REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
F	Added cage code for device types 01, 02, 04, 06, 07, 08, 09, and 10. Added device types 11 and 12 with cage code 88379. Added figures 7 and 8. Editorial changes throughout.	95-12-06	K. Cottongim

REV																			
SHEET																			
REV	F	F	F	F	F	F													
SHEET	15	16	17	18	19	20													

REV STATUS OF SHEETS	REV	F	F	F	F	F	F	F	F	F	F	F	F	F
	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
Steve L. Duncan

CHECKED BY
Michael C. Jones

APPROVED BY
Kendall A. Cottongim

DRAWING APPROVAL DATE
89-05-08

REVISION LEVEL
F

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

MICROCIRCUIT, DIGITAL, DUAL CHANNEL, DRIVER-RECEIVER, HYBRID

SIZE	CAGE CODE	
A	**67268**	**5962-89522**

SHEET 1 OF 20

DESC FORM 193
JUL 94

5962-E073-96

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

9004708 0015952 5T2

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:

5962-89522	01	X	X
Drawing number	Device type (see 1.2.1)	Case outline (see 1.2.2)	Lead finish (see 1.2.3)

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

Device type	Generic number	Circuit function	Coupling transformer turns ratio transformer	direct
01	NHI-1559	Dual channel, five volt, MIL-STD-1553 transceiver	4:7	2:5
02	2453,NHI-1529	Dual channel, five volt MIL-STD-1553 transceiver	1:1.5	1:2.12
03	NHI-1529	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5	1:2.12
04	NHI-1559	Dual channel, five volt MIL-STD-1553, transceiver 1/	4:7	2:5
05	CT2521	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5	1:2.12
06	FC1552921,NHI-1529	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5	1:2.12
07	FC1553923,NHI-1559	Dual channel, five volt MIL-STD-1553, transceiver 1/	4:7	2:5
08	3453,NHI-1529	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5	1:2.12
09	FC1553922,NHI-1529	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5	1:2.12
10	FC1553924,NHI-1559	Dual channel, five volt MIL-STD-1553, transceiver 1/	4:7	2:5
11	ACT-4453-001-6	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5 1:1.77	1:2.12 or 1:2.5
12	ACT-4453-001-3	Dual channel, five volt MIL-STD-1553, transceiver	1:1.5 1:1.77	1:2.12 or 1:2.5

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
X	See figure 1	36	Dual-in-line
Y	See figure 2	36	Flat package
U	See figure 3	36	Flat package
Z	See figure 4	36	Dual-in-line

1.2.3 Lead finish. The lead finish shall be as specified in MIL-PRF-38534. Finish letter "X" shall not be marked on the microcircuit or its packaging. The "X" designation is for use in specifications when lead finishes A, B, and C are considered acceptable and interchangeable without preference.

1/ Device types 04, 07, and 10 are compatible with ILC/DDC BUS-65612 protocol.

1.3 Absolute maximum ratings. 1/

Supply voltage range	-0.3 V dc to +7.0 V dc
Logic input voltage range	-0.3 V dc to +5.5 V dc
Receiver differential voltage:	
Device types 01, 02, 04, and 08	10 V_{p-p}
Device types 03 and 05	40 V_{p-p}
Device types 06, 07, 09, 10, 11, and 12	20 V_{p-p}
Receiver common mode voltage:	
Device types 01, 02, 04, 08, 11, and 12	±5.0 V dc
Device types 03, 05, 06, 07, 09, and 10	±10.0 V dc
Driver peak output current:	
Device types 01 through 10	800 mA
Device types 11 and 12	650 mA
Total package power dissipation over the full operating case temperature rise (device types 11 and 12)	1.3 W 2/
Power dissipation (P_D):	
Hottest die (worse case):	
Device types 01-04, 06-09 and 10	320 mW
Device type 05	250 mW
Total hybrid-standby	495 mW
Total hybrid-100% duty cycle:	
Device types 01, 02, 04, 05, and 08	3.10 W
Device types 03, 11, and 12	0.95 W
Device types 06, 07, 09, and 10	1.55 W
Storage temperature range	-65°C to +150°C
Lead temperature (soldering, 10 seconds)	+300°C
Thermal resistance, junction-to-case (θ_{JC}):	
Device types 01, 02, 04, 06, and 07-10	110°C/W (hottest die)
Device type 03	38.6°C/W (hottest die)
Device type 05	60°C/W
Device types 11 and 12	5°C/W
Thermal resistance, case-to-air (θ_{CA})	20°C/W
Junction temperature (T_J)	+175°C

1.4 Recommended operating conditions.

Supply voltage range	+4.75 V dc to +5.5 V dc
Logic input voltage range	0.0 V dc to +5.5 V dc
Receiver differential voltage:	
Device types 01, 02, 04, and 08	4.0 V_{p-p}
Device types 03, 05, 11, and 12	15.0 V_{p-p}
Device types 06, 07, 09, and 10	16.0 V_{p-p}
Receiver common-mode voltage:	
Device types 01, 02, 04, and 08	±2.5 V dc
Device types 03, 05, 11, and 12	±5.0 V dc
Device types 06, 07, 09, and 10	±10.0 V dc
Driver peak output current	700 mA
Serial data rate	1.0 MHz maximum
Case operating temperature range	-55°C to +125°C

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/ Normal operating conditions require one transceiver on and the other off.

