JAN MIL-M-38510
Integrated Circuits

MILITARY PRODUCTS

MIL-M-38510 AND MIL-STD-883
Military High-Reliability Integrated Circuits

The Texas Instruments MIL-M-38510 and MIL-STD-883 programs offer several options designed to meet system cost, reliability, lead time, and contract requirements. The following are the key features of the options available for MIL-M-38510 and MIL-STD-883 Class B applications:

JAN-Processed TI SNJ

- Produced under MIL-M-38510 guidelines with all chips manufactured in a DESC-certified front end facility
- Fully tested per MIL-STD-883 method 5004 Class B
- Includes device types covered by MIL-M-38510 part numbers and circuits not yet covered by MIL numbers
- Electrical and mechanical characteristics per TI data sheets
- Marked with 38510 part numbers where applicable
- Each lot includes Certificate of Conformance and Group A Summary Report
- Approximately one-half the cost of JAN-Qualified IC's

SNC/MACH-IV (883B)

- Cost effective — approximately one-third the cost of JAN-Qualified IC's
- Produced under MIL-M-38510 guidelines with all chips manufactured in a DESC-certified front end facility
- Tested per MIL-STD-883 method 5004 Class B and TI 38510/MACH-IV specification, Section 9 of this catalog
- Tested per MIL-STD-883 method 5004 Class B and TI 38510/MACH-IV specification, Section 9 of this catalog
- Electrical and mechanical characteristics per TI data sheets
- Available in broad product spectrum including SSI, MSI, and LSI, both bipolar and MOS

JAN-Qualified

- Qualified per MIL-M-38510 Class B
- Produced per MIL-STD-883 and MIL-M-38510 Class B and appropriate slash sheets
- Produced in DESC-certified domestic production facility
- Applicable devices and packages

PRODUCT	A	C	D	E	F	G	I	J	L	T	V	W
SERIES 54 TTL		X	X	X	X			X	X			
SERIES 54H TTL		X	X	X	X							
SERIES 54L TTL*										X		
SERIES 54LS TTL		X	X	X	X			X	X			
SERIES 54S TTL		X	X	X	X			X	X			
LINEAR CONTROL		X					X	X				
SERIES 55 INTERFACE		X		X								
MOS LSI										X	X	X
LEAD FINISH B		X	X	X	X			X	X		X	X
LEAD FINISH C/D						X	X			X		

* PER MIL-M-0038510B, Class S.

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How to Order

See Tables I, II and III for device, package and lead-finish cross-reference.

• JAN-Processed/TI SNJ

	Device type covered by 38510 part number:		Device type not covered by 38510 part number:	
Device	SN5400J	883 Class B	Device	SN54LS298J	883 Class B
Order	SNJ5400J			SNJ54LS298J	
Marking	{ SNJ5400J { 38510/00104BCB		Marking	{ SNJ54LS298J { 38510B	

• SNC/MACH-IV

Device	SNC5400J	883 Class B
Order	SNC5400J	
Marking	SNC5400J	

• JAN-Qualified

Device	SN5400J	883 Class B
Order	JM38510/00104BCB	
Marking	JM38510/00104BCB	

Table I Part Numbers

EXAMPLE: 5400 TTL NAND gate in ceramic dual-in-line package to 883 Class B with standard tin-plated leads.

• JAN QUALIFIED   JM 38510/ | 00104 | B | | C | | B |

• JAN PROCESSED/TI SNJ   SN | J | 5400 | | J | | 00 |

• SNC/MACH-IV   † SN | C | 5400 | | J | | 00 |

MIL-STD-883
CLASS B SCREENING ONLY

MIL-M-38510 SLASH SHEET
AND DEVICE TYPE
SEE TABLE II & III

CASE OUTLINE

JAN	PACKAGE	SNJ SNC/MACH-IV
A	1/4" x 1/4" FLAT-14	U/FB
B/T *	1/4" x 1/8" FLAT-14	T
C	DIP-14	J
D	1/4" x 3/8" FLAT-14	W
E	DIP-16	J
F	1/4" x 3/8" FLAT-16	W/SB
G	T0-99	L
H	1/4" x 1/4" FLAT-10	U
I	T0-100	L
J	DIP-24	J
K	3/8" x 5/8" FLAT-24	W
L	3/8" x 1/2" FLAT-24	W
V	DIP-18	JR §
W	DIP-22	JR §
X	T0-5	—
Y	T0-3	—
Z	1/4" X 3/8" FLAT-24	—

LEAD FINISH

JAN	TYPE	SNJ SNC/MACH-IV
A	SOLDER DIP	10
B	TIN-PLATE	00
C/D *	GOLD-PLATE	00'
X	OPTIONAL **	

*Per MIL-M-0038510B, Class S.

