47R	MINRES110R	MINRES270R	MINRES620R
MINRES51K	MINRES120K	MINRES300K	MINRES680K
MINRES51R	MINRES120R	MINRES300R	MINRES680R
MINRES56K	MINRES130K	MINRES330K	MINRES750K
MINRES56R	MINRES130R	MINRES330R	MINRES750R
MINRES62K	MINRES150K	MINRES360K	MINRES820K
MINRES62R	MINRES150R	MINRES360R	MINRES820R
MINRES68K	MINRES160K	MINRES390K	MINRES910K
MINRES68R	MINRES160R	MINRES390R	MINRES910R
MINRES75K	MINRES180K	MINRES430K	



FAIRCHLD.LIB

Description

This library contains discrete components from Fairchild Semiconductor Inc. All the parts are packaged for PCB layout and are linked to the manufacturer's SPICE models in FAIRCHLD.SML.

Contents

2N2608	2N4092	2N4860A	2N5522	MPS6521	PN4250A
2N2609	2N4093	2N4861	2N5523	MPS6523	PN4258
2N3370	2N4117	2N4861A	2N5524	MPS6531	PN4275
2N3390	2N4117A	2N5018	2N5545	MPS6534	PN4355
2N3391A	2N4118	2N5019	2N5550	MPS6562	PN4356
2N3392	2N4118A	2N5020	2N5551	MPS8098	PN4917
2N3393	2N4119	2N5021	2N5556	MPSA05	PN5134
2N3415	2N4119A	2N5045	2N5557	MPSA06	PN5138
2N3416	2N4123	2N5046	2N5558	MPSA10	ST5771-1
2N3417	2N4124	2N5047	2N5565	MPSA18	TIS93
2N3458	2N4125	2N5078	2N5566	MPSA20	TIS97
2N3459	2N4126	2N5086	2N5769	MPSA42	TIS98
2N3684	2N4220	2N5087	2N5771	MPSA43	TN2219A
2N3685	2N4220A	2N5088	2N5772	MPSA55	TN2905A
2N3686	2N4221	2N5089	2N5830	MPSA56	U308
2N3687	2N4221A	2N5103	2N5902	MPSA92	U309
2N3702	2N4222	2N5105	2N5904	MPSA93	U310
2N3703	2N4222A	2N5114	2N5905	MPSH10	U401
2N3821	2N4223	2N5115	2N5906	MPSL01	U402
2N3822	2N4338	2N5116	2N5907	MPSL51	U403
2N3823	2N4339	2N5172	2N5909	PN930	U404
2N3824	2N4340	2N5196	2N5911	PN2222	U405
2N3859A	2N4341	2N5197	2N5912	PN2222A	U406
2N3903	2N4381	2N5199	2N6483	PN2369	U440
2N3904	2N4391	2N5210	2N6484	PN2369A	U441
2N3905	2N4392	2N5358	2N6485	PN2484	
2N3906	2N4393	2N5366	BC548C	PN2907	
2N3921	2N4400	2N5397	J201	PN2907A	
2N3922	2N4401	2N5398	J401	PN3565	
2N3954	2N4402	2N5400	J402	PN3638	
2N3954A	2N4403	2N5401	J403	PN3638A	
2N3955	2N4410	2N5432	J404	PN3640	
2N3955A	2N4416	2N5433	J405	PN3642	
2N3956	2N4416A	2N5434	J406	PN3643	
2N3957	2N4856	2N5452	J410	PN3644	
2N3958	2N4856A	2N5454	J411	PN3645	
2N3966	2N4857	2N5515	J412	PN3646	
2N3967	2N4857A	2N5516	MPS3702	PN4121	
2N3970	2N4858	2N5517	MPS3703	PN4122	
2N3971	2N4858A	2N5518	MPS6513	PN4141	
2N3972	2N4859	2N5519	MPS6514	PN4143	
2N4084	2N4859A	2N5520	MPS6515	PN4249	
2N4091	2N4860	2N5521	MPS6518	PN4250	



Description

This library contains operational amplifiers from Linear Technology Inc. All the parts are packaged for PCB design and are linked to the manufacturer's SPICE models in LINTEC.SML.

Contents

LF155	LT1001A	LT1055S8	LT1194	LT1229	LTC1052
LF155A	LT1006	LT1056	LT1195	LT1230	LTC1053
LF156	LT1006A	LT1056A	LT1200	LT1251	OP05
LF156A	LT1006S8	LT1056S8	LT1201	LT1252	OP05A
LF355	LT1007	LT1057	LT1202	LT1253	OP05C
LF355A	LT1007A	LT1057A	LT1206	LT1254	OP05E
LF356	LT1008	LT1058	LT1208	LT1256	OP07
LF356A	LT1012A	LT1058A	LT1209	LT1354	OP07A
LF412	LT1012D	LT1078	LT1211	LT1355	OP07C
LF412A	LT1012S8	LT1078A	LT1212	LT1356	OP07E
LM10C	LT1013	LT1079	LT1213	LT1357	OP15A
LM101A	LT1013A	LT1079A	LT1214	LT1358	OP15B
LM107	LT1013D	LT1097	LT1215	LT1359	OP15C
LM108	LT1014	LT1101	LT1216	LT1360	OP16A
LM108A	LT1014A	LT1115	LT1217	LT1361	OP16B
LM118	LT1014AD	LT1122	LT1220	LT1362	OP16C
LM301A	LT1022	LT1178	LT1221	LT1363	OP27A
LM307	LT1022A	LT1179	LT1222	LT1364	OP27C
LM308	LT1028	LT1187	LT1223	LT1365	OP37A
LM308A	LT1028A	LT1189	LT1224	LTC1047	OP37C
LM318	LT1037	LT1190	LT1225	LTC1049	OP215A
LT118A	LT1037A	LT1191	LT1226	LTC1050	OP215C
LT318A	LT1055	LT1192	LT1227	LTC1050A	
LT1001	LT1055A	LT1193	LT1228	LTC1051	



Description

This library contains data acquisition devices from National Semiconductor Inc. The parts are packaged for PCB layout but there are no simulator models.

