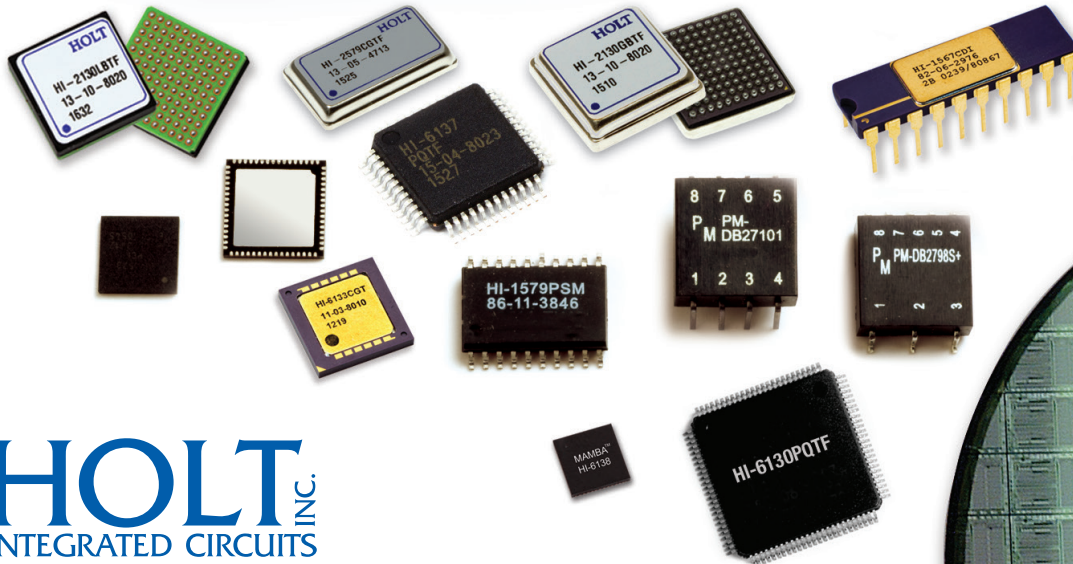


# MIL-STD-1553 PRODUCT SELECTOR GUIDE

**DO-254  
CERTIFIABLE**



**HOLT** INC.  
INTEGRATED CIRCUITS








## TRANSCEIVERS







Part Number	Tx/Rx Channels	Supply Voltages	MIL-STD-1760 Compliant	Variable Transmitter Output Amplitude	Packages <sup>(1)</sup>	Isolation Transformer Ratio
<b>Transceivers</b>						
HI-25850	Dual	1.8V, 2.5V or 3.3V <sup>17</sup>	Yes	No	14	Integrated
HI-15850	Dual	1.8V, 2.5V or 3.3V <sup>17</sup>	Yes	No	12	1:2.07 <sup>(3)</sup>
HI-1590	Dual	3.3V	Yes	Yes	1, 22	1:2.5
HI-15790 (HI-15810 <sup>4</sup> )	Dual	3.3V	Yes	No	1, 2, 17	1:2.5
HI-1587 <sup>(14)</sup>	Dual	1.8V, 2.5V or 3.3V <sup>(17)</sup>	Yes	No	12, 13	1:2.07 <sup>(3)</sup>
HI-1584	Dual	3.3V	Yes	No	11	1:2.07 <sup>(3)</sup>
HI-1582	Single	3.3V	Yes	No	10	1:2.5
HI-15730 (HI-15740 <sup>4</sup> )	Dual	3.3V	No	No	1, 2, 17	1:1.79 <sup>(2)</sup>
HI-15700	Dual	5V	Yes	Yes	1, 2, 17	1: 1.79 <sup>(2)</sup>
HI-15650 (HI-15660 <sup>4</sup> )	Dual	5V	Yes	No	1, 2, 17	1: 1.79 <sup>(2)</sup>