**Finish B or C at TI's option. Devices will
be marked B or C as applicable.

†Prefix designation for MOS/LSI is "SMC."

§ R denotes temperature range.

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Screening — Class B

SCREEN	JAN QUALIFIED		SNJ JAN PROCESSED		SNC MACH-IV	
	METHOD	RQMT	METHOD	RQMT	METHOD	RQMT
Internal Visual (Precap)	2010.2 Cond B and 38510	100%	2010.2 Cond B and 38510	100%	2010.2 Cond B and 38510	100%
Stabilization Bake	1008.1 24 hrs min test Cond C	100%	1008.1 24 hrs min test Cond C	100%	1008.1 24 hrs min test Cond C	100%
Temperature Cycling	1010.1 Cond C	100%	1010.1 Cond C	100%	1010.1 Cond C	100%
Constant Acceleration	2001.1 Cond E (min) in Y_1 plane	100%	2001.1 Cond E (min) in Y_1 plane	100%	2001.1 Cond E (min) in Y_1 plane	100%
Seal (a) Fine (b) Gross	1014.1	100%	1014.1	100%	1014.1 (cond C_1)	100%
Interim Electrical	JAN slash-sheet electrical specifications	As applicable	TI data sheet electrical specifications	As applicable	TI data sheet electrical specifications	As applicable
Burn-in test	1015.1 160 hrs @ 125°C min	100%	1015.1 160 hrs @ 125°C min	100%	1015.1 160 hrs @ 125°C min	100%
Final Electrical Tests (a) Static tests (1) 25°C (Subgroup 1, table 1, 5005.3)	JAN slash-sheet electrical specifications	100%	TI data sheet electrical specifications	100%	TI data sheet electrical specifications	100%
(2) Max and min rated op. temperature (subgroups 2 and 3, table 1, 5005.3)		100%		100%		100% Note 1
(b) Dynamic tests and switching tests 25°C (subgroup 4 and 9, table 1, 5005.3)		100%		100%		
(c) Functional test 25°C (subgroup 7, table 1, 5005.3)		100%		100%		100%
Qualification or quality conformance inspection	5005.3 Class B	per 38510	5005.3 Class B	per 38510 Note 2	5005.3 Class B	per 38510 Note 2
External Visual	2009.1	100%	2009.1	100%	2009.1	100%

NOTES: 1. Temperature guardband test may be used in lieu of 100% test for digital bipolar only.
2. Group A per 5005.3. Generic data available for groups B, C, and D.

For MIL-M-38510/MIL-STD-883 Class A/S

For critical space and satellite applications, SAMSO Class S JAN-Qualified TTL flat pack devices are available per MIL-M-0038510B including:

CIRCUIT TYPE	JAN NO.
SN54L00T	JM38510/02004STD
SN54L01T	JM38510/02006STD
SN54L02T	JM38510/02701STD
SN54L04T	JM38510/02005STD
SN54L10T	JM38510/02003STD
SN54L20T	JM38510/02002STD
SN54L30T	JM38510/02001STD
SN54L51T	JM38510/04101STD
SN54L54T	JM38510/04104STD
SN54L71T	JM38510/02101STD
SN54L74T	JM38510/02105STD
SN54L78T	JM38510/02104STD
SN54L86T	JM38510/02601STD
SN54L91T	JM38510/02806STD
SN54L95T	JM38510/02801STD
SN54L121T	JM38510/04201STD
SN54L122T	JM38510/04202STD
SN54L164T	JM38510/02802STD
SN5400T	JM38510/00104STD
SN5401T	JM38510/00107STD