2. APPLICABLE DOCUMENTS

2.1 Government specification and standards. Unless otherwise specified, the following specification and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

PERFORMANCE

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

STANDARDS

MILITARY

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

(Copies of the specification and standards required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

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 shall take precedence.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-38534 and as specified 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 herein and figures 1, 2, 3, and 4.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 5.

3.2.3 Timing waveforms. The timing waveforms shall be as specified on figures 6 and 8.

3.2.4 Transceiver zero crossing test setup. The transceiver zero crossing test setup shall be as specified on figure 7.

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 described in table I.

3.5 Marking. Marking shall be in accordance with MIL-PRF-38534. The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked as listed in QML-38534 (see 6.6 herein).

3.6 Manufacturer eligibility. In addition to the general requirements of MIL-PRF-38534, the manufacturer of the part described herein shall maintain the electrical test data (variables format) from the initial quality conformance inspection group A lot sample, produced on the certified line, for each device type listed herein. The data should also 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 (DESC-EL) upon request.

3.7 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in QML-38534 (see 6.6 herein). The certificate of compliance submitted to DESC-EL prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-PRF-38534 and the requirements 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.

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions 1/ 2/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
RECEIVER							
Output low voltage	V_{OL}	I_{OL} = 4.0 mA	1, 2, 3	01,02,03, 04,05,08, 11,12		0.5	V
		I_{OL} = 8.0 mA		06,07,09, 10			
Output high voltage	V_{OH}	I_{OH}= -0.4 mA	1, 2, 3	01-10	2.4		V
				11,12	2.5		
Differential input level	V_I	3/	4, 5, 6	All		±8.0	V_{p-p}
Input common-mode voltage	V_{ICM}	3/	4, 5, 6	01,02,04, 08		±2.5	V
				03,06,07, 09,10,11, 12		±5.0	
				05		±10.0	
Differential input resistance	R_{IN}	1 Mhz sine-wave 3/	4, 5, 6	01,04,08	2.0		kΩ
				02,03,11, 12	10		
				06,07,09, 10	1.7		
				05	9.0		
Input capacitance	C_{IN}	1 MHz sine-wave 3/	4, 5, 6	All		5.0	pF
Threshold voltage	V_{TH}	4/	4, 5, 6	All	0.60	1.2	V
Receiver delay	t_{DR}	From input zero crossing to DATA or DATA, see figure 6 3/	9, 10, 11	01,02,03, 04,06,07, 08,09,10, 11,12		500	ns
				05		450	
Zero crossing deviation	t_{DZ}	See figures 6 and 7 3/ 8/	9, 10, 11	11	496	504	ns
RECEIVER STROBE							
Input low voltage	V_{SIL}	7/	1, 2, 3	All		0.7	V

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ 2/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
RECEIVER STROBE - Continued							
Input high voltage	V_{SIH}	7/	1, 2, 3	All	2.0		V
Input low current	I_{SIL}	V_{SIL} = 0.4 V	1, 2, 3	01,02,03, 04,05,08, 11,12	-0.8		mA
				06,07,09, 10	-1.6		
Input high current	I_{SIH}	V_{SIH} = 2.7 V	1, 2, 3	All		40.0	µA
Strobe delay	t_{DS}	From strobe rising or falling edge to DATA or DATA, see figure 6 3/	9, 10, 11	01,02,03, 04,05,08,		78	ns
				06,07,09, 10		160	
				11,12		100	
TRANSMITTER							
Input low voltage	V_{IL}	7/	1, 2, 3	01,04		0.8	V
				02,03,05, 06,07,08, 09,10,11, 12		0.7	
Input high voltage	V_{IH}	7/	1, 2, 3	All	2.0		V
Input low current	I_{IL}	V_{IL} = 0.4 V	1, 2, 3	01,04	-3.2		mA
				02,03,08, 11,12	-0.4		
				05	-1.0		
				06,07,09, 10	-1.6		
Input high current	I_{IH}	V_{IH} = 2.7 V	1, 2, 3	01,04		80	µA
				02,03,06, 07,08,09, 10,11,12		40	
				05		100	
Differential out voltage	V_O	35Ω load 5/	1, 2, 3	All	6.0	9.0	V_{p-p}
		140Ω load 3/ 5/	1, 2, 3	All	24	36	V_{p-p}

