



## Features

- 4th Gen Intel® Core™ i7/i5/i3 processor (maximum 45W TDP), up to 2.7GHz
- 2x DDR3-1600 SO-DIMM, Max. 16GB
- Supports VGA, HDMI and DisplayPort
- 2x Intel® PCI-E Gigabit LAN
- 4x USB 3.0, 6x USB 2.0, 2x COM, 2x SATA III
- 2x Mini PCI-E slots, 2x mSATA, 1x PCI-E (x4)
- Watchdog timer, Digital I/O, iAMT (9.0), TPM(1.2), iSMART

## Specifications

CPU Socket	LGA1150
CPU	4th Gen Intel® Core™ DT i7/i5/i3 processors (Max. 45W TDP)
PCH	MI987AF: Intel® Q87 PCH MI987EF: Intel® H81 PCH
Memory Types	2x DDR3-1600 SO-DIMM, Max. 16GB (Non-ECC)
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	2x mSATA
Expansion Slots	1x PCI-E (x4) slot
Mini Type Slots	2x Mini PCI-E (1x full-size, 1x half-size)
Graphics Controller	4th Gen Intel® Core™ DT i7/i5/i3 processors integrated graphics
Video Output	Supports VGA, HDMI and DisplayPort
Ethernet	MI987AF: Intel® I217LM Gigabit LAN PHY MI987EF: Intel® I217V Gigabit LAN PHY Intel® I211AT PCI-E Gigabit LAN( as 2 <sup>nd</sup> LAN)
I/O Chip	Nuvoton NCT5523D 1x RS232/422/485 (jumperless selection) 1x RS232
USB 2.0	MI987AF: 6x USB 2.0 via pin header MI987EF: 2x USB 2.0 on board 4x USB 2.0 via pin header
USB 3.0/ 3.1	MI987AF: 4x USB 3.0 on board MI987EF: 2x USB 3.0
Serial ATA	2x SATA III
Audio	Intel® Q87/H81 PCH built-in HD audio controller + Realtek ALC662 w/ 5.1 channel
TPM	TPM (1.2)
Others	19V DC-In, Digital I/O, iSMART
Dimensions (L x W)	170mm x 170mm (6.7" x 6.7")
Power Consumption	Intel® Core™ i7-4770TE 2.30GHz w/ 2x 2GB DDR3-1333 + 19V: 6.08 A
Operating Temperature	0°C~60°C (32°F~140°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	90% (non-condensing @60°C)

## Ordering Information

MI987AF	LGA1150 Q87 Mini-ITX motherboard w/ VGA, HDMI, DisplayPort, dual Gigabit LAN, TPM (1.2), iAMT (9.0), iSMART
MI987EF	LGA1150 H81 Mini-ITX motherboard w/ VGA, HDMI, DisplayPort, dual Gigabit LAN, TPM (1.2), Eup/ErP, iSMART

## Dimensions and Drawing