CIRCUIT TYPE	JAN NO.
SN5402T	JM38510/00401STD
SN5404T	JM38510/00105STD
SN5410T	JM38510/00103STD
SN5420T	JM38510/00102STD
SN5440T	JM38510/00301STD
SN5472T	JM38510/00201STD
SN5473T	JM38510/00202STD
SN5474T	JM38510/00205STD
SN5493T	JM38510/01302STD
SN5495T	JM38510/00901STD
SN54121T	JM38510/01201STD
SN54H00T	JM38510/02304STD

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TABLE I. JAN INTEGRATED CIRCUITS AND CIRCUIT-TYPE CROSS-REFERENCE

JAN /NO.	CKT TYPE	JAN /NO.	CKT TYPE	JAN /NO.	CKT TYPE	JAN /NO.	CKT TYPE
00101	5430	01307	5490	03001	15930	06005	10507‡
00102	5420	01308	54192	03002	15935	06006	10509‡
00103	5410	01309	54193	03003	15936	06101	10531‡
00104	5400	01310†	54196	03004	15946	06102	10631‡
00105	5404	01311†	54197	03005	15962	06103	10576‡
00106	5412	01312†	54177	03101	15932	06104	10535‡
00107	5401	01401	54150	03102	15944	06201	10504
00108	5405	01402	9312‡	03103	15957	06202	10597
00109	5403	01403	54153	03104	15958	07001	54S00
00201	5472	01404	9309	03105	15933	07002	54S03
00202	5473	01405	54157	03201	15951	07003	54S04
00203	54107	01406	54151	03301	15945	07004	54S05
00204	5476	01501	5475	03302	15948	07005	54S10
00205	5474	01502	5477	03303	15950	07006	54S20
00206	5470	01503	54116	03304	9094	07007	54S22
00207	5479‡	01504	9314‡	03501	MH0026	07008	54S30
00301	5440	01601	5408	04001	54H50	07009	54S133
00302	5437	01602	5409	04002	54H51	07010	54S134
00303	5438	01701	54174	04003	54H53	07101	54S74
00401	5402	01702	54175	04004	54H54	07102	54S112
00402	5423	01703†	54173	04005	54H55	07103	54S113
00403	5425	01801	54170	04101	54L51	07104	54S114
00404	5427	01901	54180	04102	54L54	07105	54S174
00501	5450	02001	54L30	04103	54L55	07106	54S175
00502	5451	02002	54L20	04104♦	54L54	07201	54S40
00503	5453	02003	54L10	04201	54L121	07301	54S02
00504	5454	02004	54L00	04202	54L122	07401	54S51
00601	5482	02005	54L04	04301	93L18	07402	54S64
00602	5483	02006	54L01/54L03	04401	93L24	07403	54S65
00603	9304‡	02101	54L71	04501†	93L14	07501	54S86
00604	5480	02102	54L72	04502†	93L08	07502	54S135
00701	5486	02103	54L73	04601	93L09	07601†	54S194
00801	5406	02104	54L78	04602	93L12	07602†	54S195
00802	5416	02105	54L74	04603	93L22	07701†	54S138
00803	5407	02201	54H72	05001	4011A	07702†	54S139
00804	5417	02202	54H73	05002	4012A	07703†	54S280
00805	5426	02203	54H74	05003	4023A	07801	54S181
00901	5495	02204	54H76	05101	4013A	07802	54S182
00902	5496	02205	54H101	05102	4027A	07901	54S151
00903	54164	02206	54H103	05201	4000A	07902	54S153
00904	54165	02301	54H30	05202	4001A	07903	54S157
00905	54194	02302	54H20	05203	4002A	07904	54S158
00906	54195	02303	54H10	05204	4025A	07905	54S251
00907†	9300‡	02304	54H00	05301	4007A	07906	54S257
00908†	9328	02305	54H04	05302	4019A	07907	54S258
00909†	54198	02306	54H01	05303	4030A	08001	54S11
00910†	54166	02307	54H22	05401	4008A	08002	54S15
01001	5442	02401	54H40	05501	4009A	08003†	54S08
01002	5443	02501	54L90	05502	4010A	08004†	54S09
01003	5444	02502	54L93	05503	4049A	08101	54S140
01004	5445	02503	54L193	05504	4050A	08201	54S85
01005	54145	02504	93L10	05505	4041A	10101	uA741
01006	5446	02505	93L16	05601	4017A	10102	uA747
01007	5447	02601	54L86	05602	4018A	10103	LM101A
01008	5448	02701	54L02	05603	4020A	10104	LM108A
01009	5449	02801	54L95	05604	4022A	10105	LH2101A
01101	54181	02802	54L164	05605	4024A	10106	LH2108A
01102	54182	02803	93L28‡	05701	4006A	10107	LM118
01201	54121	02804	93L00	05702	4014A	10201	uA723
01202	54122	02805	76L70	05703	4015A	10202†	LM104
01203	54123	02806♦	54L91	05704	4021A	10203†	LM105
01204	9601	02901	54L42	05705	4031A	10301	uA710
01205	9602	02902	54L43	05706	4034A	10302	uA711
01301	5492	02903	54L44	05801†	4016A	10303	LM106
01302	5493	02904	54L46	06001	10501‡	10304	LM111
01303	54160	02905	54L47	06002	10502‡	10305†	LM2111
01304	54163	02906	76L42A	06003	10505‡	10401	55107
01305	54162	02907	93L01	06004	10506‡	10402	55108
01306	54161						

