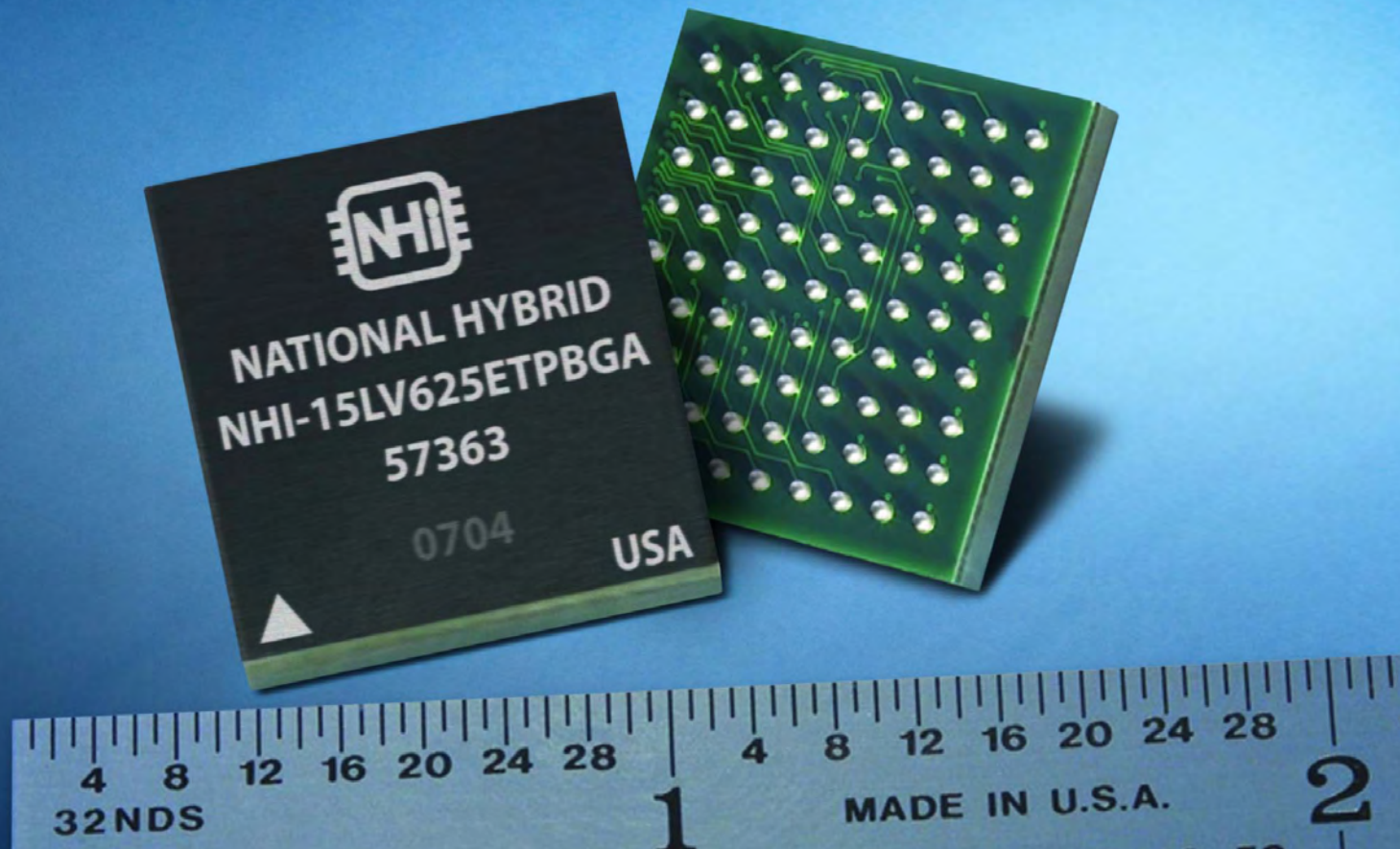


# Multi-Protocol PBGA Mil- Std- Data Bus Interface Model # NHi-156XXPBGA

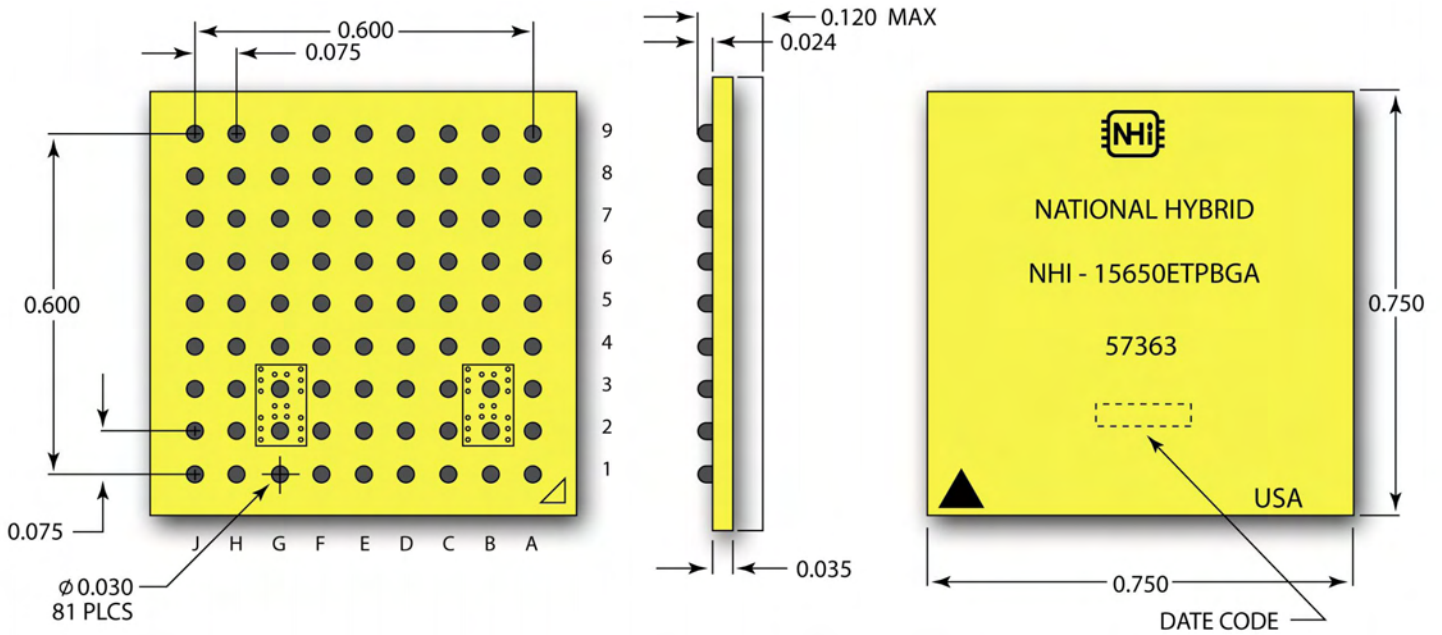


The NHi PBGA family of Mil-Std-1553 terminals address the requirements for small, cost effective, reliable terminals suitable for critical military applications. NHi has solved the critical problem of solder shorts between balls by providing oversized solder balls with a generous pitch. The PBGA family is designed as an autonomous interface between a host processor and the terminal that unburdens the CPU. The ET versions function as a programmable BC/RT/MT or simultaneous MT/RT. The RT devices operate as Remote Terminal only.