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ 2/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
TRANSMITTER - Continued							
Differential out noise	V_{ON}	Inhibited	4,5 ,6	All		10.0	mV_{p-p}
Differential out resistance	R_{OUT}	Transmitter off 3/	4, 5, 6	01,02,03, 04,06,07, 08,09,10	10.0		kΩ
				05	5.0		
Differential out high Z	Z_{OUT}	Transmitter off 10/	4, 5, 6	11,12	1.0		kΩ
Output capacitance	C_{OUT}	1 MHz sine-wave 3/	4, 5, 6	01,02,03, 04,05,08		15	pF
				06,07,09, 10,11,12		20	
Differential offset voltage	V_{OS}	35Ω load 3/ 6/	4, 5, 6	All		±90	mV pk
		140Ω load 3/ 6/	4, 5, 6	All		±360	mVp-p
Rise time	t_R	35Ω load, see figure 6	9, 10, 11	All	100	300	ns
Fall time	t_F	35Ω load, see figure 6	9, 10, 11	All	100	300	ns
Driver delay	t_{DT}	TX in to TX out, 3/ see figure 6	9, 10, 11	01,02,03, 04,06,07, 08,09,10		450	ns
				05		150	
				11,12		250	
TRANSMITTER INHIBIT							
Input low voltage	V_{IIL}	7/	1, 2, 3	01,04		0.8	V
				02,03,05, 06,07,08, 09,10,11, 12		0.7	
Input high voltage	V_{IIH}	7/	1, 2, 3	All	2.0		V

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ 2/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
TRANSMITTER INHIBIT - Continued							
Input low current	I_{IIL}	V_{IIL} = 0.4 V	1, 2, 3	01,04,06, 07,09,10	-1.6		mA
				02,03,08, 11,12	-0.4		
				05	-1.0		
Input high current	I_{IIH}	V_{IIH} = 2.4 V	1, 2, 3	01,04		80	µA
				02,03,05, 08,11,12		40	
		V_{IIH} = 2.7 V		06,07,09, 10		40	
Inhibit delay	t_{DI-H}	Inhibited output, 3/ see figure 6	9, 10, 11	01,02,03, 04,08,11, 12		450	ns
				06,07,09, 10		600	
				05		225	
Inhibit delay	t_{DI-L}	Active output, 3/ see figure 6	9, 10 ,11	01,02,03, 04,08,11, 12		250	ns
				06,07,09, 10		450	
				05		150	
POWER SUPPLY							
Supply current	I_{CC1}	Standby 9/	1, 2, 3	01,04		49	mA
				02,06,07, 08,09,10		45	
				03		40	
				05		60	
				11,12		30	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ 2/ $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
POWER SUPPLY - Continued							
Supply current	I_{CC2}	25% duty cycle 3/ 9/	4, 5, 6	01,04,06, 07,09,10		220	mA
				02,08		167	
				11,12		195	
				03		190	
				05		180	
	I_{CC3}	50% duty cycle 3/ 9/	4, 5, 6	01,04		380	mA
				02,08		350	
				11,12		345	
				06,07,09, 10		400	
				03		330	
				05		305	
	I_{CC4}	100% duty cycle 3/ 9/	4, 5, 6	01,04		700	mA
				02,08		670	
				11,12		650	
				06,07,09, 10		800	
				03		600	
				05		550	

See footnotes at top of next page.

TABLE I. Electrical performance characteristics - Continued.

1/ V_{CC} = 5.0 V dc ±0.1 V dc, unless otherwise specified.

2/ All specifications and limits are for a single channel with no connections made to the other channel.

3/ Parameter shall be tested as part of device characterization and after design and process changes. Parameter shall be guaranteed to the limits specified in table I for all lots not specifically tested.

4/ Threshold determined by first missing word of a 33 word transmission to a 1553 CMOS Manchester encoder-decoder.

5/ Device type 02 is guaranteed to output 6.5 V_{p-p} across 35Ω load or 26 V_{p-p} across 140Ω load over the full case temperature range provided that the power supply voltage is no less tha 5.0 V.