Contents

ADC12L030	ADC1061	ADC10731	DAC0831	LM113	LM368-5V0
ADC12L032	ADC1205	ADC10732	DAC0832	LM129	LM368-10V
ADC12L034	ADC1225	ADC10734	DAC0854	LM131	LM369
ADC12L038	ADC1241	ADC10738	DAC0890	LM134	LM385
ADC080X	ADC1242	ADC10831	DAC1006	LM135	LM385-1V2
ADC0808	ADC1251	ADC10832	DAC1007	LM136-2V5	LM385-2V5
ADC0809	ADC08031	ADC10834	DAC1008	LM136-5V0	LM399
ADC0811	ADC08032	ADC10838	DAC1054	LM169	LM3999
ADC0816	ADC08034	ADC12030	DAC1208	LM185	LM4040
ADC0817	ADC08038	ADC12032	DAC1209	LM185-1V2	LM4041
ADC0819	ADC08061	ADC12034	DAC1210	LM185-2V5	LM4431
ADC0820	ADC08062	ADC12038	DAC1218	LM199	LM9140
ADC0831	ADC08131	ADC12062	DAC1219	LM231	LM12434
ADC0832	ADC08134	ADC12130	DAC1230	LM234	LM12458
ADC0833	ADC08138	ADC12132	DAC1231	LM235	LMF40
ADC0834	ADC08161	ADC12138	DAC1232	LM236-2V5	LMF60
ADC0838	ADC08231	ADC12441	LF198	LM236-5V0	LMF90
ADC0841	ADC08234	ADC12662	LF298	LM285	LMF100
ADC0844	ADC08238	ADC16071	LF398	LM285-1V2	LMF380
ADC0848	ADC10061	ADC16471	LF13006	LM285-2V5	MF4
ADC0851	ADC10062	DAC102X	LF13007	LM299	MF5
ADC0852	ADC10064	DAC122X	LH0070	LM313	MF6
ADC0854	ADC10154	DAC0800	LH0071	LM329	MF8
ADC0858	ADC10158	DAC0801	LM12L454	LM331	MF10
ADC1001	ADC10461	DAC0802	LM12L458	LM334	
ADC1005	ADC10462	DAC0806	LM34	LM335	
ADC1031	ADC10464	DAC0807	LM35	LM336-2V5	
ADC1034	ADC10662	DAC0808	LM45	LM336-5V0	
ADC1038	ADC10664	DAC0830	LM50	LM368-2V5	



Description

This library contains operational amplifiers from National Semiconductor. All the parts are packaged for PCB layout and most are linked to the manufacturer's SPICE models in NATOA.SML.

Contents

LF155	LM258	LM6181	LMC6001A	LMC6082B	LMC6681A
LF156	LM318	LM6218	LMC6001B	LMC6084A	LMC6681B
LF157	LM324	LM6261	LMC6022	LMC6084B	LMC6762A
LF351	LM358	LM6262	LMC6024	LMC6462A	LMC6762B
LF353	LM741	LM6264	LMC6032	LMC6462B	LMC6772A
LF411	LM2902	LM6265	LMC6034	LMC6464A	LMC6772B
LF412	LM2904	LM6361	LMC6041A	LMC6464B	LMC7101A
LF441A	LM6118	LM6362	LMC6041B	LMC6482A	LMC7101B
LF441B	LM6121	LM6364	LMC6042A	LMC6484A	LMC7111A
LF442A	LM6132A	LM6365	LMC6042B	LMC6492A	LMC7111B
LF442B	LM6132B	LM7121	LMC6044A	LMC6492B	LMC7211A
LF444A	LM6142A	LM7131A	LMC6044B	LMC6494A	LMC7211B
LF444B	LM6142B	LM7131B	LMC6061A	LMC6494B	LMC7221A
LF451	LM6152A	LM7171A	LMC6061B	LMC6572A	LMC7221B
LF453	LM6152B	LM7171B	LMC6062A	LMC6572B	LPC660A
LM111	LM6161	LM13600	LMC6062B	LMC6574A	LPC660B
LM118	LM6162	LM13700	LMC6064A	LMC6574B	LPC661A
LM124	LM6164	LMC660A	LMC6064B	LMC6582A	LPC661B
LM158	LM6165	LMC660B	LMC6081A	LMC6582B	LPC662A
LM218	LM6171A	LMC662A	LMC6081B	LMC6584A	LPC662B
LM224	LM6171B	LMC662B	LMC6082A	LMC6584B	



Description

This library contains SCRs and TRIACs from Teccor inc. All the parts are packaged for PCB design and are linked to the manufacturer's SPICE models in TECCOR.SML.

Contents

2N5063	L401E5	Q2010L5	S0503LS3	S1008LS3	S2035J
2N5064	L401E6	Q2015L5	S0504F1	S1010FS21	S2040R
2N6564	L401E8	Q2025R5	S0506FS21	S1010FS31	S2055R
2N6565	L601E3	Q4004L3	S0506FS31	S1010L	S2065J
EC103A	L601E5	Q4004L4	S0506L	S1010LS2	S2070W
EC103A1	L601E6	Q4006L4	S0506LS2	S1010LS3	S4003FS11
EC103A2	L601E8	Q4008L4	S0506LS3	S1010R	S4003FS21
EC103A3	L2002L8	Q4010L5	S0508FS21	S1012R	S4003FS31
EC103B	L2004L3	Q4015L5	S0508FS31	S1015L	S4003LS1
EC103B1	L2004L5	Q4025R5	S0508L	S1016R	S4003LS2
EC103B2	L2004L6	Q5004L3	S0508LS2	S1020L	S4003LS3
EC103B3	L2004L8	Q5004L4	S0508LS3	S1025L	S4004F1
EC103C	L2006L5	Q5006L4	S0510FS21	S1035J	S4006FS21
EC103C1	L2006L6	Q5008L4	S0510FS31	S1040R	S4006FS31
EC103C2	L2006L8	Q5010L5	S0510L	S1055R	S4006L
EC103C3	L2008L6	Q5015L5	S0510LS2	S1065J	S4006LS2
EC103D	L4004L3	Q5025R5	S0510LS3	S1070W	S4006LS3
EC103D1	L4004L5	Q6004L3	S0510R	S2003FS11	S4008FS21
EC103D2	L4004L6	Q6004L4	S0512R	S2003FS21	S4008FS31
EC103D3	L4004L8	Q6006L5	S0515L	S2003FS31	S4008L
EC103E	L4006L5	Q6008L5	S0516R	S2003LS1	S4008LS2
EC103E1	L4006L6	Q6010L5	S0520L	S2003LS2	S4008LS3
EC103E2	L4006L8	Q6015L5	S0525L	S2003LS3	S4010FS21
EC103E3	L4008L6	Q6025R5	S0535J	S2004F1	S4010FS31
EC103M	L4008L8	Q7004L4	S0540R	S2006FS21	S4010L
EC103M1	L6004L3	Q7006L5	S0555R	S2006FS31	S4010LS2
EC103M2	L6004L5	Q7008L5	S0565J	S2006L	S4010LS3
EC103M3	L6004L6	Q7010L5	S0570W	S2006LS2	S4010R
EC113A	L6004L8	Q7015L5	S601E	S2006LS3	S4012R
EC113A3	L6006L5	Q7025R5	S1003FS11	S2008FS21	S4015L
EC113B	L6006L6	Q8004L4	S1003FS21	S2008FS31	S4016R
EC113B3	L6006L8	Q8006L5	S1003FS31	S2008L	S4020L
EC113C	L6008L6	Q8008L5	S1003LS1	S2008LS2	S4025L
EC113C3	Q201E3	Q8010L5	S1003LS2	S2008LS3	S4035J
EC113D	Q201E4	Q8015L5	S1003LS3	S2010FS21	S4040R
EC113D3	Q401E3	Q8025R5	S1004F1	S2010FS31	S4055R
EC113E	Q401E4	S051E	S1006FS21	S2010L	S4065J
EC113E3	Q501E3	S101E	S1006FS31	S2010LS2	S4070W
EC113M	Q501E4	S201E	S1006L	S2010LS3	S6003FS11
EC113M3	Q601E3	S401E	S1006LS2	S2010R	S6003FS21
L201E3	Q601E4	S0503FS11	S1006LS3	S2012R	S6003FS31
L201E5	Q2004L3	S0503FS21	S1008FS21	S2015L	S6003LS1
L201E6	Q2004L4	S0503FS31	S1008FS31	S2016R	S6003LS2
L201E8	Q2006L4	S0503LS1	S1008L	S2020L	S6003LS3
L401E3	Q2008L4	S0503LS2	S1008LS2	S2025L	S6004F1

