

Product Change Notice

Issue Date: 20th-Jan-2023

Change Description:

New magnetic IC and PCB design change in the Magnetic Kits Encoder.


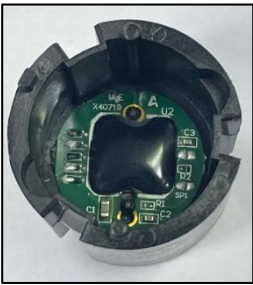


Parts Affected:

Affected product part numbers

| Broadcom Part Number | Product Description |
|----------------------|---|
| AEAT-6012-A06 | Abs Magnetic Enc,12 bits,6mm shaft |
| AEAT-6010-A06 | Abs Magnetic Enc,10 bits,6mm shaft |
| QEAT-6012-A06 | Abs Magnetic 12 bits,6mm magnet, no hub-baseplate |
| AEAT-601B-F06 | 256CPR, 3 Channel Incremental, 6mm Hub Size |
| QEAT-6002 | Abs.Mag.En.12-Bit,6mm,Wire |

Description and Extent of Change:

Change descriptions

| Before Change | After Change |
|---|--|
| Magnetic IC Supplier A PCB Design X40719 | Magnetic IC Supplier B PCB Design X52230 |
|   |   |

After Change new part number:

| Broadcom New Part Number | Product Description |
|--------------------------|---|
| AEAT-9012-S06 | Abs Magnetic Enc,12 bits,6mm shaft |
| AEAT-9010-S06 | Abs Magnetic Enc,10 bits,6mm shaft |
| QEAT-9012-S06 | Abs Magnetic 12 bits,6mm magnet, no hub-baseplate |
| AEAT-901C-F06 | 256CPR, 3 Channel Incremental, 6mm Hub Size |
| QEAT-9002-S06 | Abs.Mag.En.12-Bit,6mm shaft,Wire |

Reasons for Change:

Due to the older magnetic encoder wafer fabrication process obsolescence, Broadcom required new magnetic IC and PCB design change to accommodate the new IC for assurance of product supply. The new IC change is required to support customer higher volume demand and production continuity.

Effect of Change on Fit, Form, Function, Quality, or Reliability:

The new device key specifications change and performance highlighted in the table below. Appropriate product electrical characterization and reliability qualification being performed on the representative products to ensure normal parametric distribution, consistent electrical performance, and reliability.

No change to the existing housing or connector form and fit use.

| | Before Change | After Change |
|---|--------------------------|--|
| Device | AEAT/QEAT-601x | AEAT/QEAT-901x |
| Accuracy INL Typical (deg) | ± 0.8 deg | ± 0.4 deg for Abs 10bits ± 0.3 deg for Abs 12bits to 16bits |
| Accuracy INL Max (deg) | ± 2.4 deg | ± 0.8 deg |
| Power up time Typical | 12bits 20ms, 10bits 50ms | All 10 to 16bits 10ms |
| Current (mA) Typ | 16 | 23 |
| Current (mA) Max | 20 | 26 |
| Max Readout Frequency | ≤ 1Mhz | ≤ 10Mhz |
| AC timing characteristic: | | |
| First data shifted to output register t _{CLK FE} | min 500ns | min 300ns |
| Start of data output T _{CLK/2} | min 500ns | min 50ns |
| Pulse width of CSn T _{CSn} | min 500ns | min 200ns |
| Sampling rate for absolute output f _{abs} | typ 10.42kHz | typ 1562.5kHz |

Note 1: The accuracy INL of the new magnetic encoder (AEAT/QEAT-901x) improved to support wider range of applications

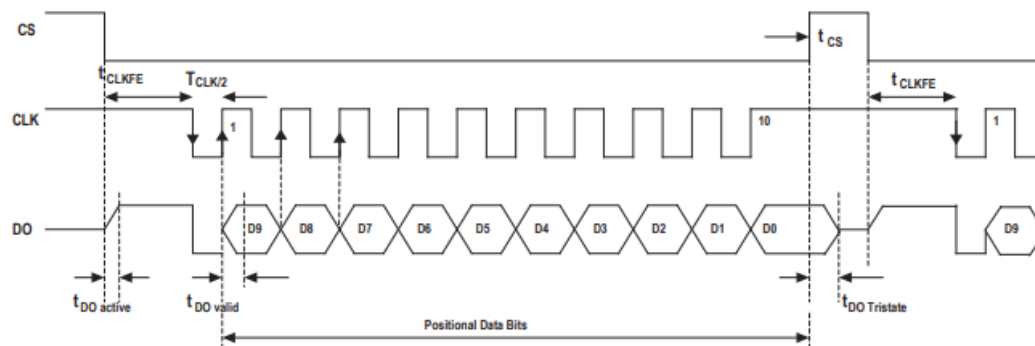
Note 2: Increase of the current consumption of the new magnetic encoder to support additional features for wider range of applications

Note 3: Max readout frequency of the new magnetic encoder improved to support wider frequency and wider range of applications.

Note 4: The improved AC timing characteristic of the new magnetic encoder shall not affect current product applications, the will synchronize the CLK with the input master CLK.

Customers are encouraged to evaluate the product best fit to their respective applications.

Timing Characteristics





Effective Date of Change:

1. Product shipments using this change will begin after [April/19th/2023]. Timing of shipment of the changed part will vary by part number depending on the customer demand, backlog order and inventory levels.

**Customers to qualify the new product and new part number order timely for assurance of supply.*

**Customers to liaise with our Distributor/Broadcom field sales for product sampling/evaluation.*

Qualification Data:

Qualification Data will be available after Feb/15th/2023.

Software / Firmware Update:

Not applicable.

Please contact your Broadcom field sales engineer or Contact Center for any questions or support requirements. Please acknowledge the receipt of the notice within 30 days of delivery. Lack of acknowledgement within 30 days constitutes acceptance of the change per JEDEC J-STD-046.