REVISIONS			
LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
L	Incorporated NOR's 5962-R110-94 and 5962-R013-96. Made Changes to table I for device type 07. Redraw entire document.	96-06-20	K.A. Cottongim
M	Inactivate device types 03, 04, and 07 for new design. Add device type 10.	98-01-28	K. A. Cottongim

REV																				
SHEET																				
REV	M	M	M	M	M	M	M													
SHEET	15	16	17	18	19	20	21													

REV STATUS OF SHEETS	REV	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14

PMIC N/A

STANDARD MICROCIRCUIT DRAWING

THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

AMSC N/A

PREPARED BY
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DRAWING APPROVAL DATE
87-08-06

REVISION LEVEL
M

DEFENSE SUPPLY CENTER COLUMBUS
P. O. BOX 3990
COLUMBUS, OHIO 43216-5000

MICROCIRCUIT, HYBRID, DIGITAL, DUAL CHANNEL, 15 VOLT DRIVER-RECEIVER, RECEIVER IDLE NORMALLY LOW

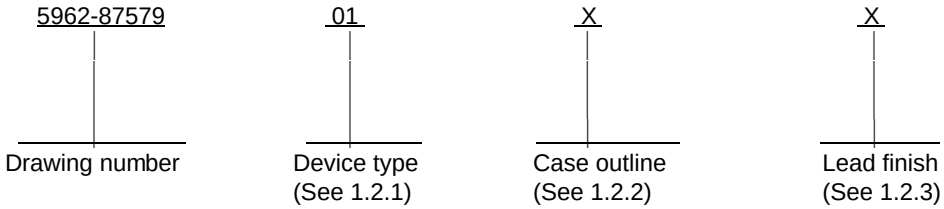
SIZE	CAGE CODE	
A	**67268**	**5962-87579**

SHEET 1 OF 21

1. SCOPE

1.1 Scope. This drawing describes device requirements for class H hybrid microcircuits to be processed in accordance with MIL-PRF-38534.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as shown in the following example:



1.2.1 Device type(s). The device type(s) shall identify the circuit function as follows:

Device types	Generic number	Circuit function 1/
01 2/	BUS-63125, BUS-63126	Dual channel, driver-receiver
02	BUS-63125II, BUS-63126II	Low power, dual channel, driver-receiver
03 3/	ARX2411	Dual channel, driver-receiver
04 3/	ARX3411	Low power, dual channel, driver-receiver
05	NHI-1500	Low power, dual channel, driver-receiver
06 4/	FC 1553623	Low power, dual channel, driver-receiver with thermal protection
07 3/	CT1487-D	Low power, dual channel, driver-receiver
08	MR63125M	Low power, dual channel, driver-receiver
09	FC 1553621	Low power, dual channel, driver-receiver
10	ACT4487-D	Low power, dual channel, driver-receiver

1.2.2 Case outline(s). The case outline(s) shall be as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	Terminals	Package style
U	See figure 1	28	Dual-in-line
X	See figure 1	36	Duall-in-line
Y	See figure 1	36	Flat package
Z	See figure 1	28	Flat package

1.2.3 Lead finish. The lead finish shall be as specified in MIL-PRF-38534.

1/ Interfaces with Manchester encoder-decoder described in Standard Microcircuit Drawing 78029.
2/ Inactive for new design as of revision A, dated 88 SEP 20.
3/ Device types 03, 04, and 07 are inactive for new design. Device type 10 replaces device types 03, 04, and 07.
4/ For device type 06 only, the the thermal protection operation is as follows:
With the thermal overide pins 4 and 13 disconnected transmission amplitude decreases as case temperature exceeds approximately 175°C and is restored as case temperature decreases. With pins 4 and 13 connected to 0 volts this feature is effectively disabled.

1.3 Absolute maximum ratings. 1/

Supply voltage range:	
V_{CC} (devices 01, 03, 04, 05, 07, 08, and 10)	-0.3 V dc to +18 V dc
V_{EE} (devices 01-04, 06, 07, 08, 09, and 10)	+0.3 V dc to -18 V dc
V_{CC1} (all devices)	-0.3 V dc to +7 V dc
Logic input voltage	-0.3 V dc to V_{CC1}
Receiver differential voltage	40 V_{P-P}
Receiver common mode voltage range	-10 V dc to +10 V dc
Driver peak output current	200 mA
Power dissipation (P_D) at T_C = +125°C:	
(devices 01 and 08)	4 W
(device 02)	3 W
(device 03)	3.3 W 2/
(devices 04 and 10)	2 W 2/
(device 05)	0.96 W 2/
(devices 06 and 09)	1.65 W 2/
(device 07)	3 W
Storage temperature range	-65°C to +150°C
Lead temperature (soldering, 10 seconds)	+300°C
Junction temperature (T_J):	
(devices 01-04, 06, 07, 08, 09, and 10)	+160°C
(device 05)	+150°C
Thermal resistance, junction-to-case (θ_{JC}):	
(devices 01 and 05)	8.8°C/W
(devices 02, 08, and 10)	7.0°C/W
(device 03)	47.2°C/W
(device 04)	88°C/W
(devices 06 and 09)	18°C/W
(device 07)	60°C/W
Thermal resistance, junction-to-ambient (θ_{JA}):	
(devices 01 and 05)	28.8°C/W
(devices 02, 08, and 10)	27.0°C/W
(device 03)	67.2°C/W
(device 04)	108°C/W
(devices 06 and 09)	35°C/W
(device 07)	80°C/W