S6006FS21	S6010FS21	S6025L	S8012R	T106A1	T107D1
S6006FS31	S6010FS31	S6035J	S8015L	T106B1	T107E1
S6006L	S6010L	S6040R	S8016R	T106C1	T107F1
S6006LS2	S6010LS2	S6055R	S8020L	T106D1	T107M1
S6006LS3	S6010LS3	S6065J	S8025L	T106E1	TCR222
S6008FS21	S6010R	S6070W	S8035J	T106F1	TCR223
S6008FS31	S6012R	S8006L	S8040R	T106M1	TCR224
S6008L	S6015L	S8008L	S8055R	T107A1	TCR226
S6008LS2	S6016R	S8010L	S8065J	T107B1	TCR228
S6008LS3	S6020L	S8010R	S8070W	T107C1	



Description

This library contains operational amplifiers and comparators from Texas Instruments. All the parts are packaged for PCB design and where the models are available, are linked to the manufacturer's SPICE models in the files TEX101.SML, TEX301.SML, TEX401.SML, TEX3_1.SML and TEX5_1.SML.

Contents

A741	LM2902	TL054	TLC251	TLC2274	TLE2682
LF347	LM2903	TL061	TLC251H	TLC2652	TLV1393
LF351	LM2904	TL062	TLC251L	TLC2654	TLV2252
LF353	LM3302	TL064	TLC251M	TLC2801	TLV2254
LF411	LM3900	TL064X2	TLC252	TLC2810	TLV2262
LF412	LP111	TL070	TLC252C	TLC2872	TLV2264
LM111	LP211	TL071	TLC254	TLC3702	TLV2322
LM118	LP239	TL072	TLC254C	TLC3704	TLV2322I
LM124	LP311	TL074	TLC271	TLE2021	TLV2324
LM139	LP339	TL074X2	TLC271H	TLE2022	TLV2324I
LM148	LP2901	TL081	TLC271M	TLE2024	TLV2332
LM158	LT1013	TL082	TLC272	TLE2027	TLV2332I
LM193	MC1458	TL084	TLC274	TLE2037	TLV2334
LM211	MC1558	TL084X2	TLC274X2	TLE2061	TLV2334I
LM218	MC3303	TL393	TLC277	TLE2062	TLV2341
LM224	MC3403	TL712	TLC279	TLE2064	TLV2341H
LM239	NE5532	TL714	TLC339	TLE2071	TLV2341L
LM248	NE5534	TL2828	TLC352	TLE2072	TLV2341M
LM258	OP07	TL2829	TLC354	TLE2074	TLV2342
LM293	RC4136	TLC25L2	TLC371	TLE2081	TLV2342I
LM306	RC4558	TLC25L2C	TLC372	TLE2082	TLV2344
LM311	RM4136	TLC25L4	TLC374	TLE2084	TLV2344I
LM318	RM4558	TLC25L4C	TLC393	TLE2141	TLV2352
LM324	RV4136	TLC25M2	TLC1078	TLE2142	TLV2352I
LM324X2	RV4558	TLC25M2C	TLC1079	TLE2144	TLV2354
LM339	SE5534	TLC25M4	TLC2201	TLE2161	TLV2354I
LM339X2	TL022	TLC25M4C	TLC2202	TLE2227	TLV2362
LM348	TL031	TLC27L2	TLC2252	TLE2237	TLV2393
LM358	TL032	TLC27L4	TLC2254	TLE2301	
LM393	TL034	TLC27M2	TLC2262	TLE2425	
LM2900	TL051	TLC27M4	TLC2264	TLE2426	
LM2901	TL052	TLC139	TLC2272	TLE2662	



Description

This library contains discrete components from Zetex PLC. All the parts are packaged for PCB design and are linked to the manufacturer's SPICE models in ZETEX.SML.

Contents

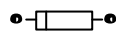
2N2222A	BC549BP	FMMD2836	FZT649	ZDX2F	ZTX688B
2N6715	BC550BP	FMMD2837	FZT651	ZDX5	ZTX689B
2N6727	BC556AP	FMMD2838	FZT657	ZDX6	ZTX690B
BAL74	BC557AP	FMMD6050	FZT658	ZTX107	ZTX692B
BAL99	BC558AP	FMMD6100	FZT688B	ZTX107B	ZTX694B
BAR74	BC559AP	FMMD7000	FZT689B	ZTX108	ZTX696B
BAR99	BC560AP	FMMT489	FZT690B	ZTX108B	ZTX749
BAS16	BC807-16	FMMT491A	FZT692B	ZTX109	ZTX750
BAS19	BC808-16	FMMT549	FZT694B	ZTX109B	ZTX751
BAS20	BC846B	FMMT589	FZT696B	ZTX212	ZTX753
BAS21	BC847B	FMMT591A	FZT749	ZTX212A	ZTX757
BAV70	BC848B	FMMT597	FZT751	ZTX213	ZTX758
BAV74	BC849B	FMMT617	FZT757	ZTX213A	ZTX788A
BAV99	BC850B	FMMT618	FZT758	ZTX214	ZTX788B
BAW56	BC856A	FMMT619	FZT788B	ZTX214A	ZTX789A
BBY31	BC857A	FMMT624	FZT789A	ZTX237	ZTX790A
BBY40	BC858A	FMMT625	FZT790A	ZTX237B	ZTX792A
BC107BP	BC859A	FMMT717	FZT792A	ZTX238	ZTX795A
BC108BP	BC860A	FMMT718	HD2A	ZTX238B	ZTX796A
BC109BP	BCV72	FMMT720	HD3A	ZTX239	ZTX849
BC177AP	BCW29	FMMT722	HD4A	ZTX239B	ZTX851
BC178AP	BCW32	FMMT723	MPS5179	ZTX320	ZTX869
BC182BP	BCW60C	FMMT918	MPSA20	ZTX321	ZTX948
BC183BP	BCW61A	FMMT5179	MPSH10	ZTX325	ZTX949
BC212AP	BCW65A	FMMTA20	ZC820A	ZTX327	ZTX951
BC237BP	BCW66F	FMMTA70	ZC821A	ZTX360	ZTX953
BC238BP	BCW67A	FMMTH10	ZC822A	ZTX450	ZTX955
BC239BP	BCW68F	FMMV105G	ZC823A	ZTX454	ZTX956
BC307AP	BCW69	FMMV109	ZC824A	ZTX455	ZTX957
BC308AP	BCW72	FMMV2101	ZC825A	ZTX458	ZTX958
BC337AP	BCW89	FMMV2102	ZC826A	ZTX549	ZTX968
BC338AP	BCX70J	FMMV2103	ZC830A	ZTX550	ZTX1047A
BC413BP	BCX71G	FMMV2104	ZC831A	ZTX558	ZTX1048A
BC414BP	BFQ31	FMMV2105	ZC832A	ZTX649	ZTX1049A
BC415AP	BFS17	FMMV2106	ZC833A	ZTX650	ZTX1051A
BC416AP	FCX458	FMMV2107	ZC834A	ZTX651	ZTX1053A
BC546BP	FCX558	FMMV2108	ZC835A	ZTX653	ZTX1055A
BC547BP	FMMD914	FMMV2109	ZC836A	ZTX657	ZTX1056A
BC548BP	FMMD2835	FMMV3102	ZDX1F	ZTX658	

