













HOLT INC.
INTEGRATED CIRCUITS

ARINC 429 ICs

Part Number ¹	Tx/Rx Channels	Tx FIFO (Words)	Rx FIFO (Words)	Label Filter Depth	Host Interface	Data Sheet	Integrated Line Driver	Integrated Line Receiver(s)	Test Mode ²	Tri State Output	Internal Lightning Protection ⁷	Supply Voltages		Packages ^{3,4}
												Digital	Line Driver	
SPI Interface Protocol ICs														
HI-3593	1/2	32	32	256	SPI Serial	HI-3593	1	2	Y	N	N	3.3V	3.3V	1, 2
HI-3210	4/8	32K Bytes RAM		256	SPI Serial	HI-3210	-	-	Y	N	N	3.3V	-	3, 19
HI-3585	1/1	32	32	256	SPI Serial	HI-3585	1	1	Y	N	N	3.3V OR 5V	± 5V	1, 2
HI-3587	1/0	32	-	-	SPI Serial	HI-3587	1	-	N	N	N	3.3V OR 5V	± 5V	1, 2
HI-3588	0/1	-	32	256	SPI Serial	HI-3588	-	1	N	N	N	3.3V OR 5V	-	1, 2
HI-3596-40	1/8	-	4	16	SPI Serial	HI-3598	-	8	Y	N	N	3.3V OR 5V	-	2
HI-3597-40	1/7	-	4	16	SPI Serial	HI-3598	-	7	Y	N	N	3.3V OR 5V	-	5
HI-3598	1/8	-	4	16	SPI Serial	HI-3598	-	8	Y	N	N	3.3V OR 5V	-	3, 4
HI-3599-40	0/8	-	4	16	SPI Serial	HI-3598	-	8	Y	N	N	3.3V OR 5V	-	2, 5
Parallel Interface Protocol ICs														
HI-3583A-15	1/2	32	32	16	16-bit-Parallel	HI-3583A	1	2	Y	N	N	3.3V	± 10V	3, 4, 6
HI-3584A-15	1/2	32	32	16	16-bit-Parallel	HI-3584A	-	2	Y	N	N	3.3V	-	3, 4, 6
HI-8583-10	1/2	32	32	16	16-bit-Parallel	HI-8583	1	2	Y	N	N	5V	± 10V	4, 6
HI-8584-10	1/2	32	32	16	16-bit-Parallel	HI-8584	-	2	Y	N	N	5V	-	4, 6
ARINC 429 / ARINC 717 Transceiver														
HI-3718	1/1	-	-	-	-	HI-3718	1	1	N	Y	N	3.3V	-	8
Line Drivers														
HI-8571	1/0	-	-	-	-	HI-8570	1	-	N	N	N	-	± 5V	9, 10, 11
HI-8586	1/0	-	-	-	-	HI-8585	1	-	N	N	N	-	± 12V or ± 15V	9, 10, 11, 18
HI-8594	1/0	-	-	-	-	HI-8592	1	-	N	Y	N	-	± 5V	9, 11
HI-8592	1/0	-	-	-	-	HI-8592	1	-	N	Y	N	-	± 5V	12, 13
HI-8596	1/0	-	-	-	-	HI-8596	1	-	N	Y	N	-	+3.3V	14, 15
HI-8597	1/0	-	-	-	-	HI-8597	1	-	N	Y	Y	-	+3.3V	23
Line Receivers														
HI-8450	0/1	-	-	-	-	HI-8450	-	1	Y	Y	Y	3.3V or 5V	-	18
HI-8451	0/1	-	-	-	-		-	1	Y	N	Y	3.3V or 5V	-	18
HI-8454	0/4	-	-	-	-		-	4	Y	N	Y	3.3V or 5V	-	7, 16
HI-8455	0/4	-	-	-	-		-	4	N	N	Y	3.3V or 5V	-	16
HI-8448-10	0/8	-	-	-	-	HI-8444	-	8	Y	N	N	3.3V or 5V	-	1, 2, 17
HI-8588-10	0/1	-	-	-	-	HI-8588	-	1	Y	N	N	5V	-	10, 11, 18
HI-8591-40	0/1	-	-	-	-	HI-8591	-	1	Y	N	N	3.3V or 5V	-	10, 11, 15, 18