1.4 Recommended operating conditions.

Supply voltage range:	
V_{CC} (devices 01, 03, 04, 05, 07, and 10)	+14.25 V dc to +15.75 V dc
V_{CC} (device 08)	+11.25 V dc to +15.75 V dc
V_{EE} (devices 01-04, 06, 07, 09, and 10)	-14.25 V dc to -15.75 V dc
V_{EE} (device 08)	-11.25 V dc to -15.75 V dc
V_{CC1} (all devices)	+4.5 V dc to +5.5 V dc
Logic input voltage	0 V dc to +5 V dc
Receiver differential voltage:	
(devices 01, 02, 03, 06, and 09)	30 V_{P-P}
(devices 04, 05, 07, 08, and 10)	40 V_{P-P}
Receiver common mode voltage range:	
(devices 01, 02, 03, 04, 06, and 09)	-5 V dc to +5 V dc
(devices 05, 07, 08, and 10)	-10 V dc to +10 V dc

1/ Stresses above the absolute maximum rating may cause permanent damage to the device. Extended operation at the maximum levels may degrade performance and affect reliability.
2/ One channel transmitting at 100 percent duty cycle and the second channel at standby.

1.4 Recommended operating conditions - Continued.

Driver peak output current (all devices)	180 mA
Serial data rate	1.0 MHz maximum
Junction temperature (T_J):	
(devices 01, 02, 03, 05, 06, 08, 09, and 10)	+150°C
(devices 04 and 07)	+160°C
Case operating temperature range (T_C)	-55°C to +125°C

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and handbook. The following specification, standards, and handbook form a part of this drawing to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solitation.

SPECIFICATION

DEPARTMENT OF DEFENSE

MIL-PRF-38534 - Hybrid Microcircuits, General Specification for.

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-883 - Test Methods and Procedures for Microelectronics.
MIL-STD-973 - Configuration Management.
MIL-STD-1835 - Microcircuit Case Outlines.

HANDBOOK

DEPARTMENT OF DEFENSE

MIL-HDBK-780 - Standard Microcircuit Drawings.
MIL-HDBK-1553 - Multiplex Applications Handbook.

(Unless otherwise indicated, copies of the specification, standards, and handbook are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Item requirements. The individual item performance requirements shall be in accordance with MIL-PRF-38534. Compliance with MIL-PRF-38534 may include the performance of all tests herein or as designated in the device manufacturer's Quality Management (QM) plan or as designated for applicable device class. Therefore, the tests and inspections herein may not be performed for applicable device class (see MIL-PRF-38534). Futhermore, the manufacturers may take exceptions or use alternate methods to the tests and inspections herein and not perform them. However, the performance requirements as defined in MIL-PRF-38534 shall be met for the applicable device class. The modification in the QM plan shall not affect the form, fit, or function as described herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38534 and herein.

3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.2 and figure 1 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 2.

3.2.3 Timing waveforms. Timing waveforms shall be as specified on figure 3.

3.2.4 Typical bus connections. Typical bus connections shall be as specified on figure 4.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full specified operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are defined in table I.

3.5 Marking of Device(s). Marking of device(s) shall be in accordance with MIL-PRF-38534. The device shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's vendor similar PIN may also be marked as listed in QML-38534.

3.6 Data. In addition to the general performance requirements of MIL-PRF-38534, the manufacturer of the device described herein shall maintain the electrical test data (variables format) from the initial quality conformance inspection group A lot sample, for each device type listed herein. Also, the data should include a summary of all parameters manually tested, and for those which, if any, are guaranteed. This data shall be maintained under document revision level control by the manufacturer and be made available to the preparing activity (DSCC-VA) upon request.

3.7 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to supply to this drawing. The certificate of compliance (original copy) submitted to DSCC-VA shall affirm that the manufacturer's product meets the performance requirements of MIL-PRF-38534 and herein.

3.8 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38534 shall be provided with each lot of microcircuits delivered to this drawing.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38534 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

4.2 Screening. Screening shall be in accordance with MIL-PRF-38534. The following additional criteria shall apply:

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DSCC-VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.

(2) T_A as specified in accordance with table I of method 1015 of MIL-STD-883.

b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

TABLE I. Electrical performance characteristics.

Test		Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits		Unit
						Min	Max	
Receiver	Input level	V_I	Differential input, pin 15 to pin 16 2/	All	4, 5, 6		40	V_{P-P}
	Input common mode voltage range	V_{ICM}	Independent of xfmr or in accordance 2/ 3/ with MIL-HDBK-1553 section 5.1.2.2	01,02,03, 04,06,09	4, 5, 6	-5	+5	V(pk)
				05,07,08,10		-10	+10	
	Output low voltage	V_{OL}	I_{OL} = 16 mA	01, 02	1, 2, 3		0.5	V
			I_{OL} = 4 mA	03,04,07, 08,10			0.5	
			I_{OL} = 8 mA	05,06,09			0.5	
	Output high voltage	V_{OH}	I_{OH} = -0.4 mA	All	1, 2, 3	2.5		V
Transmitter	Input low voltage	V_{IL}	4/	All	1, 2, 3		0.7	V
	Input high voltage	V_{IH}	4/	All	1, 2, 3	2		V
	Input low current	I_{IL}	V_{IL} = 0.4 V	01,06,09	1, 2, 3	-1.6		mA
				02		-0.72		
				03		-3.2		
				04,05,08,10		-0.4		
				07		-1.0		
	Input high current	I_{IH}	V_{IH} = 2.7 V	All	1, 2, 3		0.04	mA
	Output voltage	V_O	Across 35Ω load 5/	01,02,05, 06,08,09	1, 2, 3	6	9	V_{P-P}
				03,04,07,10		6.5	9	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test		Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits		Unit
						Min	Max	
Transmitter	Output noise voltage	V_{ON}	Across 35Ω load 5/	All	4, 5, 6		10	mV_{p-p}
Receiver strobe	Input low voltage	V_{SIL}	4/	01-03, 05-09,10	1, 2, 3		0.7	V
				04			0.4	
	Input high voltage	V_{SIH}	4/	All	1, 2, 3	2		V
	Input low current	I_{SIL}	V_{SIL} = 0.4 V	01,06,09	1, 2, 3	-1.6		mA
				02,05		-0.72		
				03		-0.8		
				04,08,10		-0.4		
				07		-1.0		
	Input high current	I_{SIH}	V_{SIH} = 2.7 V	All	1, 2, 3		0.04	mA
Transmitter inhibit	Input low voltage	V_{IIL}	4/	All	1, 2, 3		0.7	V
	Input high voltage	V_{IIH}	4/	All	1, 2, 3	2		V
	Input low current	I_{IIL}	V_{SIL} = 0.4 V	01,03,06, 09	1, 2, 3	-1.6		mA
				02		-0.72		
				04,05,08,10		-0.4		
				07		-1.0		
	Input high current	I_{IIH}	V_{SIH} = 2.7 V	All	1, 2, 3		0.04	mA