Description

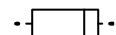
This library contains through hole footprints for all types of component.

It is vital to check that all pad and drill hole sizes are suitable for your own manufacturing process before raising orders for large numbers of boards.

Diodes



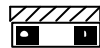
DO7
DO14
DO35
DO41
DO194
DOP6
DO15
DO27



CASE17
SOD57



TO92-D3
TO92-D2
TO92-D1



DO220



DO220A

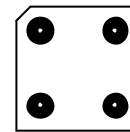
Bridge Rectifier Packs



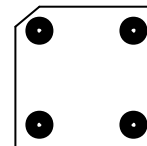
Bridge1



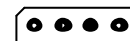
Bridge2



Bridge3



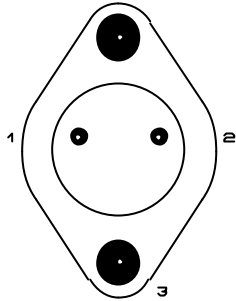
Bridge4



Bridge5

Transistors

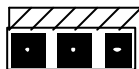
Note that all transistor packs now use pin numbers – this allows several differently pinned devices in ISIS to use the same footprint.



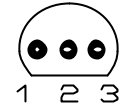
TO3
TO3-F
TO3A-F
TO66



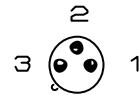
Eline
Eline-2
Eline-50
Eline-75
Eline-80
Eline-100
Eline-KA



TO3P
TO126
TO202
TO218
TO220
TO220-F
TO251
TO262

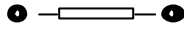


TO92
TO92-2
TO92/5
TO92/18
TO92-50
TO92-75
TO92-80
TO92-100
TO92-A
TO92-B
TO92-C
TO92-D
TO92-E
TO92-H
TO92-J
TO92-K
TO92-M
TO92-P
TO98
TO226



TO1
TO5
TO5-2
TO5-8
TO46-2
TO46-3
TO46-4
TO71
TO72
TO72A

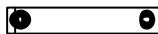
Passives



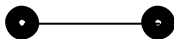
RES40
RES50
RES60
RES90
RES120
RES180



CAP10
CAP15
CAP20
CAP30
CAP40



ELEC-AX45
ELEC-AX50
ELEC-AX60
ELEC-AX80
ELEC-AX120
ELEC-AX130
ELEC-AX180



LINK20
LINK30
LINK40



PRE-HMIN



PRE-VMIN



PRE-SQ1
PRE-SQ2
PRE-SQ3
PRE-SQ4

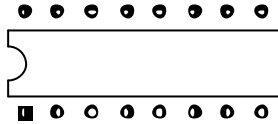


PRE-MT0.75
PRE-MT1.25

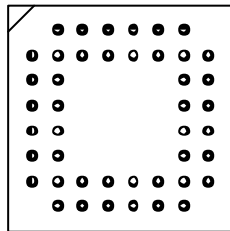


ELEC-RAD10
ELEC-RAD13
ELEC-RAD20
ELEC-RAD30

IC Packs

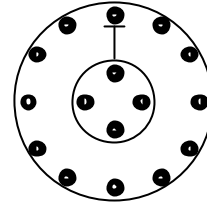


- DIL06
- DIL08
- DIL10
- DIL14
- DIL16
- DIL18
- DIL20
- DIL22
- DIL24
- DIL24/28
- DIL24NAR
- DIL28
- DIL30
- DIL40
- DIL48
- DIL56
- DIL64
- DIL72

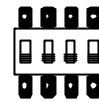


- LCC-SKT28
- LCC-SKT32
- LCC-SKT44
- LCC-SKT52
- LCC-SKT68
- LCC-SKT84

Miscellaneous



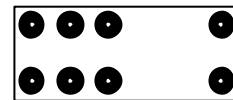
SW-ROT



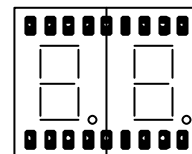
- SW-DIP4
- SW-DIP6
- SW-DIP8



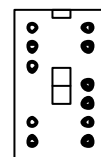
- SW-PUSH1
- SW-PUSH2



- RELAY-1
- RELAY-2
- RELAY-3
- RELAY-4



DD7SEG-56




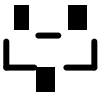




- 7SEG 3-C
- 7SEG 3+A

Description

This library contains footprints for discrete surface mount devices – resistors, capacitors, diodes and transistors. All footprints in this library are designs for reflow soldering.

It is vital to check that pad sizes and spacing are suitable for your own manufacturing process before raising orders for large numbers of boards.

Diodes

		
MELF	SOT23-D1	SOT89-D6
MINIMELF	SOT23-D2	SOT89-D7
DSM	SOT23-D3	SOT89-D8
DMM	SOT23-D4	SOT89-N
LL34	SOT23-D5	
LL41	SOT23-D6	
MLL34	SOT23-D7	SOT223-D1
MLL41	SOT23-D8	
	SOT23-N	
	UMD-D1	
DOS214	UMD-D2	
SMB	UMD-D3	
SMC	UMD-D4	
SOD80	UMD-D5	
SOD106	UMD-D6	
SOD110	UMD-D7	
60A2	UMD-D8	
	UMD-DN	
	SC59	
FMD	SC59-D1	
IMD	SC59-D5	
UMB	SC59-D6	
SOT143	SC59-N	
	EM3-	
	EM-D5	
	EM-D6	
	EM-D8	
	EM3-N	

Transistors

Tantalum Capacitors



SOT23
TO236
EM3
UMT
SC59



SOT89



SOT223-3
SOT223-4



DPAK
TO252



TO263



TANT-A
TANT-B
TANT-C
TANT-D
TANT-E
TANT-H

All the transistor packs have pin numbers (rather than names) so that devices in ISIS with different pinnings – especially Bipolars and FETs can use the same footprint.