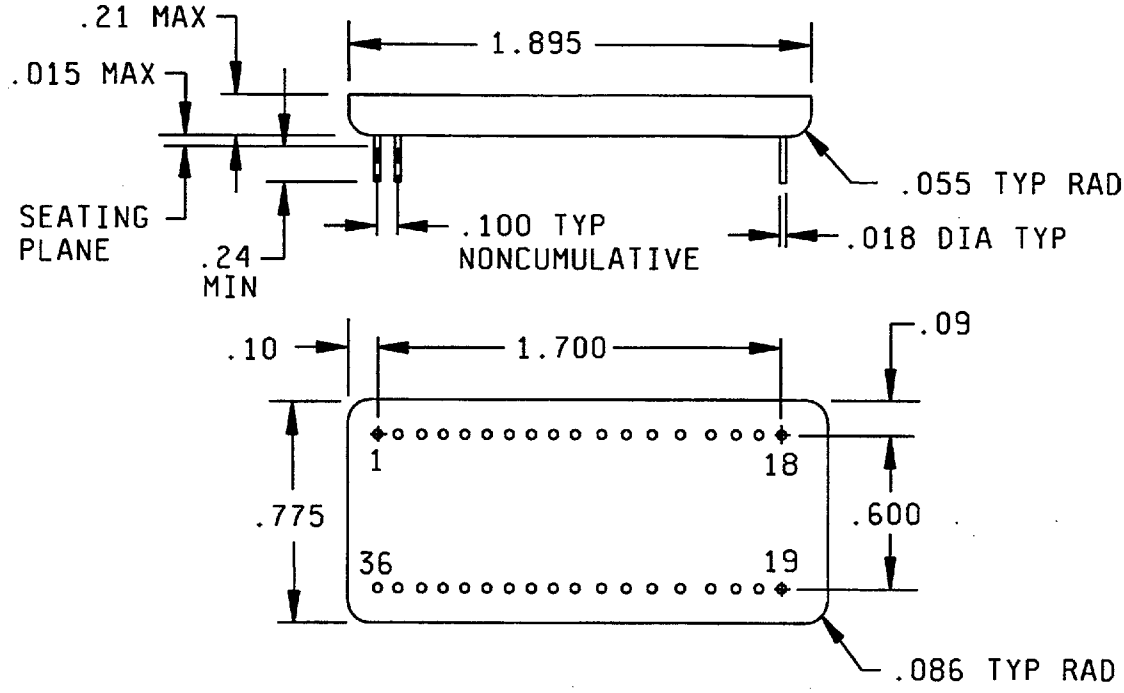
6/ Offset is measured 2.5 µs after mid-bit zero crossing of the last parity bit of a 660 µs transmission.

7/ These parameters are tested on a go-no-go basis in conjunction with other measured parameters and are not directly testable.

8/ Zero crossing deviations on channel A and B equal to or less than 4.0 ns from the ideal crossing point, measured with respect to the previous crossing point. The T2 parameter in figure 8 shall measure between 496 and 504 ns. Figure 7 shows the Device Under Test (DUT) setup. Figure 8 shows the measurement waveforms for the receiver timing. The zero crossing distortion measurements shall be made in accordance with MIL-HDBK-1553 for a transformer coupled stub. The rise and fall time of the transmitted message (measured at a data bit zero crossing with the prior zero crossing and the next zero crossing at 500 ns intervals from the measured zero crossing) measured at point "A" shall be 200 ±20 ns. The 2.1 volt peak to peak input voltage measurement shall be taken at point "A" as shown in figure 7. The V_{CC} decoupling used in the test setup is 4.7 µF, minimum.

9/ Typical power for device type 11 and 12 is measured with V_{BUS} = 7 Vp-p at the BUS across a 35Ω load with a 1:2.12 transformer.

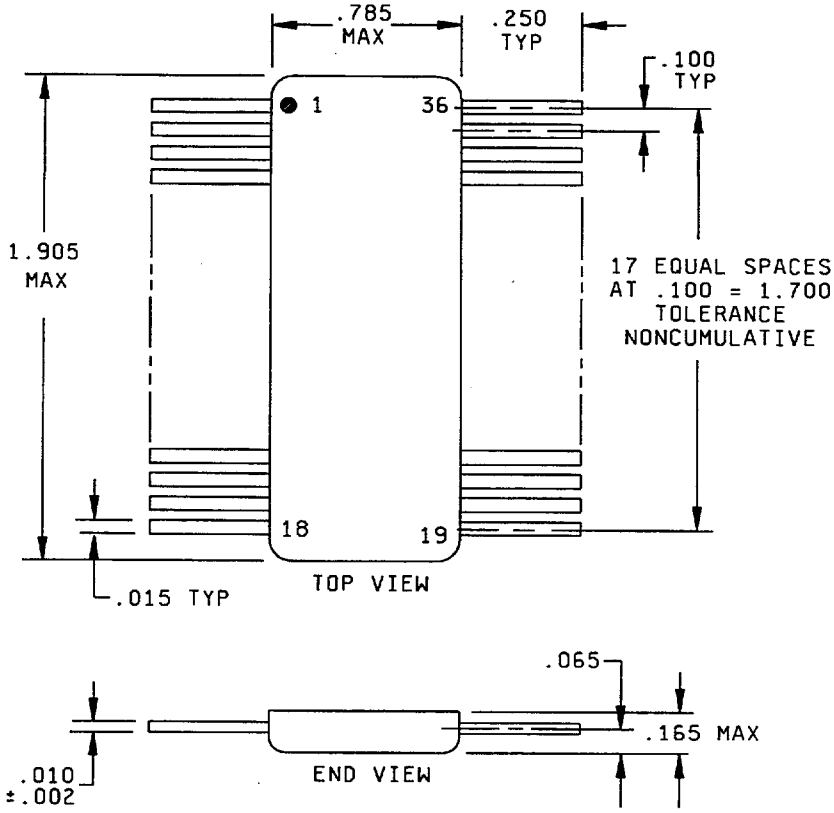
10/ Power on or off, measured from 75 kHz to 1 MHz at point "A" of figure 7 and transformer self impedance of 3k Ω minimum.