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test		Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits Min	Limits Max	Unit
Power supply	Total current	I_{CC}-SB	(standby mode)	01	1, 2, 3		55	mA
				03,08			32	
				04,10			1	
				05			25	
				07			44	
		I_{EE}-SB		01,08			55	
				06,09			30	
				02			35	
				03			26	
				04,10			16.5	
				07			70	
		I_{CC1}-SB		01,06,09			35	
				02			45	
				03			20	
				04,10			30	
				05,08			25	
				07			90	
		I_{CC}-25	(25% duty cycle into 35Ω load	01,04,08,10	4, 5, 6		55	
				03			90	
				05			69	
				07			100	
		I_{EE}-25		01,06,08			100	
				09			100	
				02 2/			80	
				03			26	
				04,10			21	
				07			70	
		I_{CC1}-25		01			35	
				02 2/			45	
				06,09			45	
				03			20	
				04,10			30	
				05,08			25	
				07			90	
		I_{CC}-50	(50% duty cycle into 35Ω load)	01,08	4, 5, 6		55	
				03			140	
				04,10			110	
				05			118	
				07			155	
		I_{EE}-50		01			145	
				08			150	
				02,06,09			130	
				03			26	
				04,10			25	
				07			70	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test		Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits Min	Limits Max	Unit
Power supply	Total current	I_{CC1}-50	(50 % duty cycle into 35Ω load)	01	4, 5, 6		35	mA
				02,06,09			45	
				03			20	
				04,10			30	
				05,08			25	
				07			90	
	Total current	I_{CC}-100	(100% duty cycle into 35Ω load)	01,08	1, 2, 3		55	mA
				03			240	
				04			220	
				05,10			209	
				07			260	
		I_{EE}-100		01			255	
				02 2/			255	
				06,08,09			255	
				03			26	
				04,10			30	
				07			70	
		I_{CC1}-100		01 4/			35	
				02 2/			45	
				03,08			20	
				04,10			30	
				05			25	
				06,09			55	
				07			90	
Receiver	Input resistance	R_{IN}	1 MHz sine wave 2/	01-09	4, 5, 6	7		kΩ
			6/ 7/ 8/	10		(See figure 4)		
	Input capacitance	C_{IN}	1 MHz sine wave 2/ $T_C = +25°C$	01-09	4		5	pF
			6/ 7/ 8/	10	4, 5, 6	(See figure 4)		
	Threshold voltage	V_{TH}	5/ 9/	08,10	1, 2, 3	0.56	1.1	V_{P-P}
				01,02,03, 04,05		0.56	1.0	
				06,09		0.6	1.2	
				07		0.86	1.1	
		V_{TH}	Group C end-point 9/ electricals	All	1, 2, 3	0.50	1.1	V_{P-P}

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

	Test	Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits Min	Limits Max	Unit
Transmitter	Output resistance (transmitter off)	R_{OUT}	1 MHz sine wave 2/	01-09	4, 5, 6	10		kΩ
			6/ 7/ 8/	10		(See figure 4)		
	Output capacitance (transmitter off)	C_{OUT}	1 MHz sine wave 2/ $T_C = +25°C$	01-09	4		5	pF
			6/ 7/ 8/	10	4, 5, 6	(See figure 4)		
	Output offset voltage	V_{OS}	2/ 10/	All	4, 5, 6	-90	+90	mV(pk)
	Peak amplitude variation	A_V	11/	All	4, 5, 6	-15	+15	%
Receiver	Delay time, input to output	t_{DR}	Delay time from differential input zero crossing to DATA or DATA. (See figure 3)	All	9,10,11		400	ns
	Strobe delay	t_{DS}	Delay time fromstrobe rising or falling edge to falling edge to DATA DATA. (See figure 3) 2/	01-03, 05-10	9,10,11		200	
				04			250	
Transmitter	Rise time	t_R	Output load = 35Ω (See figure 3)	All	9,10,11	100	300	ns
	Fall time	t_F		All	9,10,11	100	300	
	Delay time	t_{DT}	(See figure 3) 2/	01-03, 05,06,09	9,10,11		250	
				04,08			350	
				07,10			200	
	Inhibit delay inhibiting	t_{DI-H}	(See figure 3) 2/	01-09	9,10,11		450	
				10			200	