NOTE: Only the basic JAN and commercial numbers are shown.

† Slash sheets not released as of date of this publication.

‡ Not recommended for new designs.

♦ Class S only.

MILITARY PRODUCTS

TABLE I. JAN INTEGRATED CIRCUITS AND CIRCUIT-TYPE CROSS-REFERENCE

JAN. /NO.	CKT TYPE	JAN. /NO.	CKT TYPE	JAN. /NO.	CKT TYPE	JAN. /NO.	CKT TYPE
10403	55114	15802	9317	30104	54LS113	31001	54LS11
10404	55115	15901	9300	30105	54LS114	31002	54LS15
10405	55113	15902	9328	30106	54LS174	31003	54LS21
10406	7831	16001	9334	30107	54LS175	31004	54LS08
10407	7832	16101	5432	30108	54LS107	31101	54LS85
10501†	uA733	16201	5428	30109	54LS109	31201†	54LS83A
10601	LM102‡	20101	54186 (PROM 512)	30110	54LS76	31202†	54LS283
10602	LM110	20102	MCM5304‡	30201	54LS40	31301	54LS13
10603†	LM2110	20103†	IM5603A	30202	54LS37	31302	54LS14
10701	LM109	20201†	IM5603 (PROM 1024)	30203	54LS38	31303	54LS132
10702†	LM140-12	20202†	IM5623	30204	54LS28	31401†	54LS123
10703†	LM140-15	20301†	AM27S10	30301	54LS02	31402†	54LS221
10704†	LM140-24	20302†	AM27S11	30302	54LS27	31403†	54LS122
10801	3018A	20401†	IM5604	30303	54LS266	31501†	54LS90
10802	3045	20402†	IM5624	30401	54LS51	31502†	54LS93
10901†	SE555	20501†	HHX7620-8	30402	54LS54	31503†	54LS160
10902†	SE556	20502†	HMX7621-8	30501	54LS32	31504†	54LS161
15001	5485	20601†	HMX7640-8	30502	54LS86	31505†	54LS168
15101	5413	20602†	HMX7641-8	30601†	54LS194	31506†	54LS169
15102	5414	23001†	93410 (256 RAM)	30602†	54LS195	31507†	54LS192
15103	54132	23002†	93411 (256 RAM)	30603†	54LS95	31508†	54LS193
15201	54154	23003†	93421	30604†	54LS96	31509†	54LS191
15202	54155	23501	TMS4060 (4K RAM)	30605†	54LS164	31510†	54LS92
15203	54156	23502	TMS4050 (4K RAM)	30606†	54LS295	31511†	54LS162
15204	8250	23503	TMS4060 (4K RAM)	30607†	54LS395	31512†	54LS163
15205	8251	23504	TMS4050 (4K RAM)	30701†	54LS138	31513†	54LS190
15206	8252	30001	54LS00	30702†	54LS139	31601†	54LS75
15301	54125	30002	54LS03	30703†	54LS42	31602†	54LS279
15302	54126	30003	54LS04	30704†	54LS47	31701†	54LS124
15401†	54120	30004	54LS05	30801	54LS181	31702†	54LS324
15501	54H08	30005	54LS10	30901†	54LS151	31801†	54LS261
15502	54H11	30006	54LS12	30902†	54LS153	31901†	54LS670
15503	54H21	30007	54LS20	30903†	54LS157	32001†	54LS196
15601	54147	30008	54LS22	30904†	54LS158	32002†	54LS197
15602	54148	30009	54LS30	30905†	54LS251	32003†	54LS290
15603	9318‡	30101	54LS73	30906†	54LS257	32004†	54LS293
15701	9338	30102	54LS74	30907†	54LS258	32102†	54LS26
15801	9321	30103	54LS112	30908†	54LS253		