## FEATURES

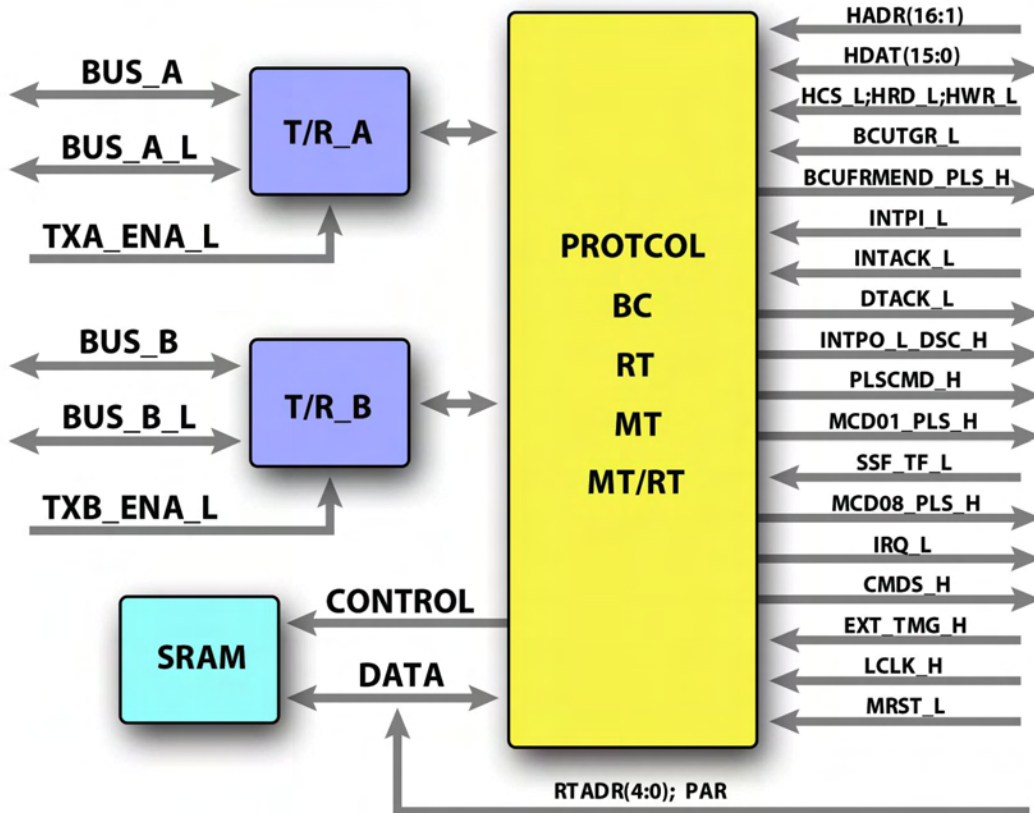
- Dimensions: 0.75 x 0.75 Inch
- Footprint Less Than 0.6 Square Inch
- 81 Over-Sized Balls with Large Pitch Eliminates Solder Shorting
- Solder Alloy: 63/37 or ROHS 95/5
- +3.3V or +5V NHi Monolithic Transceivers
- +3.3V Logic
- Low Power CMOS Technology
- Multi-Protocol Interface
- PCI Bus or Local Bus Subsystem Interface
- 20 Mhz Clock
- Dual Port Double Buffered 64K x 16 SRAM
- BC-RT-MT-MT/RT Terminals
- RT Only Terminals