Inches	mm
.005	0.13
.015	0.38
.018	0.46
.055	1.40
.086	2.18
.090	2.28
.10	2.5
.21	5.3
.25	6.4
.600	15.24
.775	19.68
1.700	43.18
1.895	48.13

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are for general information only.
3. Unless oterwis specified, tolerance is ±.005 (0.13 mm) for three place decimals and ±.01 (0.25 mm) for two place decimals.
4. Lead identification numbers are for reference only.
5. Lead spacing dimensions apply only at seating plane.

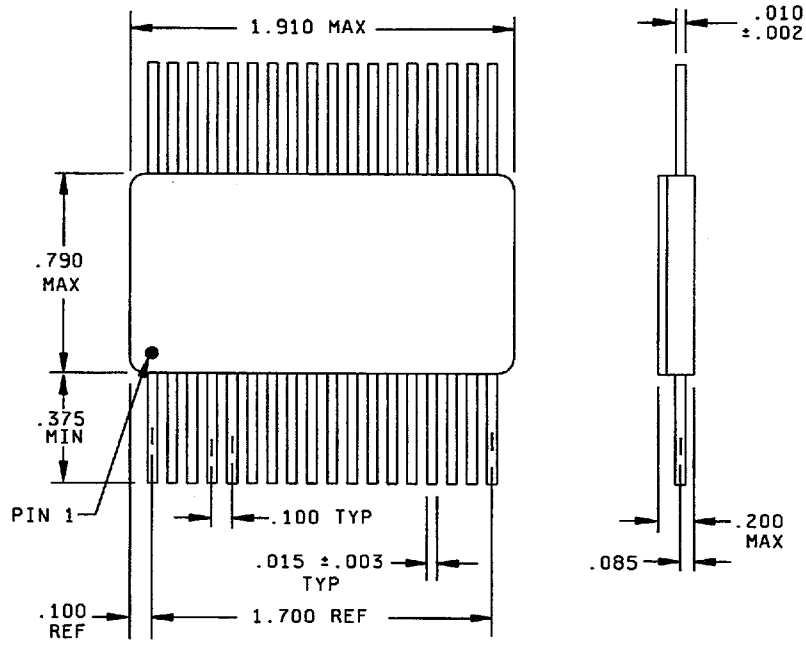
FIGURE 1. Case outline X.



Inches	mm
.002	0.05
.010	0.25
.015	0.38
.065	1.65
.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 purposes only.
3. Unless otherwise specified, tolerance is ±.005 (0.13 mm) for three place decimals and ±.01 (0.25 mm) for two place decimals.
4. Lead identification numbers are for reference only.

FIGURE 2. Case outline Y.