Tantalum capacitors are often available in rectangular packs with leads folded under the end. We have adopted the names used by Hitachi in their TMC range. The following table gives equivalents for other manufacturers.

Typical Size(mm)	Hitachi TMC	AVX TAJ	Siemens B45196	Kemet T491	Natpan ECST	NEC NR	Sprague 293D	Mial
3.2x1.6	A	A	A	Y	A	A	-	A
3.5x2.8	B	B	B	B	X	B2	B	B
4.8x2.6	H	-	-	-	B	B	-	-
5.8x4.5	D	-	-	-	-	-	E	-
6.0x3.2	C	C	C	C	C	C	C	C
7.3x4.3	E	D	D	D	D	D	D	D/D0

Chip Capacitors and Resistors



- 0402
- 0603
- 0805
- 1206
- 1210
- 1812
- 2010
- 2220
- 2225
- 2512
- 2824
- 3827

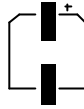
Only chip outlines are supplied. Other packages that are used may be copied from the diode packages and renamed with pins numbered '1' and '2' instead of 'K' and 'A'. The following chip sizes are supplied: 0402, 0603, 0805, 1206, 1210, 1812, 2010, 2220, 2225, 2512, 2824, 3827. These packs are also used extensively in ceramic chip capacitors. The packs are drawn with the pad width approximately the same width as the chip. The landing zone (length of pad exposed past the ends of chip) is not excessive, to allow close packing of components. This may make the pads inappropriate for tall chip components or placement machines that are not of very fine tolerance. If a few more thou are needed on the ends of the chip for more reliable construction with your board manufacturer, it is acceptable to increase the pad sizes without moving the centres. Note also that the maximum track size between the pads and packing density are limited. In general allow at least 15 thou clearance around the pads, but again it is best to check with your board manufacturer.



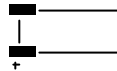
XTAL
(EAIJ-1009B & EIA-418A)

Most surface mount crystals share the same footprint (EAIJ-1009B or EIA-418A) so this is supplied with the name XTAL.

Electrolytic Capacitors



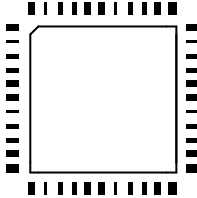
ELECT-3
ELECT-4
ELECT-5
ELECT-6.3
ELECT-8x6
ELECT-8x10
ELECT-10x10



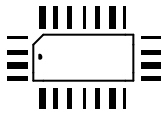
ELECT-A6
ELECT-B6
ELECT-C6
ELECT-D6
ELECT-D8
ELECT-D10
ELECT-D13
ELECT-H15
ELECT-H20
ELECT-H25

Two electrolytic capacitor families are supplied. No data on equivalent packages was available at the time this library was drawn up. Nichicon electrolytics have a vertical can on a square base. The ranges UP, UR, UX, UT, UZ, WX are supported. Packages supplied are : ELECT-3, ELECT-4, ELECT-5, ELECT-6.3, ELECT-8X8, ELECT-8X10, ELECT-10X10.

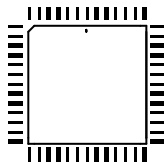
Nippon Chemi-Con are rectangular with the connections at one end. The outlines supplied are : ELECT-A6, ELECT-B6, ELECT-C6, ELECT-D6, ELECT-D8, ELECT-D10, ELECT-D13, ELECT-H15, ELECT-H20, ELECT-H25.

LCC – Leaded Chip Carrier

LCC16
LCC20
LCC24
LCC28
LCC44
LCC52
LCC68
LCC84
LCC100
LCC124
LCC156

PLCC – Plastic Leaded Chip Carrier

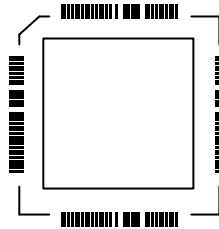
PLCC18/R
PLCC22/R
PLCC28/R
PLCC32/R



PLCC20
PLCC28
PLCC44
PLCC52
PLCC68
PLCC84
PLCC100
PLCC124

IPC-SM-782 Land pattern Standardr recommended pad sizes. N.B. Mitsubishi recommend smaller pads (50x30 thou) but have the same distances between the inner edges.

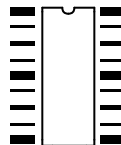
CLCC – Ceramic Leaded Chip Carrier



- CLCC52
- CLCC68
- CLCC100
- CLCC132

JEDEC standard parts. Pins on 25 or 50 thou and chip mount plate always 0.95 in. sq.

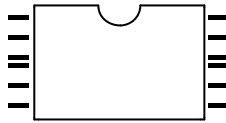
SOP – Small Outline Packs



- SOP6
- SOP8
- SOP10
- SOP12
- SOP14
- SOP16
- SOP18
- SOP20
- SOP22
- SOP24
- SOP26
- SOP28
- SOP30
- SOP32
- SOP36
- SOP40
- SOP42

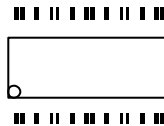
Naming scheme represents number of pins in pack, then row spacing in inches.

TSOP – Thin Small Outline Packs



- TSOP6X14
- TSOP6X16
- TSOP6X18
- TSOP6X20
- TSOP8
- TSOP8X14
- TSOP8X16
- TSOP8X18
- TSOP8X20
- TSOP10X14
- TSOP10X16
- TSOP10X18
- TSOP10X20
- TSOP12X14
- TSOP12X16
- TSOP12X18
- TSOP12X20

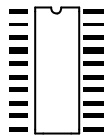
VSOP – Very Small Outline Pack



- VSOP48
- VSOP56

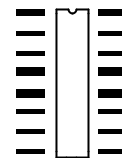
These two packs are used by IDT and are part of the JEDEC standard. They have pins on a 25 thou pitch. IDT calls them Shrink SOPs, but this could cause confusion with the SSO parts in this library.