## NHI - 15650ETPBGA COMMERCIAL PLASTIC BALL GRID ARRAY PACKAGE

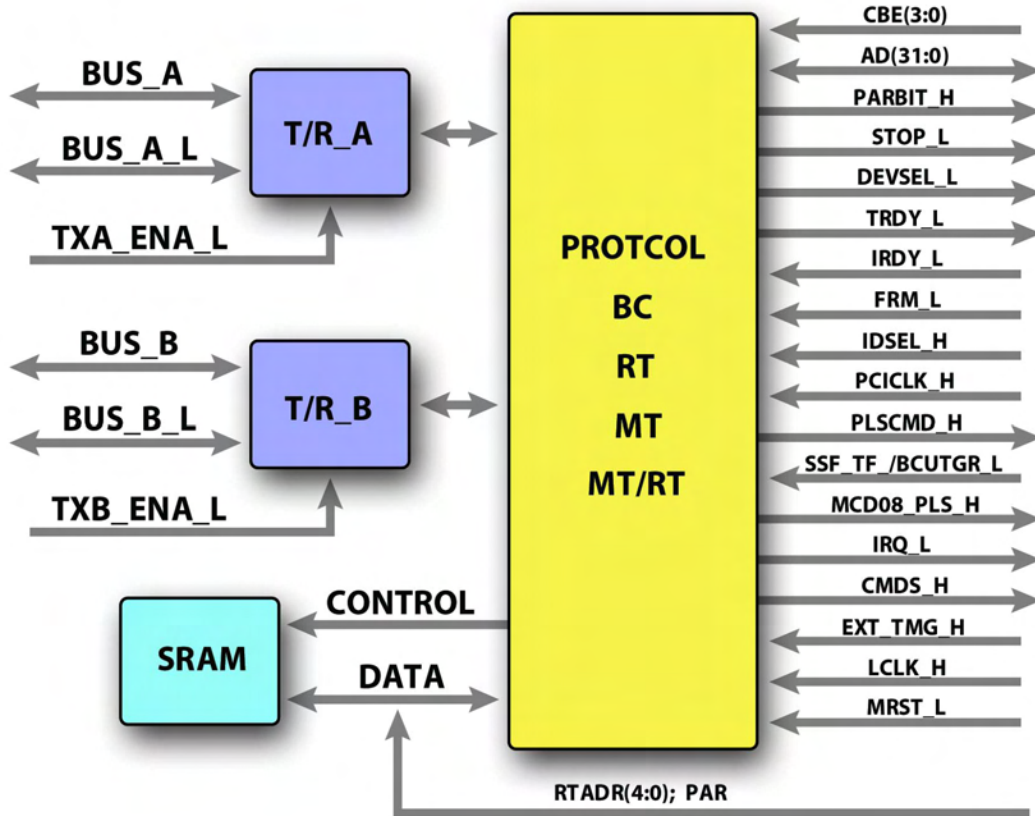


**Notes:** 1. Solder Ball Alloy: 63/37 Sn/Pb    2. Ball Coplanarity: 0.006

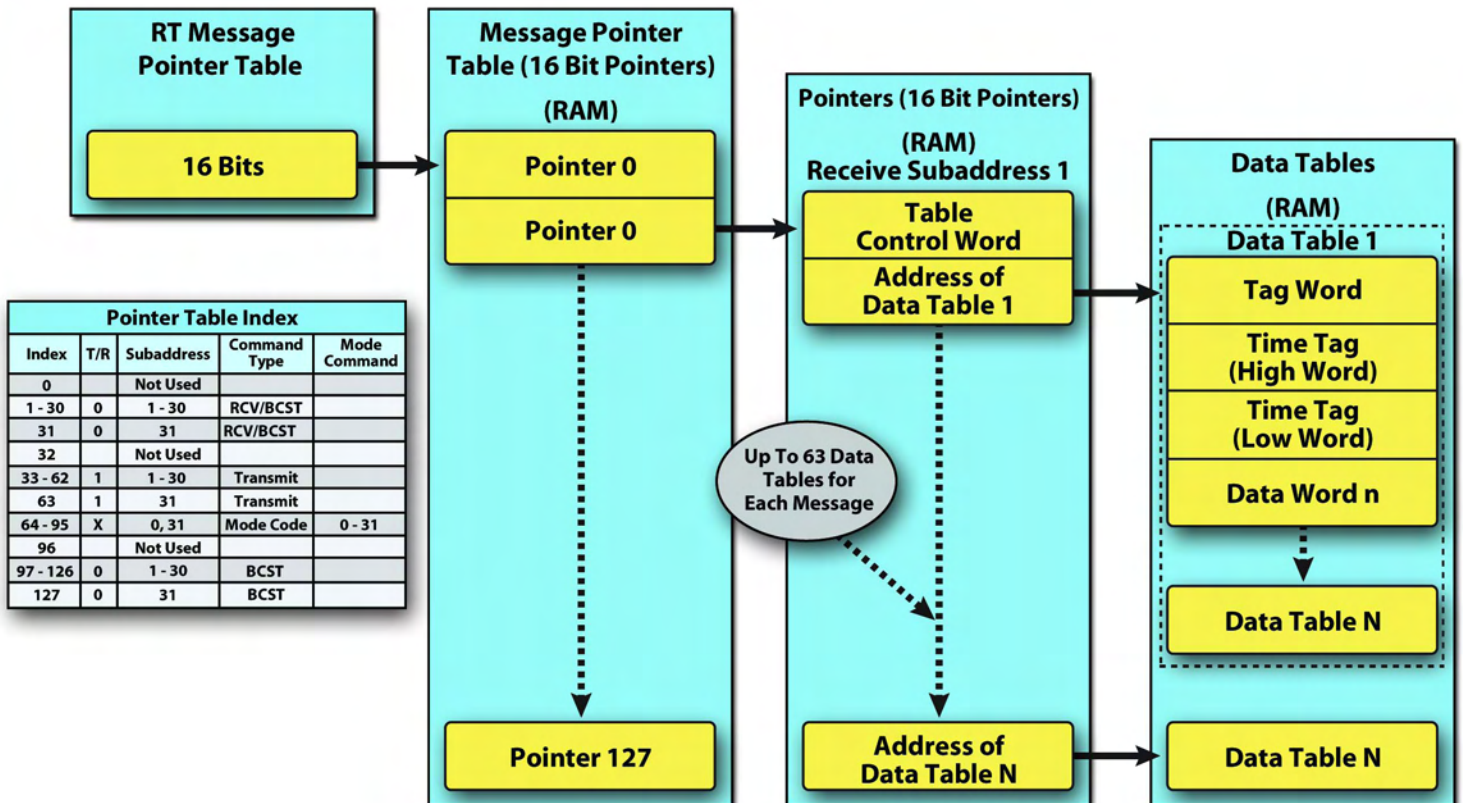
### Local Bus Terminal Block Diagram



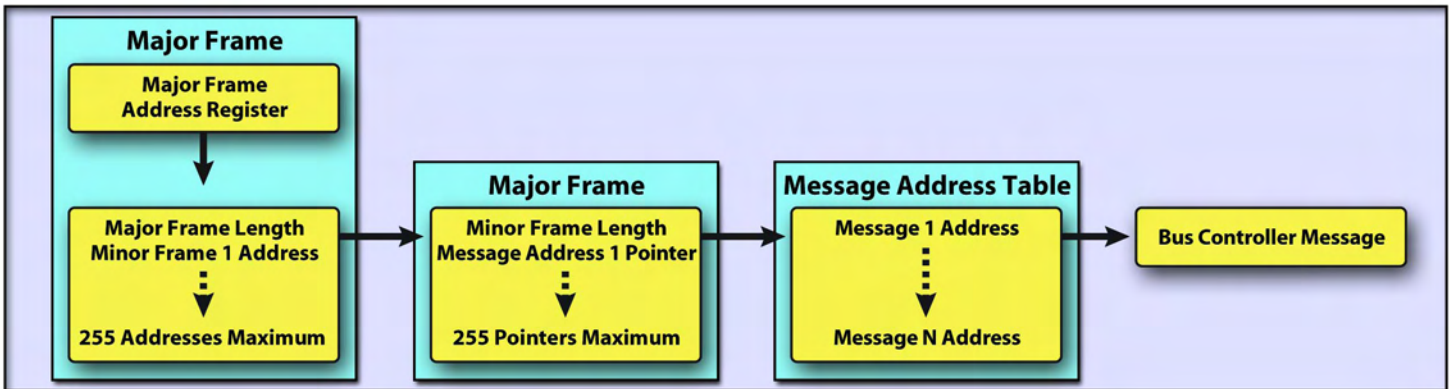
## PCI Bus Terminal Block Diagram



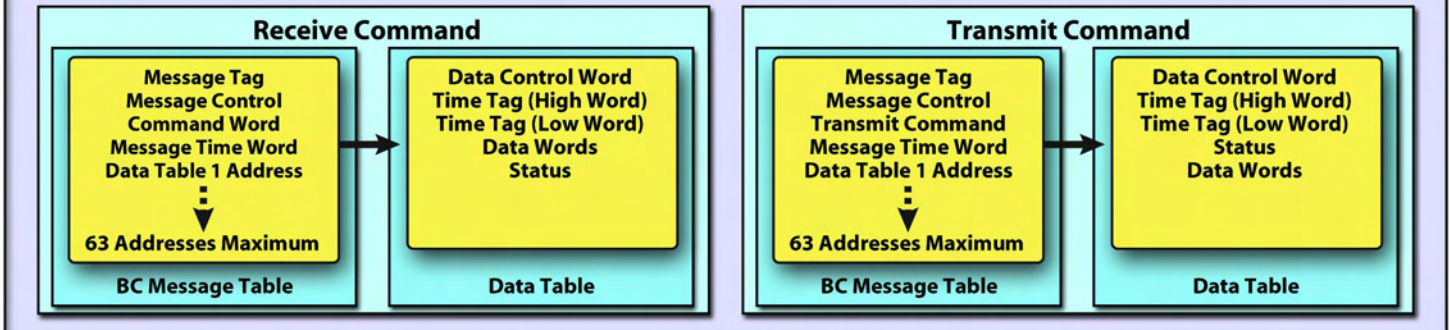
## Remote Terminal Message Map



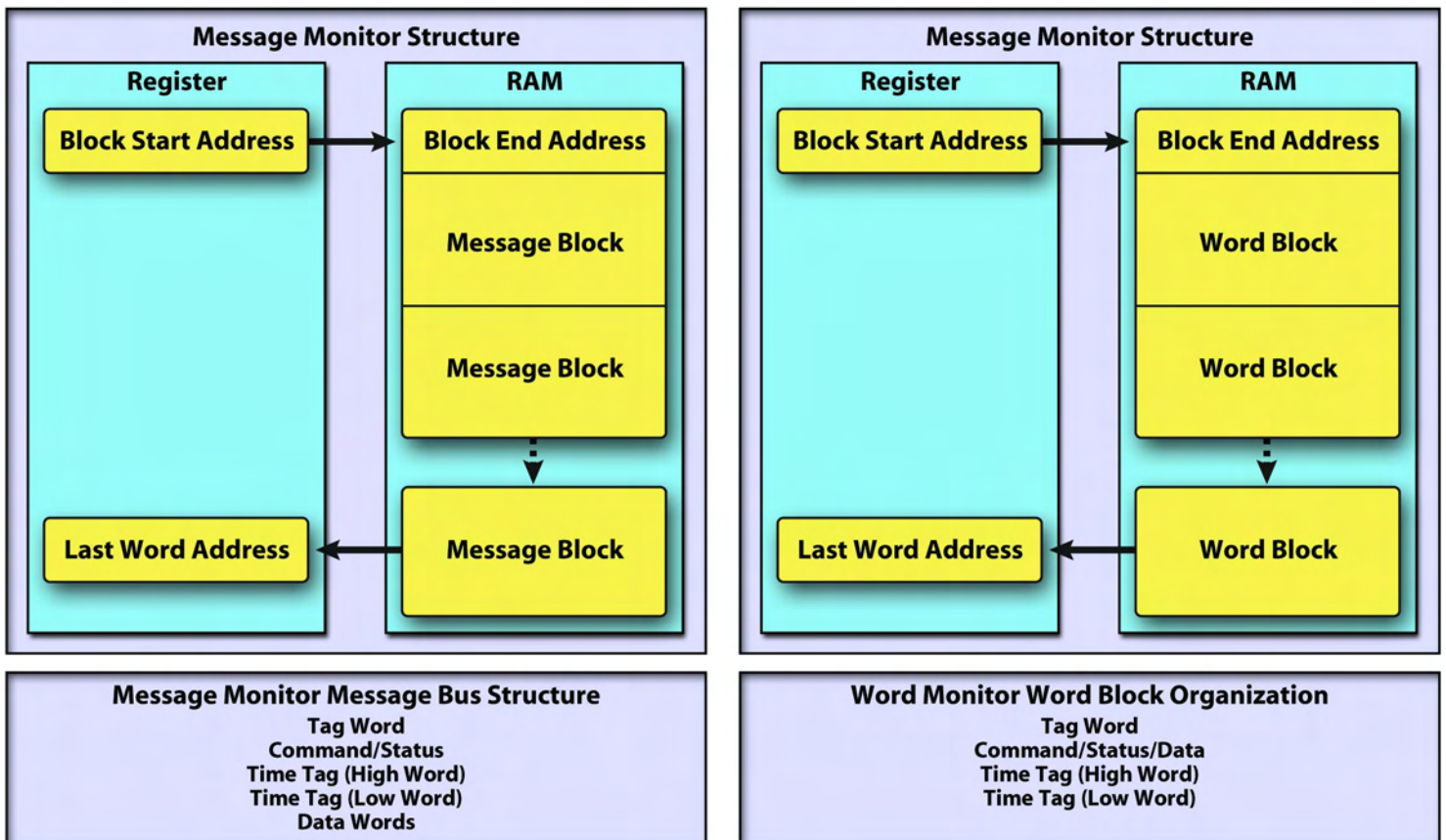