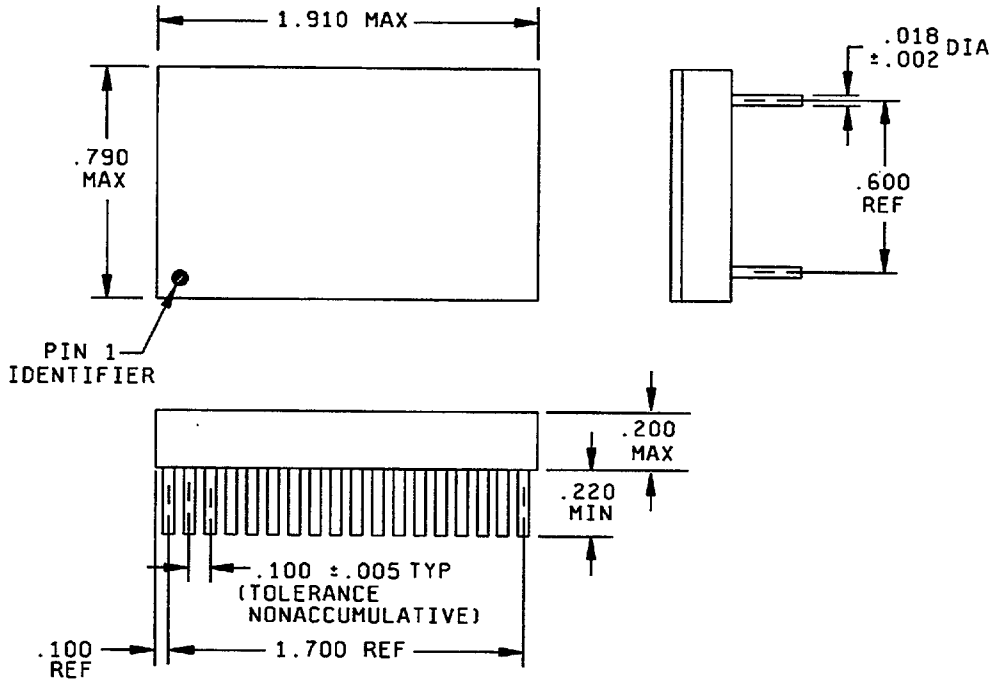


FLAT PACK

Inches	mm
.002	0.05
.003	0.13
.010	0.25
.015	0.38
.085	2.16
.100	2.54
.200	5.08
.375	9.53
.790	20.07
1.700	43.18
1.910	48.51

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are for general information only.
3. Unless otherwise specified, tolerance is ±.005 (0.13 mm) for three place decimals and ±.01 (0.25 mm) for two place decimals.

FIGURE 3. Case outline U.



Inches	mm
.002	0.05
.005	0.13
.018	0.46
.100	2.54
.200	5.08
.220	5.59
.600	15.24
.775	19.68
.790	20.07
1.700	43.18
1.895	48.13
1.910	48.51

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are for general information only.
3. Unless otherwise specified, tolerance is ±.005 (0.13 mm) for three place decimals and ±.01 (0.25 mm) for two place decimals.

FIGURE 4. Case outline Z.

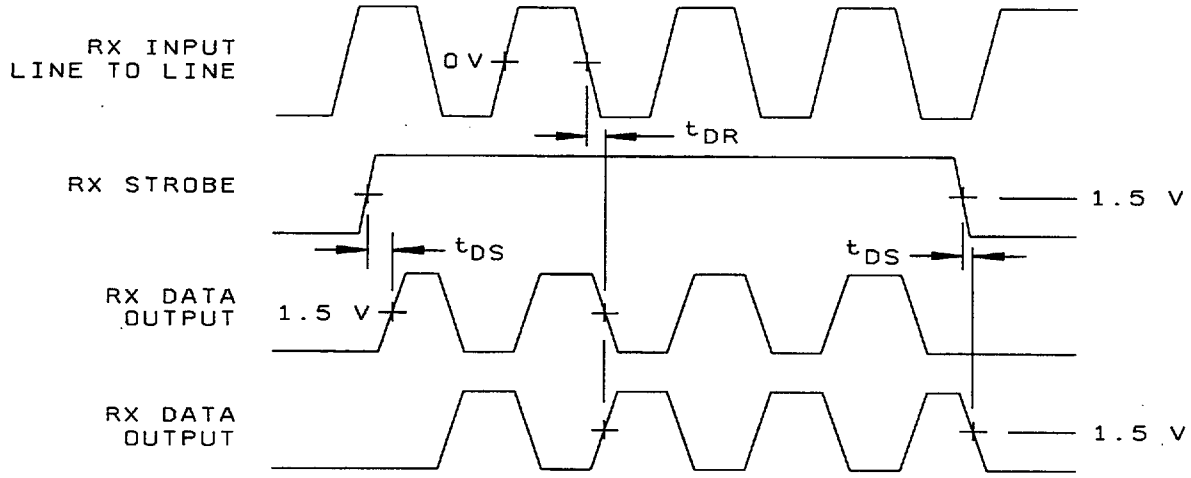
Device types	All	
Case outlines	X, Y, Z, and U	
Terminal number	Terminal connection	
	Connection	Channel
1	TX DATA out	One
2	TX DATA out	One
3	GND	One
4	NC	
5	RX DATA out	One
6	Strobe	One
7	GND	One
8	RX DATA out	One
9	GND (case)	One
10	TX DATA out	Two
11	TX DATA out	Two
12	GND	Two
13	NC	
14	RX DATA out	Two
15	Strobe	Two
16	GND	Two
17	RX DATA out	Two
18	NC	
19	NC	
20	RX DATA in	Two
21	RX DATA in	Two
22	GND	Two
23	NC	
24	+5 V dc	Two
25	Inhibit	Two
26	TX DATA in	Two
27	TX DATA in	Two
28	NC	
29	RX DATA in	One
30	RX DATA in	One
31	GND	One
32	NC	
33	+5 V dc	One
34	Inhibit	One
35	TX DATA in	One
36	TX DATA in	One