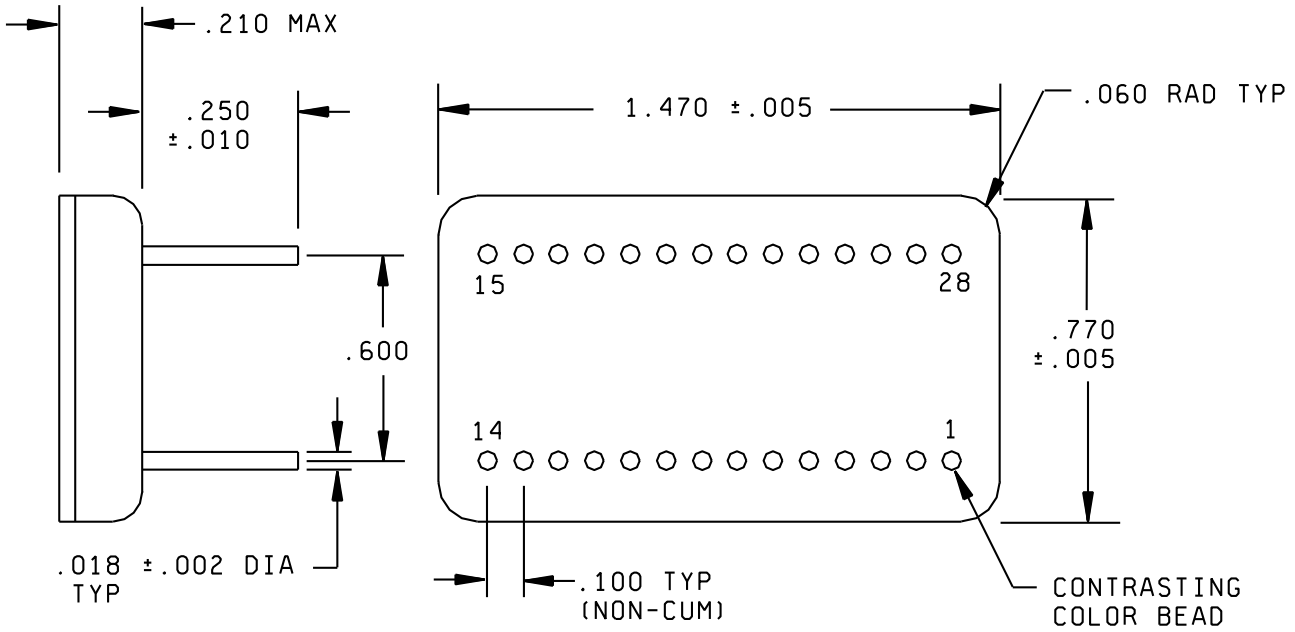
See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test		Symbol	Conditions 1/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Device types	Group A subgroups	Limits		Unit
						Min	Max	
Transmitter/ Receiver	Input impedance	Z_{Oi}	In accordance with MIL-HDBK-1553, section 100 appendix A, test plan 5.1.2.3. See figure 4.					
			Transformer coupled stubs	10	4, 5, 6	1.0		kΩ
			Direct coupled stubs			2.0		
Transmitter	Inhibit delay active	t_{DI-L}	(See figure 3) 2/	01,02,03, 04,05,08	9,10,11		250	ns
				06,09			300	
				07,10			150	

1/ V_{CC} = 15 V dc, V_{EE} = -15 V dc, V_{CC1} = +5 V dc. All specifications and limits are for a single channel with no connections made to the other channel.
2/ This parameter is tested initially and after any process or design change which might affect this parameter.
3/ Common mode rejection for device type 10 is as shown on figure 4.
4/ These parameters are tested on a go-no-go basis in conjuction with other measured parameters and are not directly testable.
5/ See figure 4 for device type 10.
6/ Not measured directly, but as part of input impedance (Z_{IN}). Test in accordance with MIL-HDBK-1553, section 100, appendix A, test plan 5.1.2.3. See figure 4.
7/ This parameter is 100 percent tested for device type 10.
8/ See input impedance test (Z_{Oi}) and figure 4.
9/ Threshold is measured in direct coupled mode including the transformer. Threshold is the maximum level on the BUS at which there are no pulses on either receiver output. Divide by 1.4 to obtain threshold in transformer coupled mode. Add 0.14 V in direct coupled mode or 0.10 V in transformer coupled mode to obtain threshold at which no errors are observed when receiver is used with 15530 CMOS Manchester encoder-decoder.
10/ Measured across 35Ω load, 2.5 µs after parity bit mid-bit zero crossing of a 660 µs message.
11/ Measured across 35Ω load, variation of average peak amplitude.