## Bus Controller Message Map



### Sample Message Structures

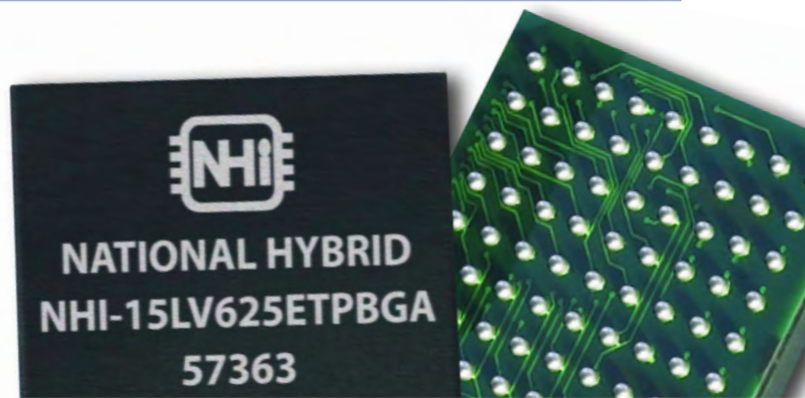


## Bus Monitor Message Map



## SPECIFICATIONS

PARAMETER		MIN	MAX	UNITS
<b>Power Supply Requirements</b>				
3.3V Logic		3.0	3.6	V
5V Transceiver		4.7	5.5	V
3.3V Transceiver		3.15	3.45	V
<b>Current Requirements</b>				
5V Transceiver	Idle	27	38	mA
	100%	465	625	mA
3.3V Transceiver	Idle	23	33	
	100%	700	900	
3.3V Logic/RAM		8	20	mA
<b>Logic I/O</b>				
V <sub>IL</sub>		-0.3	0.8	V
V <sub>IH</sub>		2.0	3.6	V
V <sub>OL</sub>			0.4	V