SOJ – Small Outline J-lead



- SOJ14/300
- SOJ14/350
- SOJ14/400
- SOJ14/450
- SOJ16/300
- SOJ16/350
- SOJ16/400
- SOJ16/450
- SOJ18/300
- SOJ18/350
- SOJ18/400
- SOJ18/450
- SOJ20/300
- SOJ20/350
- SOJ20/400
- SOJ20/450
- SOJ22/300
- SOJ22/350
- SOJ22/400
- SOJ22/450
- SOJ24/300
- SOJ24/350
- SOJ24/400
- SOJ24/450
- SOJ26/300
- SOJ26/350
- SOJ26/400
- SOJ26/450
- SOJ28/300
- SOJ28/350
- SOJ28/400
- SOJ28/450

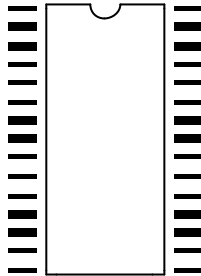
SOIC – Small Outline Integrated Circuit



- SO8
- SO8W
- SO14
- SO14W
- SO16
- SO16W
- SO20W
- SO24W
- SO24X
- SO28W
- SO28X
- SO32W
- SO32X
- SO36W
- SO36X

These packaged are named by the number of pins, and then the pitch between rows in inches.

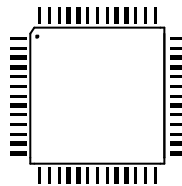
SSO – Shrink Small Outline Packs



SSO48
SSO56
SSO64

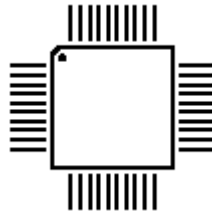
Pins are spaced by 0.8mm. Naming indicates number of pins, then rows spacing in inches.

CQFP – Ceramic Quad Flat Packs



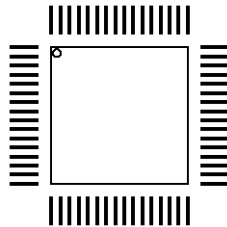
CQFP28
CQFP36
CQFP44
CQFP52
CQFP68
CQFP84
CQFP100
CQFP120
CQFP128
CQFP132
CQFP144
CQFP148
CQFP160
CQFP164
CQFP196

SQFP – Square Quad Flat Packs



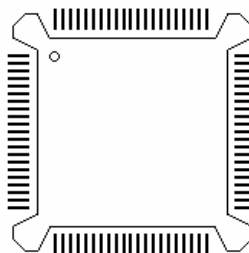
SQFP10X14-80	SQFP76-7X10	SQFP168-14X14	SQFP304-32X32
SQFP24-5X5	SQFP80-7X7	SQFP176-14X14	SQFP304-40X40
SQFP32-5X5	SQFP80-10X10	SQFP176-20X28	SQFP308-20X28
SQFP32-5X7	SQFP80-12X12	SQFP176-24X24	SQFP312-32X32
SQFP32-6X6	SQFP88-10X10	SQFP184-20X20	SQFP312-40X40
SQFP32F-5X5	SQFP88-10X14	SQFP184-20X28	SQFP324-28X40
SQFP40-5X5	SQFP88-12X12	SQFP184-24X24	SQFP332-28X40
SQFP40-5X7	SQFP92-7X10	SQFP192-20X20	SQFP336-44X44
SQFP40-6X6	SQFP100-7X10	SQFP208-14X20	SQFP344-36X36
SQFP40-7X7	SQFP100-10X14	SQFP208-28X28	SQFP344-44X44
SQFP40F-6X6	SQFP100-12X12	SQFP216-14X20	SQFP352-28X28
SQFP44-5X7	SQFP100-14X14	SQFP216-28X28	SQFP352-36X36
SQFP48-5X5	SQFP108-10X14	SQFP224-20X28	SQFP360-28X28
SQFP48-6X6	SQFP108-12X12	SQFP224-24X24	SQFP384-40X40
SQFP48-7X7	SQFP108-14X14	SQFP232-20X28	SQFP392-40X40
SQFP52-5X7	SQFP112-10X10	SQFP232-24X24	SQFP400-32X32
SQFP52-7X10	SQFP120-10X10	SQFP240-32X32	SQFP408-32X32
SQFP56-5X5	SQFP120-14X14	SQFP248-20X20	SQFP424-44X44
SQFP56-6X6	SQFP120-14X20	SQFP248-32X32	SQFP432-28X40
SQFP56-7X7	SQFP128-14X14	SQFP256-20X20	SQFP432-44X44
SQFP60-5X7	SQFP128-14X20	SQFP256-28X40	SQFP440-28X40
SQFP60-7X10	SQFP136-12X12	SQFP264-28X28	SQFP456-36X36
SQFP64-6X6	SQFP140-10X14	SQFP264-28X40	SQFP464-36X36
SQFP64-7X7	SQFP144-12X12	SQFP272-28X28	SQFP512-40X40
SQFP64-10X10	SQFP144-20X20	SQFP272-36X36	SQFP520-40X40
SQFP68-5X7	SQFP148-10X14	SQFP280-36X36	SQFP568-44X44
SQFP68-7X10	SQFP152-14X20	SQFP296-24X24	SQFP576-44X44
SQFP70-7X7	SQFP152-20X20	SQFP300-20X28	
SQFP72-10X10	SQFP160-14X20	SQFP304-24X24	

QFP – Quad Flat Packs



- QFP44
- QFP44-10X10
- QFP48-12X12
- QFP52-10X10
- QFP64
- QFP6412X12
- QFP64-14X14
- QFP80-14X14
- QFP80-14X20
- QFP100-14X20
- QFP120-28X28
- QFP128-28X28
- QFP144-28X28
- QFP160-28X28
- QFP184-32X32
- QFP232-40X40

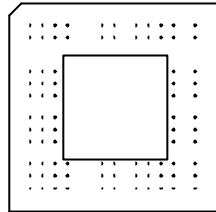
PQFP – Plastic Quad Flat Packs



- PQFP84
- PQFP100
- PQFP132
- PQFP164
- PQFP196
- PQFP244

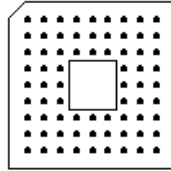
Pad dimension source from IPC-SM-782 Land pattern Standard