Case U

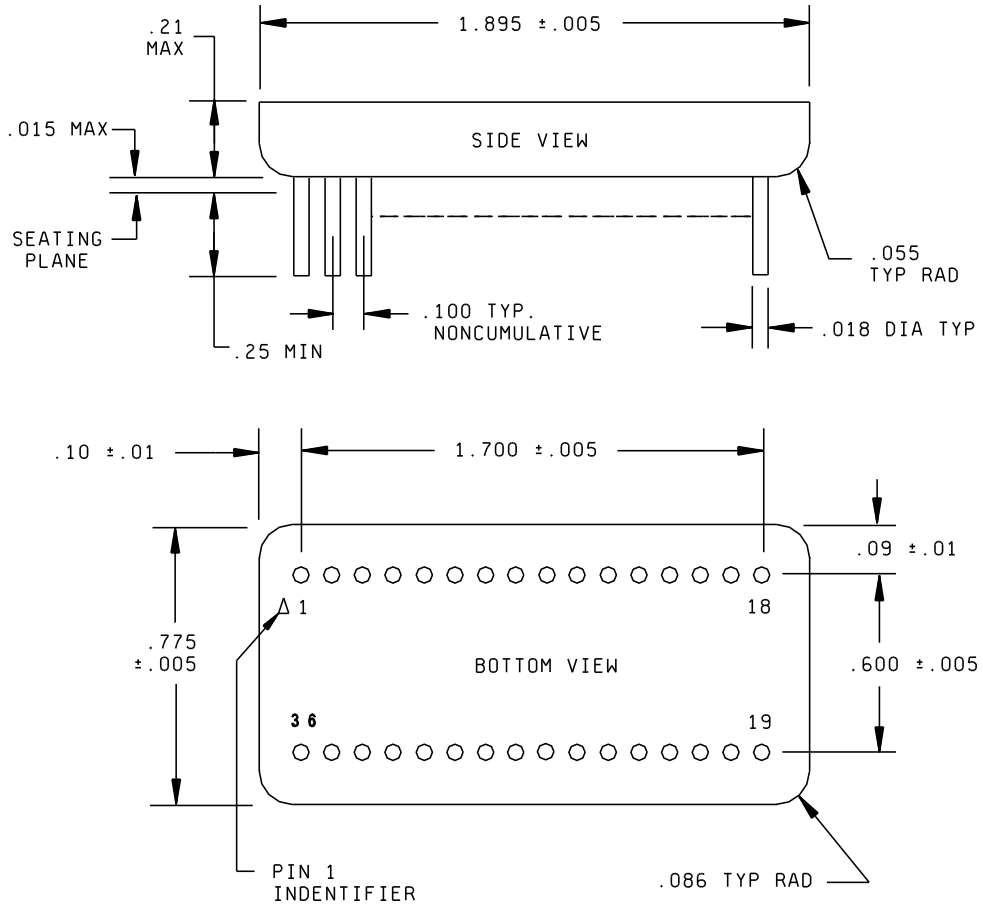


Inches	mm
.002	0.05
.005	0.13
.010	0.25
.018	0.46
.060	1.52
.100	2.54
.210	5.33
.250	6.35
.600	15.24
.770	19.56
1.470	37.34

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead indentification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines.

Case X

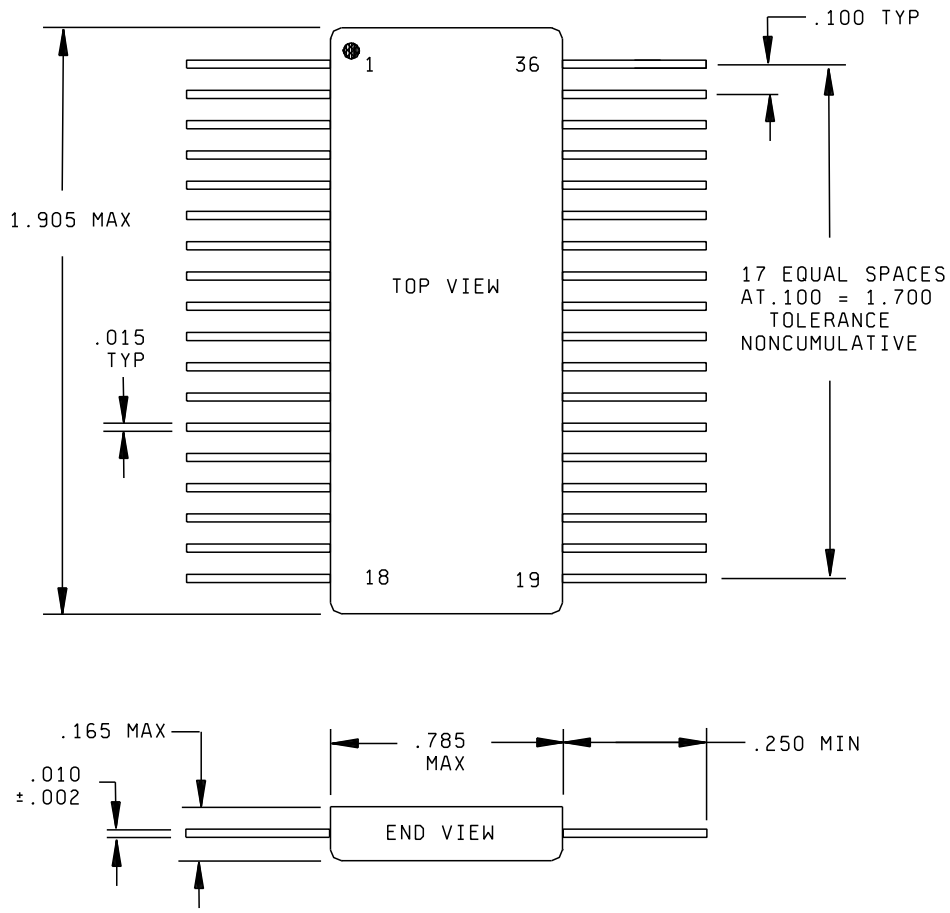


Inches	mm
.005	0.13
.01	0.3
.015	0.38
.018	0.46
.055	1.40
.086	2.18
.09	2.3
.10	2.5
.100	2.54
.600	15.24
.775	19.68
1.700	43.18
1.895	48.13