## INTEGRATED TERMINALS

Part Number	Tx/Rx Channels	Terminal Type	Concurrent Terminal Operation	Supported Standards	Data Rate	Internal Analog Transceivers	Integrated Transformers	Isolation Transformer Ratio	IRIG-106 MT Mode	Host Interface	RAM	RAM Error Handling	Packages <sup>(1)</sup>
<b>3.3V Integrated Terminals</b>													
MAMBA™ HI-6139	2	BC/RT/MT	Yes	AS4111, 1553B, 1760, 1553A	1 Mbps	Yes	No	1:2.5	No	40MHz SPI	8K x 17	Parity	12, 13
MAMBA™ HI-6138	2	BC/RT/MT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	40MHz SPI	8K x 17	Parity	12, 13
MAMBA™ HI-6137	2	BC/RT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	40MHz SPI	8K x 17	Parity	12, 13
MAMBA™ HI-6136	2	RT/MT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	40MHz SPI	8K x 17	Parity	12, 13
MAMBA™ HI-6135	2	RT	N/A	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	40MHz SPI	8K x 17	Parity	12, 13
HI-2130	2	BC/MT/2RT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	Yes	Integrated	Yes	16-bit parallel or 20MHz SPI	32K x 16 <sup>(7)</sup>	Detection/Correction	14, 21 <sup>(8)</sup>
HI-6130	2	BC/MT/2RT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	Yes	16-bit parallel	32K x 16 <sup>(7)</sup>	Detection/Correction	6
HI-6131	2	BC/MT/2RT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	Yes	20MHz SPI	32K x 16 <sup>(7)</sup>	Detection/Correction	7, 8
HI-6132 <sup>(6)</sup>	2	BC/MT/2RT	Yes	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	16-bit parallel or 20MHz SPI	32K x 16 <sup>(7)</sup>	Detection/Correction	20 <sup>(8)</sup>
HI-62003 <sup>(16)</sup>	2	BC/RT/MT	RT/MT only	AS4111, 1553B, 1760, 1553A	1 Mbps	Yes	No	1:2.5	No	16-bit parallel	64K x 16	Detection/Correction	15, 16
HI-62023 <sup>(16)</sup>	2	RT	N/A	AS4111, 1553B, 1760, 1553A	1 Mbps	Yes	No	1:2.5	No	16-bit parallel	64K x 16	Detection/Correction	15, 16
HI-62025 <sup>(16)</sup>	2	RT	N/A	AS4111, 1553B, 1760, 1553A	1 Mbps	Yes (5V)	No	1:1.79 <sup>(18)</sup>	No	16-bit parallel	64K x 16	Detection/Correction	16
HI-6120	2	RT	N/A	AS4111, 1553B, 1760	1 Mbps	Yes	No	1:2.5	No	16-bit parallel	32K x 16	None	6
HI-6140	2	BC/MT/RT	Yes	AS5652, EBR-1553 /MMSI	10 Mbps	No <sup>(6)</sup>	No	N/A	No	16-bit parallel	32K x 16 <sup>(7)</sup>	Detection/Correction	6
<b>MIL-STD-1553 IP Core</b>													
HI-6300	2	BC/RT/MT	Yes	AS4111, 1553B, 1760	1 Mbps	No	No	1:2.07	No	Synchronous 16-bit parallel	64K x 22	Detection/Correction	N/A