NC = no connection

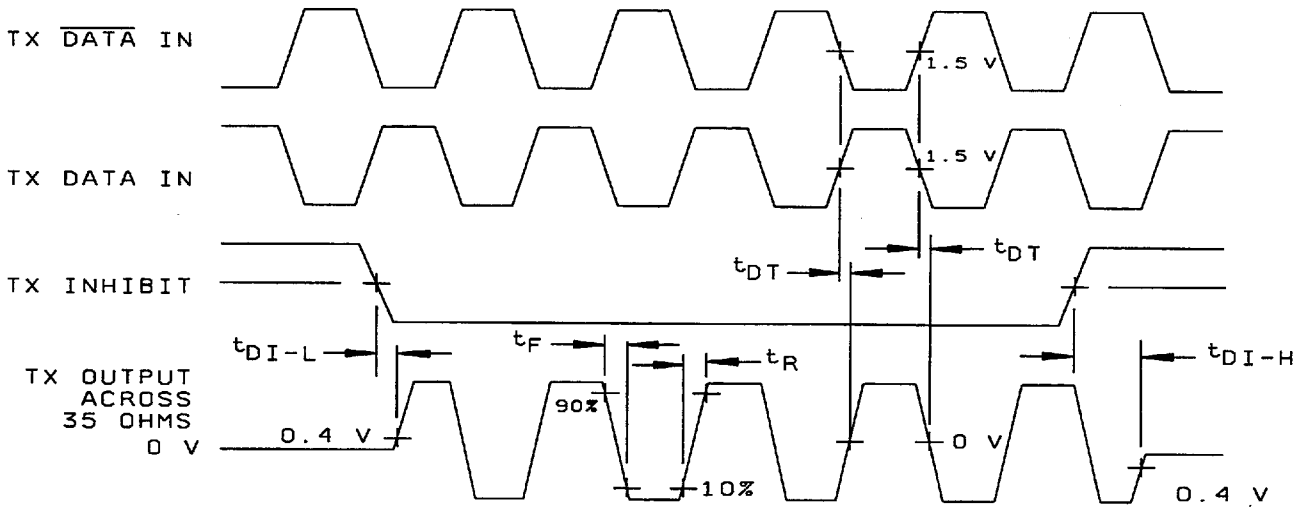
NOTE: Terminal numbers 3 and 12 are no connections for device types 06, 07, 09 and 10.

FIGURE 5. Terminal connections.