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

Case Y

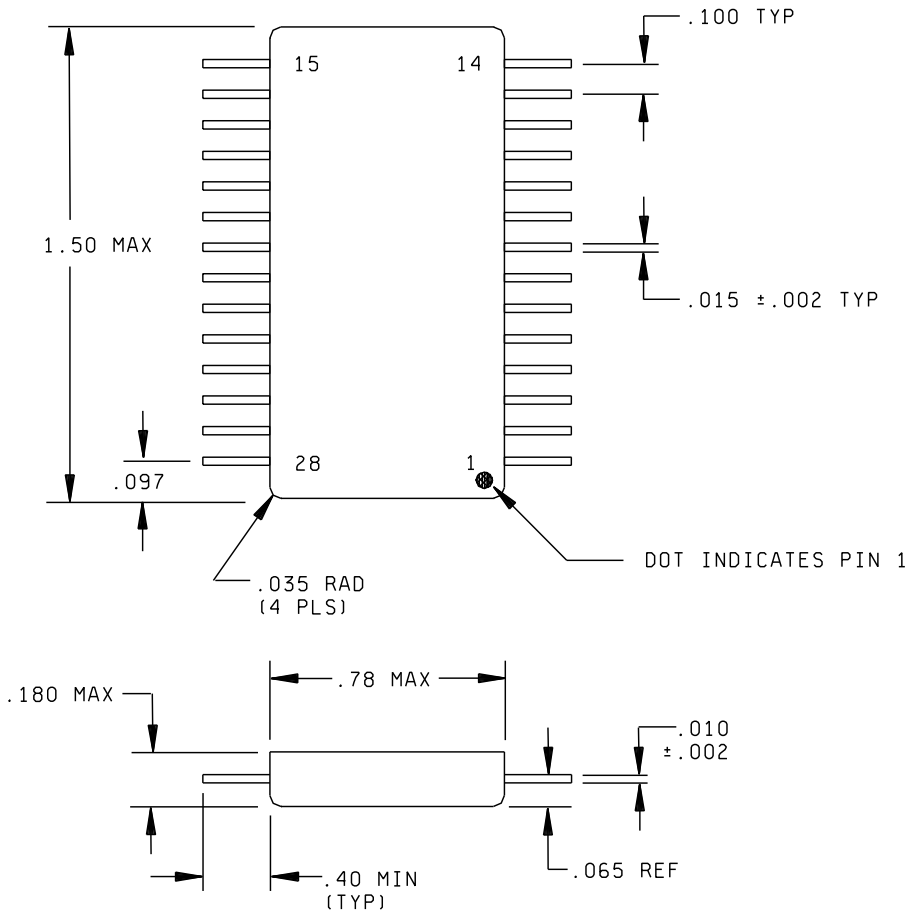


Inches	mm
.002	0.05
.010	0.25
.015	0.38
.100	2.54
.165	4.19
.250	6.35
.785	19.94
1.700	43.18
1.905	48.39

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead indentification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

Case Z



Inches	mm
.002	0.05
.003	0.08
.010	0.25
.015	0.38
.035	0.89
.065	1.65
.097	2.46
.100	2.54
.180	4.51
.40	10.16
.78	19.81
1.50	38.10

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Lead identification numbers are for reference only.
4. Lead spacing dimensions apply only at seating plane.

FIGURE 1. Case outlines - Continued.

Cases X and Y

Pin	Function	Channel
1	TX data out	One
2	TX data out	One
3	GND	One
4	NC	
5	RX data out	One
6	Strobe	One
7	GND	One
8	RX data out	One
9	GND	One
10	TX data out	Two
11	TX data out	Two
12	GND	Two
13	NC	
14	RX data out	Two
15	Strobe	Two
16	GND	Two
17	RX data out	Two
18	NC	
19	V_{CC}, or NC	Two
20	RX data in	Two
21	RX data in	Two
22	GND	Two
23	V_{EE}	Two
24	V_{CC1}	Two
25	Inhibit	Two
26	TX data in	Two
27	TX data in	Two
28	V_{CC}, or NC	One
29	RX data in	One
30	RX data in	One
31	GND	One
32	V_{EE}	One
33	V_{CC1}	One
34	Inhibit	One
35	TX data in	One
36	TX data in	One

NOTES:
1. GND pins should all be connected externally.
2. Device types 01, 03, 04, 05, 07, and 10; pins 19 and 28 are +15 V dc. Device types 02, 06, and 09; pins 19 and 28 are not connected (NC).
3. Device type 06; pins 4 and 13 are available for the thermal protection.
4. Device types 06 and 09; pins 3, 12, 22, and 31are not connected (NC).

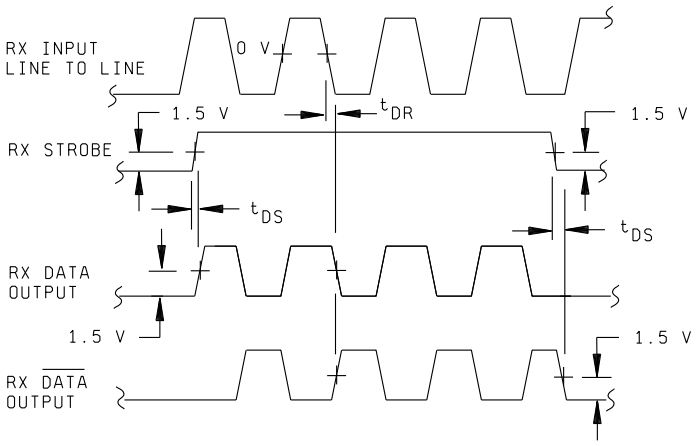
FIGURE 2. Terminal connections.