BGA – Ball Grid Array_1



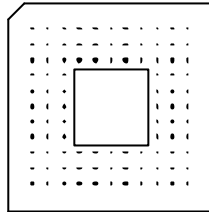
BGA7_25_1	BGA21_361-4_1	BGA31_900-3_1	BGA42.5_1764_1
BGA7_36_1	BGA21_361-5_1	BGA31_900-4_1	BGA45_1849-3_1
BGA8_36_1	BGA21_361_1	BGA31_900-5_1	BGA45_1849-4_1
BGA8_49_1	BGA21_400-3_1	BGA31_900_1	BGA45_1849-5_1
BGA9_49_1	BGA21_400-4_1	BGA33_961-3_1	BGA45_1849_1
BGA9_64_1	BGA21_400-5_1	BGA33_961-4_1	BGA45_1936-3_1
BGA10_64_1	BGA21_400_1	BGA33_961-5_1	BGA45_1936-4_1
BGA10_81_1	BGA23_441-3_1	BGA33_961_1	BGA45_1936-5_1
BGA11_81_1	BGA23_441-4_1	BGA33_1024-3_1	BGA45_1936_1
BGA11_100_1	BGA23_441-5_1	BGA33_1024-4_1	BGA47.5_2116-3_1
BGA12_100-3_1	BGA23_441_1	BGA33_1024-5_1	BGA47.5_2116-4_1
BGA12_100_1	BGA23_484-3_1	BGA33_1024_1	BGA47.5_2116-5_1
BGA12_121-3_1	BGA23_484-4_1	BGA35_1089-3_1	BGA47.5_2116_1
BGA12_121_1	BGA23_484-5_1	BGA35_1089-4_1	BGA47.5_2209-3_1
BGA13_121-3_1	BGA23_484_1	BGA35_1089-5_1	BGA47.5_2209-4_1
BGA13_121_1	BGA25_529-3_1	BGA35_1089_1	BGA47.5_2209-5_1
BGA13_144-3_1	BGA25_529-4_1	BGA35_1156-3_1	BGA47.5_2209_1
BGA13_144_1	BGA25_529-5_1	BGA35_1156-4_1	BGA50_2304-3_1
BGA14_144-3_1	BGA25_529_1	BGA35_1156-5_1	BGA50_2304-4_1
BGA14_144_1	BGA25_576-3_1	BGA35_1156_1	BGA50_2304-5_1
BGA14_169-3_1	BGA25_576-4_1	BGA37.5_1296-3_1	BGA50_2304_1
BGA14_169_1	BGA25_576-5_1	BGA37.5_1296-4_1	BGA50_2401-3_1
BGA15_169-3_1	BGA25_576_1	BGA37.5_1296-5_1	BGA50_2401-4_1
BGA15_169-4_1	BGA27_625-3_1	BGA37.5_1296_1	BGA50_2401-5_1
BGA15_169_1	BGA27_625-4_1	BGA37.5_1369-3_1	BGA50_2401_1
BGA15_196-3_1	BGA27_625-5_1	BGA37.5_1369-4_1	
BGA15_196-4_1	BGA27_625_1	BGA37.5_1369-5_1	
BGA15_196_1	BGA27_676-3_1	BGA37.5_1369_1	
BGA17_225-3_1	BGA27_676-4_1	BGA40_1444-3_1	
BGA17_225-4_1	BGA27_676-5_1	BGA40_1444-4_1	
BGA17_225_1	BGA27_676_1	BGA40_1444-5_1	
BGA17_256-3_1	BGA29_729-3_1	BGA40_1444_1	
BGA17_256-4_1	BGA29_729-4_1	BGA40_1521-3_1	
BGA17_256_1	BGA29_729-5_1	BGA40_1521-4_1	
BGA19_289-3_1	BGA29_729_1	BGA40_1521-5_1	
BGA19_289-4_1	BGA29_784-3_1	BGA40_1521_1	
BGA19_289-5_1	BGA29_784-4_1	BGA42.5_1681-3_1	
BGA19_289_1	BGA29_784-5_1	BGA42.5_1681-4_1	
BGA19_324-3_1	BGA29_784_1	BGA42.5_1681-5_1	
BGA19_324-4_1	BGA31_841-3_1	BGA42.5_1681_1	
BGA19_324-5_1	BGA31_841-4_1	BGA42.5_1764-3_1	
BGA19_324_1	BGA31_841-5_1	BGA42.5_1764-4_1	
BGA21_361-3_1	BGA31_841_1	BGA42.5_1764-5_1	

BGA – Ball Grid Array_1.27

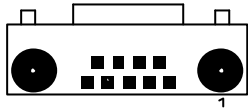


BGA7_16_1.27	BGA19_169_1.27	BGA29_441_1.27	BGA40_900_1.27
BGA7_25_1.27	BGA19_196-3_1.27	BGA29_484-3_1.27	BGA40_961-3_1.27
BGA8_25_1.27	BGA19_196-4_1.27	BGA29_484-4_1.27	BGA40_961-4_1.27
BGA8_36_1.27	BGA19_196-5_1.27	BGA29_484-5_1.27	BGA40_961-5_1.27
BGA9_25_1.27	BGA19_196_1.27	BGA29_484_1.27	BGA40_961_1.27
BGA9_36_1.27	BGA21_225-3_1.27	BGA31_529-3_1.27	BGA42.5_1024-3_1.27
BGA10_36_1.27	BGA21_225-4_1.27	BGA31_529-4_1.27	BGA42.5_1024-4_1.27
BGA10_49_1.27	BGA21_225-5_1.27	BGA31_529-5_1.27	BGA42.5_1024-5_1.27
BGA11_49_1.27	BGA21_225_1.27	BGA31_529_1.27	BGA42.5_1024_1.27
BGA11_64_1.27	BGA21_256-3_1.27	BGA31_576-3_1.27	BGA42.5_1089-3_1.27
BGA12_64_1.27	BGA21_256-4_1.27	BGA31_576-4_1.27	BGA42.5_1089-4_1.27
BGA12_81-3_1.27	BGA21_256-5_1.27	BGA31_576-5_1.27	BGA42.5_1089-5_1.27
BGA12_81_1.27	BGA21_256_1.27	BGA31_576_1.27	BGA42.5_1089_1.27
BGA13_81-3_1.27	BGA23_289-3_1.27	BGA33_576-3_1.27	BGA45_1156-3_1.27
BGA13_81_1.27	BGA23_289-4_1.27	BGA33_576-4_1.27	BGA45_1156-4_1.27
BGA13_100-3_1.27	BGA23_289-5_1.27	BGA33_576-5_1.27	BGA45_1156-5_1.27
BGA13_100-4_1.27	BGA23_289_1.27	BGA33_576_1.27	BGA45_1156_1.27
BGA13_100_1.27	BGA23_324-3_1.27	BGA33_625-3_1.27	BGA45_1225-3_1.27
BGA14_81-3_1.27	BGA23_324-4_1.27	BGA33_625-4_1.27	BGA45_1225-4_1.27
BGA14_81_1.27	BGA23_324-5_1.27	BGA33_625-5_1.27	BGA45_1225-5_1.27
BGA14_100-3_1.27	BGA23_324_1.27	BGA33_625_1.27	BGA45_1225_1.27
BGA14_100-4_1.27	BGA25_324-3_1.27	BGA35_676-3_1.27	BGA47.5_1296-3_1.27
BGA14_100_1.27	BGA25_324-4_1.27	BGA35_676-4_1.27	BGA47.5_1296-4_1.27
BGA15_100-3_1.27	BGA25_324-5_1.27	BGA35_676-5_1.27	BGA47.5_1296-5_1.27
BGA15_100-4_1.27	BGA25_324_1.27	BGA35_676_1.27	BGA47.5_1296_1.27
BGA15_100_1.27	BGA25_361-3_1.27	BGA35_729-3_1.27	BGA47.5_1369-3_1.27
BGA15_121-3_1.27	BGA25_361-4_1.27	BGA35_729-4_1.27	BGA47.5_1369-4_1.27
BGA15_121-4_1.27	BGA25_361-5_1.27	BGA35_729-5_1.27	BGA47.5_1369-5_1.27
BGA15_121_1.27	BGA25_361_1.27	BGA35_729_1.27	BGA47.5_1369_1.27
BGA17_144-3_1.27	BGA27_400-3_1.27	BGA37.5_784-3_1.27	BGA50_1444-3_1.27
BGA17_144-4_1.27	BGA27_400-4_1.27	BGA37.5_784-4_1.27	BGA50_1444-4_1.27
BGA17_144-5_1.27	BGA27_400-5_1.27	BGA37.5_784-5_1.27	BGA50_1444-5_1.27
BGA17_144_1.27	BGA27_400_1.27	BGA37.5_784_1.27	BGA50_1444_1.27
BGA17_169-3_1.27	BGA27_441-3_1.27	BGA37.5_841-3_1.27	BGA50_1521-3_1.27
BGA17_169-4_1.27	BGA27_441-4_1.27	BGA37.5_841-4_1.27	BGA50_1521-4_1.27
BGA17_169-5_1.27	BGA27_441-5_1.27	BGA37.5_841-5_1.27	BGA50_1521-5_1.27
BGA17_169_1.27	BGA27_441_1.27	BGA37.5_841_1.27	BGA50_1521_1.27
BGA19_169-3_1.27	BGA29_441-3_1.27	BGA40_900-3_1.27	
BGA19_169-4_1.27	BGA29_441-4_1.27	BGA40_900-4_1.27	
BGA19_169-5_1.27	BGA29_441-5_1.27	BGA40_900-5_1.27	