## IC PACKAGES<sup>(9)</sup>

Plastic	Package	Dimensions in inches (millimeters) <sup>(10)</sup>
1 	QFN-44	0.276 x 0.276 x 0.039 (7.0 x 7.0 x 1.0)
2 	ESOIC-20	0.504 x 0.407 x 0.094 (12.79 x 10.325 x 2.281)
3 	QFN-40	0.236 x 0.236 x 0.039 (6.0 x 6.0 x 1.0)
4 	QFP-32	0.354 x 0.354 x 0.047 (9.0 x 9.0 x 1.2)
5 	SSOP-24	0.323 x 0.307 x 0.078 (8.2 x 7.8 x 1.99)
6 	QFP-100	0.63 x 0.63 x 0.063 (16.0 x 16.0 x 1.6)
7 	QFP-64	0.473 x 0.473 x 0.063 (12 x 12 x 1.6)
8 	QFN-64	0.354 x 0.354 x 0.039 (9.0 x 9.0 x 1.0)
9 	QFP-52	0.52 x 0.52 x 0.106 (13.2 x 13.2 x 2.7)
10 	QFN-32	0.276 x 0.276 x 0.039 (7.0 x 7.0 x 1.0)
11 	QFN-48	0.276 x 0.276 x 0.031 (7.0 x 7.0 x 0.8)
12 	QFN-48	0.236 x 0.236 x 0.039 (6.0 x 6.0 x 1.0)
13 	QFP-48	0.354 x 0.354 x 0.063 (9.0 x 9.0 x 1.6)
14  <sup>(15)</sup>	Low Profile BGA-121	0.59 x 0.59 x 0.17 (15.0 x 15.0 x 4.3)
15 	QFN-80	0.472 x 0.472 x 0.039 (12.0 x 12.0 x 1.0)
16 	QFP-80	0.472 x 0.472 x 0.063 (12.0 x 12.0 x 1.6)

Ceramic	Package	Dimensions in inches <sup>(10)</sup>
17 	Ceramic S/B DIP-20	1.0 x 0.310 x 0.2 (25.4 x 7.874 x 5.080)
18 	Ceramic S/B DIP-24	1.22 x 0.610 x 0.2 (30.988 x 15.494 x 5.080)
19 	CerLCC-28	0.451 x 0.451 x 0.08 (11.455 x 11.455 x 2.032)
20 	BGA-121	0.59 x 0.59 x 0.11 (14.986 x 14.986 x 2.795)
21 	BGA-121	0.642 x 0.642 x 0.217 (16.3 x 16.3 x 5.10)
22 	Ceramic S/B DIP-28	1.40 x 0.61 x 0.20 (35.56 x 15.494 x 5.08)

## TRANSFORMER PACKAGES<sup>(9)</sup>

Package	SMD	Dimensions in inches (millimeters) <sup>(10)</sup>
 A	No	0.625 x 0.625 x 0.250 (15.87 x 15.87 x 6.35)
 AC	Yes	0.675 x 0.4 x 0.185 (17.145 x 10.16 x 4.699)
 D	Yes	0.625 x 0.625 x 0.254 (15.87 x 15.87 x 6.45)
 G	No	0.4 x 0.4 x 0.26 (10.16 x 10.16 x 6.608)
 H	No	0.625 x 0.625 x 0.250 (15.87 x 15.87 x 6.35)
 K	No	0.63 x 0.63 x 0.155 (16.0 x 16.0 x 3.937)
 L	Yes	0.63 x 0.63 x 0.159 (16.0 x 16.0 x 4.037)
 AA	Yes	0.4 x 0.4 x 0.32 (10.16 x 10.16 x 8.128)
 R	No	0.93 x 0.63 x 0.155 (23.62 x 16.0 x 3.937)
 S	Yes	0.93 x 0.63 x 0.159 (23.62 x 16.0 x 4.037)
 T	N/A <sup>(13)</sup>	0.93 x 0.43 x 0.155 (23.62 x 10.92 x 3.937)
 V	Yes	0.40 x 0.40 x 0.185 (10.16 x 10.16 x 4.699)
 W	No	0.43 x 0.43 x 0.155 (10.92 x 10.92 x 3.937)
 AB	Yes	0.93 x 0.575 x 0.185 (23.62 x 14.605 x 4.699)