Cases U and Z

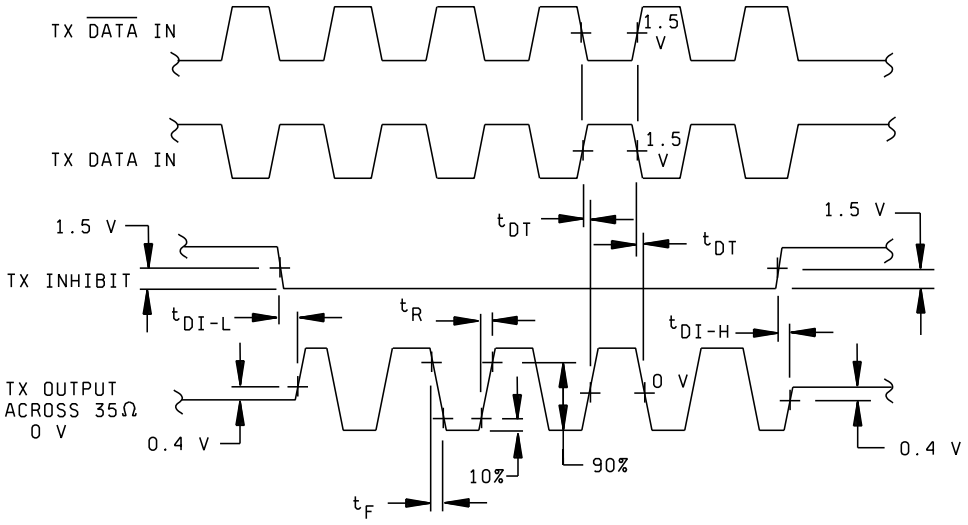
Pin	Function	Channel
1	TX data out/RX data in	One
2	TX data out/RX data in	One
3	GND	One
4	RX strobe	One
5	RX data out	One
6	RX data out	One
7	Case	
8	TX data out/RX data in	Two
9	TX data out/RX data in	Two
10	GND	Two
11	RX strobe	Two
12	RX data out	Two
13	RX data out	Two
14	No connection	
15	GND	Two
16	V_{EE}	Two
17	V_{CC1}	Two
18	TX inhibit	Two
19	TX data in	Two
20	TX data in	Two
21	V_{CC}	Two
22	GND	One
23	V_{EE}	One
24	V_{CC1}	One
25	Inhibit	One
26	TX data in	One
27	TX data in	One
28	V_{CC}	One

NOTE:
1. GND pins should all be connected externally.

FIGURE 2. Terminal connections - Continued.

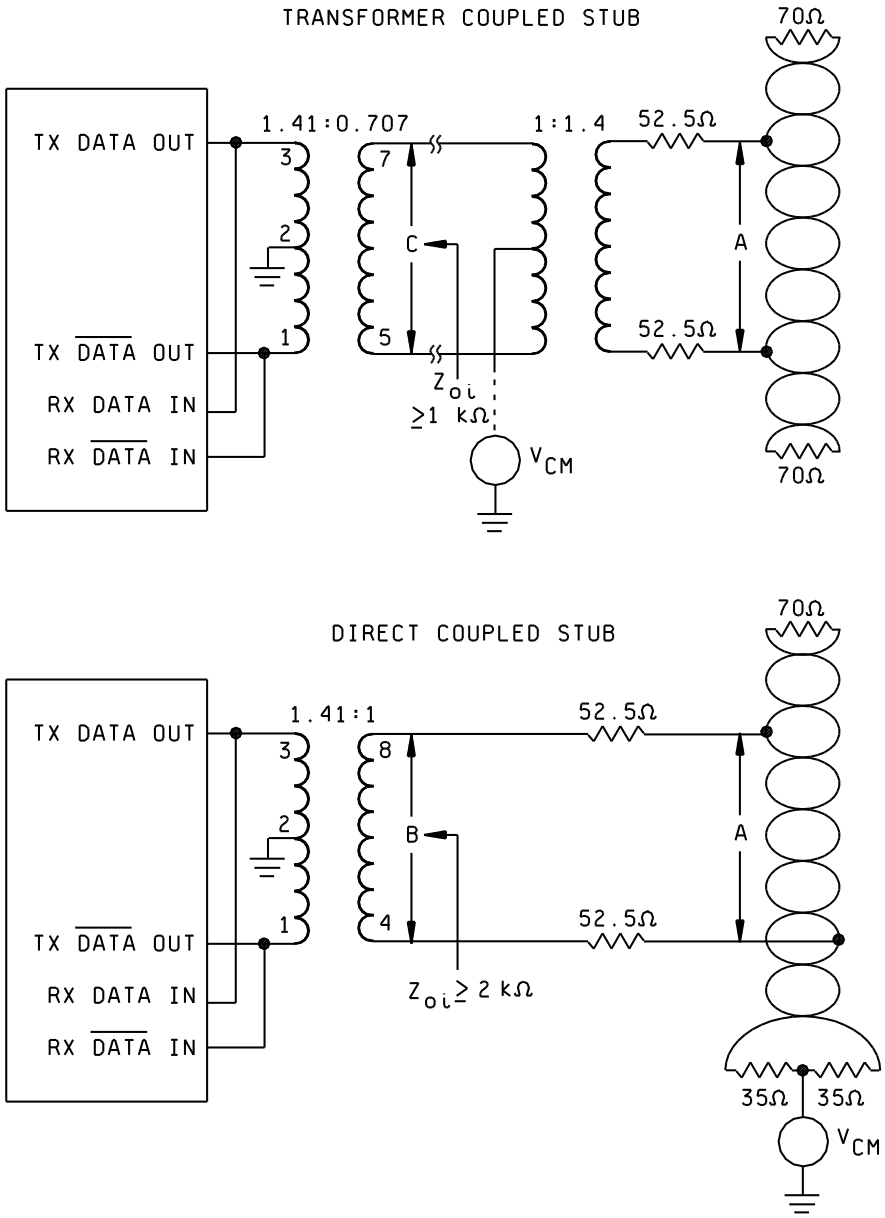


Receiver timing



Transmitter timing

FIGURE 3. Timing waveforms.