IC PACKAGES⁴

	Package	Material	SMD	Operating Temperature Range ⁵	Dimensions in Packages ⁶ (mm)
1 	QFP-44	Plastic	Y	I, T, M	0.52 x 0.52 x 0.106 (13.2 x 13.2 x 2.7)
2 	QFN-44	Plastic	Y	I, T, M	0.276x 0.276x 0.039 (7.0 x 7.0 x 1.0)
3 	QFN-64	Plastic	Y	I, T, M	0.354 x 0.354 x 0.039 (9.0 x 9.0 x 1.0)
4 	QFP-52	Plastic	Y	I, T, M	0.52 x 0.52 x 0.106 (13.2 x 13.2 x 2.7)
5 	SOIC-24 (Wide Body)	Plastic	Y	I, T, M	0.607 x 0.407 x 0.10 (15.392 x 10.325 x 2.6)
6 	CerQuad-52 (J-Lead)	Ceramic	Y	I, T, M	0.788 x 0.788 x 0.19 (20.0 x 20.0 x 4.826)
7 	QFN-32	Plastic	Y	I, T, M	0.197 x 0.197 x 0.039 (5.0 x 5.0 x 1.0)
8 	QFP-32	Plastic	Y	I, T, M	0.354 x 0.354 x 0.047 (9.0 x 9.0 x 1.2)
9 	ESOIC-8	Plastic	Y	I, T, M	0.193 x 0.236 x 0.052 (4.9 x 6.0 x 1.325)
10 	PDIP-8	Plastic	Y	I, T, M	0.385 x 0.300 x 0.160 (9.799 x 7.620 x 4.064)
11 	CERDIP-8	Plastic	Y	I, T, M	.380 x 0.314 x 0.2 (9.652 x 7.976 x 5.08)
12 	ESOIC-14 (Narrow Body)	Plastic	Y	I,T,M	0.341 x 0.236 x 0.069 (8.65 x 6.0 x 1.75)
13 	QFN-24	Plastic	Y	I, T	0.197 x 0.197 x 0.038 (5.0 x 5.0 x 0.96)

	Package	Material	SMD	Operating Temperature Range ⁵	Dimensions in Packages ⁶ (mm)
14 	SOIC-16 (Narrow Body)	Plastic	Y	I, T, M	0.390 x 0.236 x 0.056 (9.9 x 5.99 x 1.425)
15 	QFN-16	Plastic	Y	I, T, M	0.157 x 0.157 x 0.039 (4.0 x 4.0 x 1.0)
16 	TSSOP-20	Plastic	Y	I, T, M	0.256 x 0.252 x 0.04 (6.5 x 6.4 x 1.025)
17 	TSSOP-38	Plastic	Y	I, T, M	0.382 x 0.252 x 0.04 (9.70 x 6.40 x 1.025)
18 	SOIC-8	Plastic	Y	I, T, M	0.193 x 0.236 x 0.056 (4.9 x 6.0 x 1.425)
19 	LQFP-64	Plastic	Y	I, T, M	0.472 x 0.472 x 0.063 (12.0 x 12.0 x 1.6)
20 	LQFP-100	Plastic	Y	I, T, M	0.63 x 0.63 x 0.063 (16.0 x 16.0 x 1.6)
21 	TQFP-64	Plastic	Y	I, T, M	0.354 x 0.354 x 0.047 (9.0 x 9.0 x 1.2)
22 	LQFP-128	Plastic	Y	I, T, M	0.63 x 0.63 x 0.063 (16.0 x 16.0 x 1.6)
23 	ESOIC-16 (Wide Body)	Plastic	Y	I, T, M	0.406 x 0.406 x 0.089 (10.3 x 10.3 x 2.25)

Notes:

- 1) “-10”, “-15” or “-40” designates the use of external resistors for lightning protection of ARINC inputs. See datasheet and AN-300 & AN-301 for details of lightning protection on ARINC inputs and outputs.
- 2) Test Mode functions are part specific. See datasheet for details.
- 3) See IC Packages.
- 4) Contact your local sales representative for RoHS compliant (lead free) options.
- 5) **I**: -40°C to +85°C. **T**: -55°C to +125°C w/o burn in. **M**: -55°C to +125°C with burn in.
- 6) Dimensions refer to approximate footprint and height when mounted, “L x W x H”. Guideline only. Data sheet dimensions should be used for design purposes.
- 7) Parts with internal lightning protection allow compliance with RTCA/DO-160G, Section 22 Level 3 Pin Injection Test Waveform Set A (3 & 4), Set B (3 & 5A) and Set Z (3 & 5B). See Holt Application Notes AN-300 and AN-301 for further details on lightning protection of Holt ARINC 429 parts.