RECEIVER TIMING

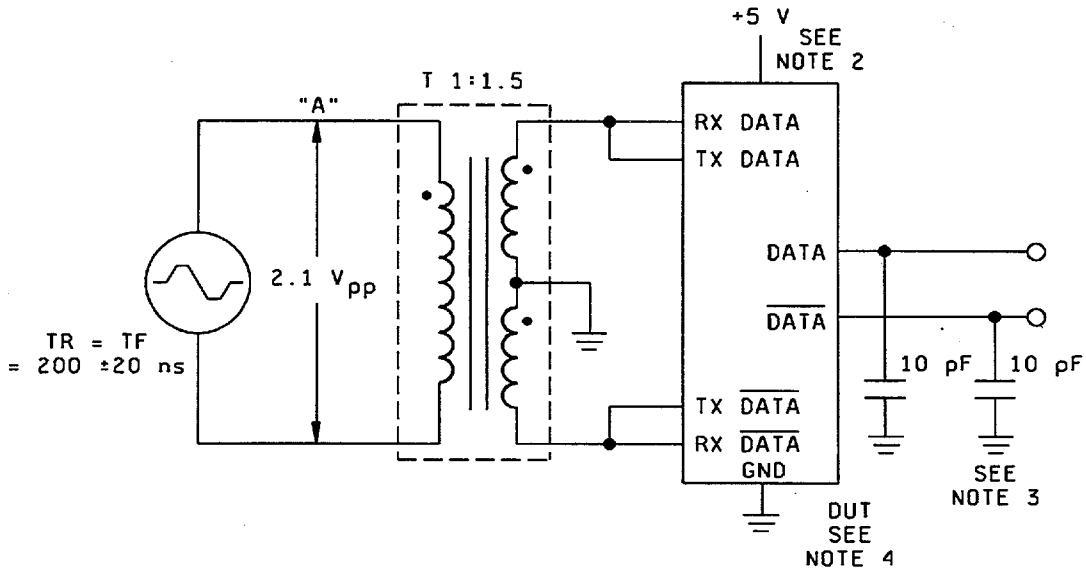


TRANSMITTER TIMING



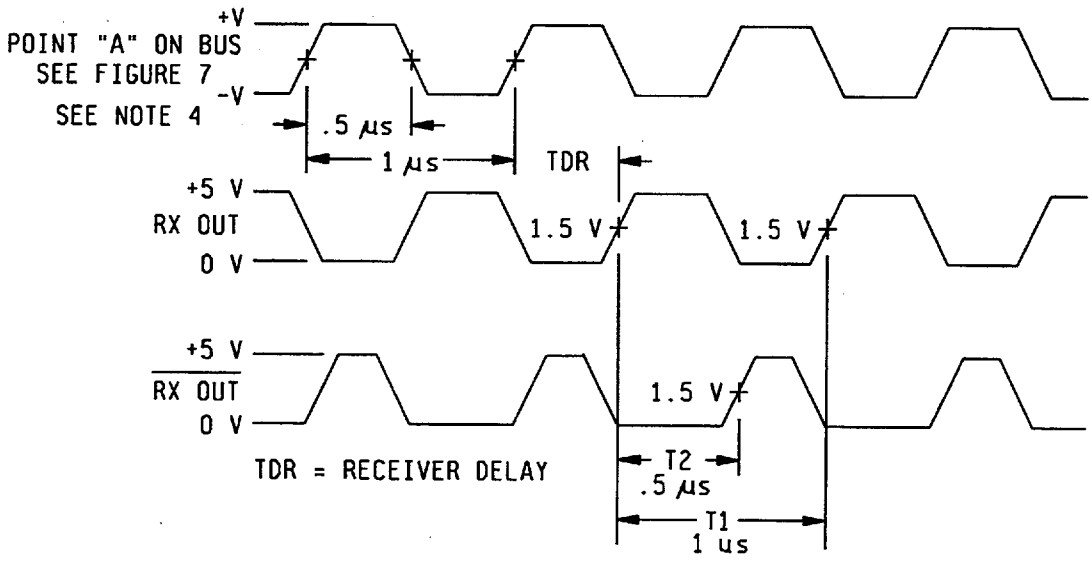
NOTE: Both inputs "TX DATA IN" and "TX $\overline{\text{DATA}}$ IN" must be in the same logic state during off times.

FIGURE 6. Timing waveforms.



NOTES:
1. TR is the rise time of the transmitted message. TF is the fall time of the transmitted message.
2. The V_{CC} decoupling capacitor used in the test setup shall be 4.7 µF minimum.
3. Includes the strobe and jig capacitance.
4. One half of Device Under Test (DUT) shown.

FIGURE 7. Transceiver zero crossing test setup.



NOTES:
1. TDR is the zero crossing of the rising edge of the data bit on the bus (point "A" of figure 7) to the +1.5 V level on the rising edge of RX OUT.
2. T1 is the +1.5 V level from the rising edge of RX OUT to the same level on the next rising edge of RX OUT.
3. T2 is the +1.5 V level on the rising edge of $\overline{\text{RX OUT}}$ to the +1.5 V level up from ground on the rising edge of RX OUT.
4. Input waveform may be a 1 MHz sine or square wave.

FIGURE 8. Receiver timing waveforms.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38534.

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 DESC-EL 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_C = +125°C, minimum.

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 II. Electrical test requirements.

MIL-PRF-38534 test requirements	Subgroups (in accordance with MIL-PRF-38534, group A test table)
Interim electrical parameters	1
Final electrical test 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 Quality conformance inspection. Quality conformance inspection shall be in accordance with MIL-PRF-38534 and as specified herein.

4.3.1 Group A inspection. 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. Group B inspection shall be in accordance with MIL-PRF-38534.

4.3.3 Group C inspection. 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 DESC-EL 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_C = +125°C, minimum.

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

4.3.4 Group D inspection. 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 Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC 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 microelectronics devices (FSC 5962) should contact DESC-EL, telephone (513) 296-6047.

6.5 Comments. Comments on this drawing should be directed to DESC-EL, Dayton, Ohio 45444, or telephone (513) 296-5373.

6.6 Approved sources of supply. Approved sources of supply are listed in QML-38534. Additional sources will be added to QML-38534 as they become available. The vendors listed in QML-38534 have agreed to this drawing and a certificate of compliance (see 3.7 herein) has been submitted to and accepted by DESC-EL.