NOTE:
1. Transformer is a Technitrol, part number 1553-2 or equivalent.

FIGURE 4. Typical bus connections.

TABLE II. Electrical test requirements.

MIL-PRF-38534 test requirements	Subgroups (in accordance with MIL-PRF-38534, group A test table)
Interim electrical parameters	-----
Final electrical parameters	1*, 2, 3, 4, 5, 6, 9, 10, 11
Group A test requirements	1, 2, 3, 4, 5, 6, 9, 10, 11
Group C end-point electrical parameters	1, 2, 3

* PDA applies to subgroup 1.

4.3 Conformance and periodic inspections. Conformance inspection (CI) and periodic inspection (PI) shall be in accordance with MIL-PRF-38534 and as specified herein.

4.3.1 Group A inspection (CI). Group A inspection shall be in accordance with MIL-PRF-38534 and as follows:

a. Tests shall be as specified in table II herein.

b. Subgroups 7 and 8 shall be omitted.

4.3.2 Group B inspection (PI). Group B inspection shall be in accordance with MIL-PRF-38534.

4.3.3 Group C inspection (PI). Group C inspection shall be in accordance with MIL-PRF-38534 and as follows:

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test, method 1005 of MIL-STD-883.

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DSCC-VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.

(2) T_A as specified in accordance with table I of method 1005 of MIL-STD-883.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

4.3.4 Group D inspection (PI). Group D inspection shall be in accordance with MIL-PRF-38534.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38534.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-973 using DD Form 1692, Engineering Change Proposal.

6.4 Record of users. Military and industrial users shall inform Defense Supply Center Columbus when a system application requires configuration control and the applicable SMD. DSCC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronic devices (FSC 5962) should contact DSCC-VA, telephone (614) 692-7603.

6.5 Comments. Comments on this drawing should be directed to DSCC-VA, P. O. Box 3990, Columbus, Ohio 43216-5000, or telephone (614) 692-0676.

6.6 Sources of supply. Sources of supply are listed in QML-38534. The vendors listed in QML-38534 have submitted a certificate of compliance (see 3.7 herein) to DSCC-VA and have agreed to this drawing.

STANDARD MICROCIRCUIT DRAWING SOURCE APPROVAL BULLETIN

DATE: 98-01-28

Approved sources of supply for SMD 5962-87579 are listed below for immediate acquisition only and shall be added to QML-38534 during the next revision. QML-38534 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DSCC-VA. This bulletin is superseded by the next dated revision of QML-38534.

Standard microcircuit drawing PIN 1/	Vendor CAGE number	Vendor similar PIN 2/
5962-8757901XX	3/	BUS-63125
5962-8757901YX	3/	BUS-63126
5962-8757902XA	S7631	BUS-63125II-140
5962-8757902XA	19645	BUS-63125II-140
5962-8757902XC	S7631	BUS-63125II-110
5962-8757902XC	19645	BUS-63125II-110
5962-8757902YA	S7631	BUS-63126II-140
5962-8757902YA	19645	BUS-63126II-140
5962-8757902YC	S7631	BUS-63126II-110
5962-8757902YC	19645	BUS-63126II-110
5962-8757903XX	4/	ARX2411
5962-8757903YX	4/	ARX2411FP
5962-8757904UX	4/	ARX3411
5962-8757904XX	4/	ARX3411
5962-8757904YX	4/	ARX3411FP
5962-8757904ZX	4/	ARX3411FP
5962-8757905XA	57363	NHI-1500/883
5962-8757905XC	57363	NHI-1500/883
5962-8757905YA	57363	NHI-1500FP/883
5962-8757905YC	57363	NHI-1500FP/883
5962-8757906XA	U4388	FC 1553623
5962-8757906XC	U4388	FC 1553623
5962-8757906YA	U4388	FC 1553623 FP
5962-8757906YC	U4388	FC 1553623 FP
5962-8757907XX	4/	CT1487-D
5962-8757907YX	4/	CT1487-DFP

1/ The lead finish shown for each PIN, representing a hermetic package, is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the Vendor to determine availability.
2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
3/ Not available from a QML source.
4/ Not available from a QML source. Device type 10 replaces device types 03, 04, and 07.

Standard microcircuit drawing PIN 1/	Vendor CAGE number	Vendor similar PIN 2/
5962-8757908XX	3/	MR63125M
5962-8757909XA 5962-8757909XC 5962-8757909YA 5962-8757909YC	U4388 U4388 U4388 U4388	FC 1553621 FC 1553621 FC 1553621 FP FC 1553621 FP
5962-8757910XA 5962-8757910XC 5962-8757910YA 5962-8757910YC	88379 88379 88379 88379	ACT4487-D ACT4487-D ACT4487-DF ACT4487-DF

1/ The lead finish shown for each PIN, representing a hermetic package, is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the Vendor to determine availability.
2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
3/ Not available from a QML source.
4/ Not available from a QML source. Device type 10 replaces device types 03, 04, and 07.

Vendor CAGE number	Vendor name and address
S7631	DDC Ireland LTD. Cork Business and Technology Park Model Farm Road Cork, Ireland
U4388	C-MAC Microcircuits Limited South Denes Great Yarmouth, Norfolk NR30 3PX England
19645	ILC Data Device Corporation 105 Wilbur Place Bohemia, NY 11716-2482
57363	National Hybrid, Incorporated 2200 Smithtown Avenue Ronkonkoma, NY 11779-7359
88379	Aeroflex Circuit Technology Corporation 35 South Service Road Plainview, NY 11803-4193