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TABLE II. CIRCUIT-TYPE AND JAN INTEGRATED CIRCUITS CROSS-REFERENCE

TTL 54 SERIES

CKT TYPE	JAN /NO.
5400	00104
5401	00107
5402	00401
5403	00109
5404	00105
5405	00108
5406	00801
5407	00803
5408	01601
5409	01602
5410	00103
5412	00106
5413	15101
5414	15102
5416	00802
5417	00804
5420	00102
5423	00402
5425	00403
5426	00805
5427	00404
5428	16201
5430	00101
5432	16101
5437	00302
5438	00303
5440	00301
5442	01001
5443	01002
5444	01003
5445	01004
5446	01006
5447	01007
5448	01008
5449	01009
5450	00501
5451	00502
5453	00503
5454	00504
5470	00206
5472	00201
5473	00202
5474	00205
5475	01501
5476	00204
5477	01502
5480	00604
5482	00601
5483	00602
5485	15001
5486	00701
5490	01307
5492	01301
5493	01302
5495	00901
5496	00902
54107	00203
54116	01503
54120	15401†
54121	01201
54122	01202
54123	01203
54125	15301
54126	15302

CKT TYPE	JAN /NO.
54132	15103
54145	01005
54147	15601
54148	15602
54150	01401
54151	01406
54153	01403
54154	15201
54155	15202
54156	15203
54157	01405
54160	01303
54161	01306
54162	01305
54163	01304
54164	00903
54165	00904
54166	00910†
54173	01703†
54174	01701
54175	01702
54177	01312†
54180	01901
54181	01101
54182	01102
54186	20101
54192	01308
54193	01309
54194	00905
54195	00906
54196	01310†
54197	01311†
54198	00909†

TTL 54H SERIES

CKT TYPE	JAN /NO.
54H00	02304
54H01	02306
54H04	02305
54H08	15501
54H10	02303
54H11	15502
54H20	02302
54H21	15503
54H22	02307
54H30	02301
54H40	02401
54H50	04001
54H51	04002
54H53	04003
54H54	04004
54H55	04005
54H72	02201
54H73	02202
54H74	02203
54H76	02204
54H101	02205
54H103	02206

TTL 54L SERIES

CKT TYPE	JAN /NO.
54L00	02004
54L01	02006
54L02	02701
54L03	02006
54L04	02005
54L10	02003
54L20	02002
54L30	02001
54L42	02901
54L43	02902
54L44	02903
54L46	02904
54L47	02905
54L51	04101
54L54	04102
54L54	04104♦
54L55	04103
54L71	02101
54L72	02102
54L73	02103
54L74	02105
54L78	02104
54L86	02601
54L90	02501
54L91	02806♦
54L93	02502
54L95	02801
54L121	04201
54L122	04202
54L164	02802
54L193	02503

TTL 54LS SERIES

CKT TYPE	JAN /NO.
54LS00	30001
54LS02	30301
54LS03	30002
54LS04	30003
54LS05	30004
54LS08	31004
54LS10	30005
54LS11	31001
54LS12	30006
54LS13	30301
54LS14	31302
54LS15	31002
54LS20	30007
54LS21	31003
54LS22	30008
54LS26	32102†
54LS27	30302
54LS28	30204
54LS30	30009
54LS32	30501
54LS37	30202