## TRANSFORMERS

Part Number	Single or Dual Core	SMD Package	Available Transformer Ratios		Packages <sup>(11)</sup>
<b>Isolation Transformers</b>					
PM-DB2776	Dual	Yes	1:2.5	1:1.79	AC
PM-DB2762	Dual	Yes	1:2.5	1:2.5	AA
PM-DB2725	Single	No	1:2.5	1:1.79	A
PM-DB2725EX	Single	No	1:2.5	1:1.79	G
PM-DB2727	Single	Yes	1:2.5	1:1.79	D
PM-DB2745	Single	No	1:2.5	1:1.79	K
PM-DB2745D	Dual	No	1:2.5	1:1.79	R
PM-DB2745L	Single	Yes	1:2.5	1:1.79	L
PM-DB2745S	Dual	Yes	1:2.5	1:1.79	S
PM-DB2745T	Dual	N/A <sup>(13)</sup>	1:2.5	1:1.79	T
PM-DB2756	Dual	Yes	1:2.5	1:2.5	AB
PM-DB2766	Dual	Yes	1:1.79	1:1.79	AA
PM-DB2779	Dual	Yes	1:2.65	1:2.07	AC
PM-DB2771	Dual	Yes	1:2.07	1:2.07	AA
PM-DB2794S	Single	Yes	1:2.65	N/A	V
PM-DB2785S <sup>(12)</sup>	Dual	Yes	1:2.5	1:1.79	S
PM-DB2791S	Single	Yes	1:2.5	N/A	V
PM-DB2793S	Single	Yes	1:2.5	N/A	V
PM-DB2793T	Single	Yes	1:2.5	N/A	A
PM-DB2795S	Single	Yes	1:1.79	N/A	V
PM-DB2798S	Single	Yes	1:2.5	1:1.79	V
PM-DB27101	Single	No	1:2.5	1:1.79	W
PM-DB27408	Dual	No	1:2.5	1:1.79	H
<b>Coupling Transformers</b>					
PM-DB2702	Single	No	1:1.4	2:1	A
PM-DB2742L	Single	Yes	1:1.4	2:1	L
PM-DB2742S	Dual	Yes	1:1.4	2:1	S
PM-DB2764	Dual	Yes	1:1.41	1:1.41	AA

## NOTES

- 1) See IC Packages.
- 2) Transformer coupled assumed. For direct coupled applications, use 1:2.5 ratio.
- 3) Transformer coupled assumed. For direct coupled applications, use 1:2.65 ratio.
- 4) Receiver outputs will be a logic “1” when MIL-STD-1553 bus is idle.
- 5) Hermetic package.
- 6) Requires external RS-485 transceivers (recommend HI-4853 20Mbps transceiver).
- 7) 24K x 16 when EDC is enabled.
- 8) Also available in PGA-121.
- 9) Contact your local sales representative for RoHS compliant (lead-free) options.
- 10) 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.
- 11) See Transformer Packages.
- 12) Dielectric withstand (Hi-Pot test) 1500Vrms.
- 13) Leads not formed.
- 14) Integrated IP security module.
- 15) High-TCE ceramic substrate.
- 16) Fully Software Compatible to DDC<sup>®</sup> ACE, Mini-ACE<sup>®</sup>, Enhanced Mini-ACE<sup>®</sup>, Micro-ACE<sup>®</sup>, Mini-ACE<sup>®</sup> Mark3 and Total-ACE<sup>®</sup>.  
  
NOTE: DDC<sup>®</sup>, Mini-ACE<sup>®</sup>, Micro-ACE<sup>®</sup> and Total-ACE<sup>®</sup> are registered trademarks of Data Device Corporation, Bohemia, NY, USA. There is no affiliation between Data Device Corporation and Holt Integrated Circuits Inc.
- 17) Digital I/O capable of 1.8V, 2.5V or 3.3V. The analog transceiver is powered by a 3.3V supply.
- 18) Transformer coupled only. For direct coupled use a transformer ratio of 1:2.5.

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