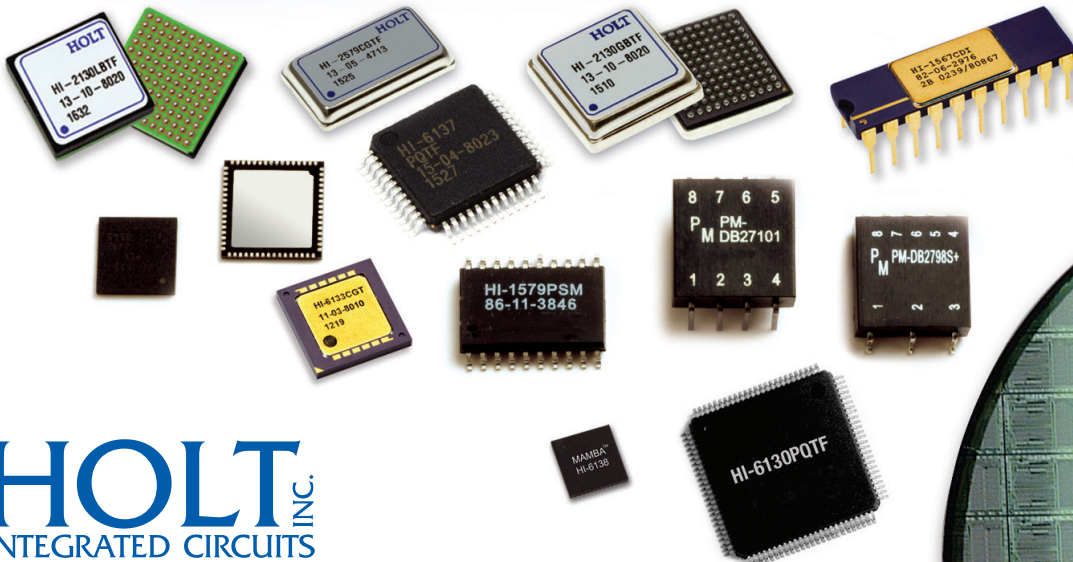


MIL-STD-1553 PRODUCT SELECTOR GUIDE

**DO-254
CERTIFIABLE**



HOLT INC.
INTEGRATED CIRCUITS

TRANSCEIVERS

















| Part Number | Tx/Rx Channels | Supply Voltage | MIL-STD-1760 Compliant | Variable Transmitter Output Amplitude | Packages ⁽¹⁾ | Isolation Transformer Ratio |
|--|----------------|----------------|------------------------|---------------------------------------|-------------------------|-----------------------------|
| Transceivers | | | | | | |
| HI-1590 | Dual | 3.3V | Yes | Yes | 1, 23 | 1:2.5 |
| HI-1585 | Dual | 3.3V | Yes | No | 12 | 1:2.07 ⁽³⁾ |
| HI-2579 (HI-2581 ⁴) | Dual | 3.3V | Yes | No | 18 | Integrated |
| HI-1579 (HI-1581 ⁴) | Dual | 3.3V | Yes | No | 1, 2, 17 | 1:2.5 |
| HI-1587 ¹⁴ | Dual | 3.3V | Yes | No | 12 | 1:2.07 ⁽³⁾ |
| HI-1584 | Dual | 3.3V | Yes | No | 11 | 1:2.07 ⁽³⁾ |
| HI-1582 | Single | 3.3V | Yes | No | 10 | 1:2.5 |
| HI-1573 (HI-1574 ⁴) | Dual | 3.3V | No | No | 1, 2, 17 | 1:1.79 ⁽²⁾ |
| HI-1570 | Dual | 5V | Yes | Yes | 1, 2, 17 | 1: 1.79 ⁽²⁾ |
| HI-1565 (HI-1566 ⁴) | Dual | 5V | Yes | No | 1, 2, 17 | 1: 1.79 ⁽²⁾ |
| Smart Transceiver (Integrated Encoder/Decoders) | | | | | | |
| HI-1575 | Dual | 3.3V | No | No | 3, 4 | 1:2.5 |
| Encoder/Decoders | | | | | | |
| HI-15530 | - | 3.3V & 5V | N/A | N/A | 5, 19, 20 | N/A |