CKT TYPE	JAN /NO.
54LS38	30203
54LS40	30201
54LS42	30703†
54LS47	30704†
54LS51	30401
54LS54	30402
54LS73	30101
54LS74	30102
54LS75	31601†
54LS76	30110
54LS83A	31201
54LS85	31101
54LS86	30502
54LS90	31501†
54LS92	31511†
54LS93	31502†
54LS95	30603†
54LS96	30604†
54LS107	30108
54LS109	30109
54LS112	30103
54LS113	30104
54LS114	30105
54LS122	31403†
54LS123	31401†
54LS124	31701†
54LS132	31303
54LS138	30701†
54LS139	30702†
54LS151	30901†
54LS153	30902†
54LS157	30903†
54LS158	30904†
54LS160	31503†
54LS161	31504†
54LS162	31510†
54LS163	31512†
54LS164	30605†
54LS168	31505†
54LS169	31506†
54LS174	30106
54LS175	30107
54LS181	30801
54LS190	31509†
54LS191	31513†
54LS192	31507†
54LS193	31508†
54LS194	30601†
54LS195	30602†
54LS196	32001†
54LS197	32002†
54LS221	31402†
54LS251	30905†
54LS253	30908†
54LS257	30906†
54LS258	30907†
54LS261	31801†
54SL266	30303
54LS279	31602†
54LS283	31202†
54LS290	32003†
54LS293	32004†
54LS295	30606†
54LS324	31702†
54LS395	30607†
54LS670	31901†

NOTE: Only the basic JAN and commercial numbers are shown.

†Slash sheets not released as of the date of this publication.

‡Not recommended for new designs.

♦Class S only.

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MILITARY PRODUCTS

TABLE II. CIRCUIT-TYPE AND JAN INTEGRATED CIRCUITS CROSS-REFERENCE

TTL 54S SERIES CKT TYPE	JAN /NO.	MOS LSI CKT TYPE	JAN /NO.	LINEAR CONTROL SERIES CKT TYPE	JAN /NO.
54S00	07001	TMS4050	23502 (4K RAM)		
54S02	07301	TMS4050	23504 (4K RAM)	LM101A	10103
54S03	07002	TMS4060	23501 (4K RAM)	LM104	10202†
54S04	07003	TMS4060	23503 (4K RAM)	LM105	10203†
54S05	07004			LM106	10303
54S08	08003†	**CMOS**		LM108A	10104
54S09	08004†	**54H SERIES**		LM109	10701
54S10	07005	CKT TYPE	JAN /NO.	LM111	10304
54S11	08001			LM118	10107
54S15	08002			LM140-12	10702†
54S20	07006	4000A	05201	LM140-15	10703†
54S22	07007	4001A	05202	LM140-21	10704†
54S30	07008	4002A	05203	SE555	10901†
54S40	07201	4006A	05701	SE556	10902†
54S51	07401	4007A	05301	uA710	10301
54S64	07402	4008A	05401	uA711	10302
54S65	07403	4009A	05501	uA723	10201
54S74	07101	4010A	05502	uA733	10501†
54S85	08201	4011A	05001	uA741	10101
54S86	07501	4012A	05002	uA747	10102
54S112	07102	4013A	05101		
54S113	07103	4014A	05702	**LINEAR**	
54S114	07104	4015A	05703	**INTERFACE**	
54S133	07009	4016A	05801†	**SERIES**	
54S134	07010	4017A	05601	CKT TYPE	JAN /NO.
54S135	07502	4018A	05602		
54S138	07701†	4019A	05302	55107	10401
54S139	07702†	4020A	05603	55108	10402
54S140	08101	4021A	05704	55113	10405
54S151	07901	4022A	05604	55114	10403
54S153	07902	4023A	05003	55115	10404
54S157	07903	4024A	05605		
54S158	07904	4025A	05204		
54S174	07105	4027A	05102		
54S175	07106	4030A	05303		
54S181	07801	4031A	05705		
54S182	07802	4034A	05706		
54S194	07601†	4041A	05505		
54S195	07602†	4049A	05503		
54S251	07905	4050A	05504		
54S257	07906				
54S258	07907				
54S280	07703†				

NOTE: Only the basic JAN and commercial numbers are shown.
†Slash sheets not released as of date of this publication.

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