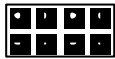
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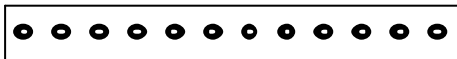
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BGA8_16_1.5	BGA21_169-5_1.5	BGA31_361-3_1.5	BGA40_676-5_1.5
BGA8_25_1.5	BGA21_169_1.5	BGA31_361-4_1.5	BGA40_676_1.5
BGA9_25_1.5	BGA21_196-3_1.5	BGA31_361-5_1.5	BGA42.5_729-3_1.5
BGA9_36_1.5	BGA21_196-4_1.5	BGA31_361_1.5	BGA42.5_729-4_1.5
BGA10_25_1.5	BGA21_196-5_1.5	BGA31_400-3_1.5	BGA42.5_729-5_1.5
BGA10_36_1.5	BGA21_196_1.5	BGA31_400-4_1.5	BGA42.5_729_1.5
BGA11_36_1.5	BGA23_196-3_1.5	BGA31_400-5_1.5	BGA42.5_784-3_1.5
BGA11_49_1.5	BGA23_196-4_1.5	BGA31_400_1.5	BGA42.5_784-4_1.5
BGA12_49_1.5	BGA23_196-5_1.5	BGA33_441-3_1.5	BGA42.5_784-5_1.5
BGA12_64-3_1.5	BGA23_196_1.5	BGA33_441-4_1.5	BGA42.5_784_1.5
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BGA13_49_1.5	BGA23_225-4_1.5	BGA33_441_1.5	BGA45_841-4_1.5
BGA13_64-3_1.5	BGA23_225-5_1.5	BGA33_484-3_1.5	BGA45_841-5_1.5
BGA13_64_1.5	BGA23_225_1.5	BGA33_484-4_1.5	BGA45_841_1.5
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BGA15_81-3_1.5	BGA25_256-3_1.5	BGA35_484-5_1.5	BGA47.5_900-3_1.5
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BGA17_100-3_1.5	BGA27_289-4_1.5	BGA35_529_1.5	BGA47.5_961-4_1.5
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BGA17_121-4_1.5	BGA27_324-4_1.5	BGA37.5_576_1.5	BGA50_1024-4_1.5
BGA17_121_1.5	BGA27_324-5_1.5	BGA37.5_625-3_1.5	BGA50_1024-5_1.5
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 CONN-D15S
 CONN-D25
 CONN-D37



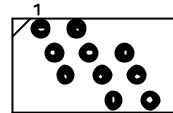
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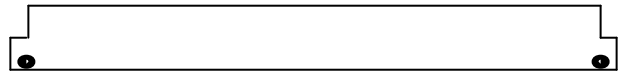
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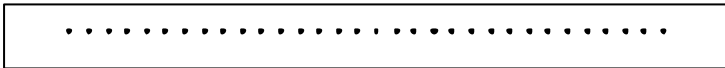
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 CONN-SIL10
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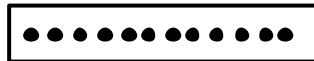
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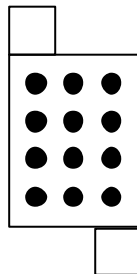
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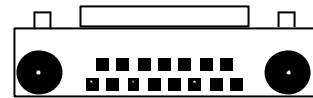
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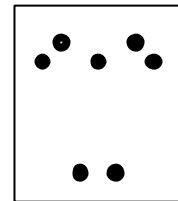
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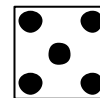
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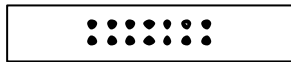
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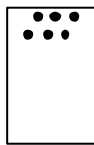
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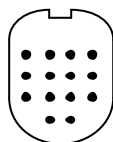
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 RF-SMX-S



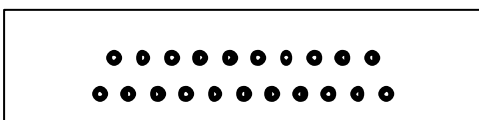
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 RIB 30 R
 RIB 30 S
 RIB 34 R
 RIB 34 S
 RIB 40 R
 RIB 40 S
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 RJ-8-R



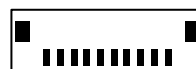
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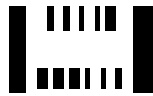
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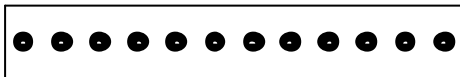
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 SIL-100-08R
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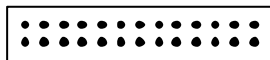
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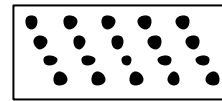
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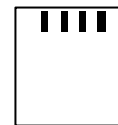
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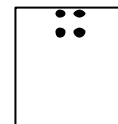
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 TRANS-16-Q
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 TRANS-50-Q



USB



USB-B



XLR-3-F
 XLR-3-M