

## PRODUCT DATASHEET

# ES-HG-S11-F11-R50

## Precision Transmission Component

Cup Harmonic Gearboxes | Lightweight Cup Unit Type I

### Product Overview

Precision Transmission Component with rated Torque 3.5 Nm, instantaneous Maximum Torque 17 Nm and start/Stop Peak Torque 8.3 Nm.

### Key Specifications

| PARAMETER                    | VALUE | UNIT    |
|------------------------------|-------|---------|
| Rated Torque                 | 3.5   | Nm      |
| Instantaneous Maximum Torque | 17    | Nm      |
| Start/Stop Peak Torque       | 8.3   | Nm      |
| Reduction Ratio              | 50    |         |
| Backlash                     | ≤30   | arc sec |
| Maximum Input Speed          | 8500  | r/min   |
| Allowable Average Torque     | 5.5   | Nm      |
| Frame Size                   | 11    |         |
| Weight                       | 0.17  | kg      |

## Technical Specifications

| PARAMETER                        | SPECIFICATION        | UNIT    | NOTES                                                                                                                                                                                                                                                                           |
|----------------------------------|----------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PERFORMANCE</b>               |                      |         |                                                                                                                                                                                                                                                                                 |
| Rated Torque                     | 3.5                  | Nm      | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Instantaneous Maximum Torque     | 17                   | Nm      | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Start/Stop Peak Torque           | 8.3                  | Nm      | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Backlash                         | ≤30                  | arc sec | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Allowable Average Torque         | 5.5                  | Nm      | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| <b>MECHANICAL</b>                |                      |         |                                                                                                                                                                                                                                                                                 |
| Frame Size                       | 11                   |         | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Weight                           | 0.17                 | kg      | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Wave Generator Dimension T       | 12.8+0.10 / 9.4+0.10 | mm      | Frame Size: 11; Option Index: 1; Option Label: Wave generator - A φ 11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b / Frame Size: 11; Option Label: Wave generator - A φ 8; Reduction Ratio: 50; Wave Generator Option: wave-generator-e6e55a341aa3 |
| Wave Generator Bore U            | φ11H7 / φ8H7         |         | Frame Size: 11; Option Index: 1; Option Label: Wave generator - A φ 11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b / Frame Size: 11; Option Label: Wave generator - A φ 8; Reduction Ratio: 50; Wave Generator Option: wave-generator-e6e55a341aa3 |
| Wave Generator Keyway W          | 3JS9/P9 / 4JS9/P9    |         | Frame Size: 11; Option Label: Wave generator - A φ8; Reduction Ratio: 50; Wave Generator Option: wave-generator-e6e55a341aa3 / Frame Size: 11; Option Index: 1; Option Label: Wave generator - A φ11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b   |
| <b>RELIABILITY</b>               |                      |         |                                                                                                                                                                                                                                                                                 |
| Design Life                      | 10000                | h       | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| <b>ADDITIONAL SPECIFICATIONS</b> |                      |         |                                                                                                                                                                                                                                                                                 |
| Reduction Ratio                  | 50                   |         | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Maximum Input Speed              | 8500                 | r/min   | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |
| Average Input Speed              | 3500                 | r/min   | Frame Size: 11; Reduction Ratio: 50                                                                                                                                                                                                                                             |

## Dimensional & Integration Overview

### Mechanical Overview

| PARAMETER                  | VALUE                | UNIT |
|----------------------------|----------------------|------|
| Frame Size                 | 11                   |      |
| Weight                     | 0.17                 | kg   |
| Wave Generator Dimension T | 12.8+0.10 / 9.4+0.10 | mm   |
| Wave Generator Bore U      | φ11H7 / φ8H7         |      |
| Wave Generator Keyway W    | 3JS9/P9 / 4JS9/P9    |      |

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**01** Specifications are subject to change without notice. Verify the current product configuration before final design release.

**02** 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.