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 ⁽¹⁾ |
|----------------------------------|----------------|---------------|-------------------------------|----------------------------|-----------|------------------------------|-------------------------|-----------------------------|------------------|------------------------------|-------------------------|----------------------|-------------------------|
| 3.3V Integrated Terminals | | | | | | | | | | | | | |
| 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 ⁽⁷⁾ | Detection/Correction | 14, 22 ⁽⁸⁾ |
| HI-6130 | 2 | BC/MT/2RT | Yes | AS4111, 1553B, 1760 | 1 Mbps | Yes | No | 1:2.5 | Yes | 16-bit parallel | 32K x 16 ⁽⁷⁾ | 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 ⁽⁷⁾ | Detection/Correction | 7, 8 |
| HI-6132 ⁽⁵⁾ | 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 ⁽⁷⁾ | Detection/Correction | 21 ⁽⁸⁾ |
| HI-62003 ⁽¹⁶⁾ | 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 | 17, 18 |
| HI-62023 ⁽¹⁶⁾ | 2 | RT | N/A | AS4111, 1553B, 1760, 1553A | 1 Mbps | Yes | No | 1:2.5 | No | 16-bit parallel | 64K x 16 | Detection/Correction | 17, 18 |
| 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-6121 | 2 | RT | N/A | AS4111, 1553B, 1760 | 1 Mbps | Yes | No | 1:2.5 | No | 20MHz SPI | 32K x 16 | None | 8, 9 |
| HI-6140 | 2 | BC/MT/RT | Yes | AS5652, EBR-1553 /MMSI | 10 Mbps | No ⁽⁶⁾ | No | N/A | No | 16-bit parallel | 32K x 16 ⁽⁷⁾ | Detection/Correction | 6 |
| MIL-STD-1553 IP Core | | | | | | | | | | | | | |
| 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⁽⁹⁾

| Plastic | Package | Dimensions in inches ⁽¹⁰⁾ |
|---|---------------------|--|
| 1  | QFN-44 | 0.276 x 0.276 x 0.039 (7.0 x 7.0 x 1.0) |
| 2  | ESQIC-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  (15) | 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 ⁽¹⁰⁾ |
|--|-----------------------|--|
| 17  | Ceramic S/B DIP-20 | 1.22 x 0.610 x 0.2 (30.988 x 15.494 x 5.080) |
| 18  | CerLCC-24 | 0.845 x 0.485 x 0.166 (21.46 x 12.32 x 4.22) |
| 19  | Ceramic S/B DIP-24 | 1.22 x 0.610 x 0.2 (30.988 x 15.494 x 5.080) |
| 20  | CerLCC-28 | 0.451 x 0.451 x 0.08 (11.455 x 11.455 x 2.032) |
| 21  | BGA-121 | 0.59 x 0.59 x 0.11 (14.986 x 14.986 x 2.795) |
| 22  | BGA-121 | 0.642 x 0.642 x 0.217 (16.3 x 16.3 x 5.10) |
| 23  | Ceramic S/B DIP-28 | 1.40 x 0.61 x 0.20 (35.56 x 15.494 x 5.08) |

TRANSFORMER PACKAGES⁽⁹⁾

| | SMD | Dimensions in inches ⁽¹⁰⁾ (millimeters) |
|--|---------------------|--|
| 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 ⁽¹³⁾ | 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 ⁽¹¹⁾ |
|-------------------------------|---------------------|---------------------|------------------------------|----------|--------------------------|
| Isolation Transformers | | | | | |
| 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 ⁽¹³⁾ | 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 ⁽¹²⁾ | 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 |
| Coupling Transformers | | | | | |
| 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. Digital I/O capable of 1.8V, 2.5V or 3.3V.
- 15) High-TCE ceramic substrate.
- 16) Fully Software Compatible to DDC[®] ACE, Mini-ACE[®], Enhanced Mini-ACE[®], Micro-ACE[®], Mini-ACE[®] Mark3 and Total-ACE[®].

NOTE: DDC[®], Mini-ACE[®], Micro-ACE[®] and Total-ACE[®] are registered trademarks of Data Device Corporation, Bohemia, NY, USA. There is no affiliation between Data Device Corporation and Holt Integrated Circuits Inc.



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