V <sub>OH</sub>		2.4		V
PCI			3.3V signaling only	
<b>Clock</b>				
			20	MHz
<b>Thermal</b>				
Resistance, Junction to Case			6	°C/W
Case Operating	Industrial	-40	+85	°C
	/T	-55	+125	°C
Case Storage		-65	+150	°C
Soldering	Sn/Pb		225 +0/-5	°C
	ROHS		250	°C
<b>Package</b>				
81-ball PBGA		0.75 x 0.75 x 0.120		inches
		19 x 19 x 3.0		mm
		0.0705		oz
		2.0		gm
SubstrateComposition		Ultralam 2000	PTFE/Woven Glass	
Solder Alloy	Leaded	63/37	Sn/Pb	
	ROHS	96.5/3.0/0.5	Sn/Ag/Cu	SAC305
JEDEC Moisture Sensitivity Level			3	



## ORDERING INFORMATION

Unless otherwise specified, all terminals contain the following standard features:

- Dual Redundant +3.3 Volt Logic Operation
- NHi Monolithic +5V or +3.3V Transceivers
- Bus Controller, Bus Monitor, Remote Terminal, Bus Monitor/Remote Terminal
- PCI Bus Or Local Bus Interface
- 64K Word Internal Ram
- Multi Protocol Compliant
- Trapezoidal Output Waveform
- External Time Tag Input
- BC Trigger
- Package Pins Defined in Pin Function Table

## NHi-15LV6XXETPBGA/R T

