

## Panasonic Parts Approval Documents for Standard Parts

### List of documents which are minimally required

- For industrial components please send data listed under I.
- For automotive components please send data listed under II.
- For critical / safety indicated products data listed under III **in addition to** data listed under I or II are mandatory.
- The approval samples and documents listed under IV are mandatory for **all** components.

#### I. Required parts approval documents for industrial products

Document	Explanation
1. Reliability test data	1. Results of material performance and durability tests 2. Information regarding soldering conditions, ESD, MSL, FIT- <b>and</b> ppm - rates
2. Production locations	listing of all production sites which deliver these components to Panasonic, including certification of each production site (e.g. IATF16949; ISO9001; ISO14001) For semiconductor devices specify <b>all</b> locations for: a) wafer processing (FEOL <b>and</b> BEOL) b) wafer testing c) assembly (backend) d) final testing
3. Process control chart	<u>includes:</u> 1. process flow chart (plan of process steps) 2. control plan a) which inspection at which process step b) sample size c) used measurement equipment d) inspection standard (e.g. IPC-610 or similar) e) description of all critical process steps or critical parameter (incl. test steps)
4. FMEA	Failure Mode and Effects Analysis a) Design (D-FMEA) b) Process (P-FMEA)
5. Process capability study	Evaluation of the process suitability and performance by statistical quality indices $C_{pk}$ (capability index) and/or $P_{pk}$ (performance index)
6. Packaging specification	packing style (e.g. drawing, quantity per unit, delivery as bulk)
7. Data Sheet / Specification	latest revision for the component or component series

#### II. Required parts approval documents for automotive products

Document	Explanation
1. PPAP (Submission Level 3)	Production Part Approval Process (PPAP) documentation according to AIAG PPAP manual, including description of the special characteristics classification / critical process steps or critical parameters (with related test steps) in the submitted control plan
2. Reliability test data	1. Results of material performance and durability tests, <b>for electronic components according to AEC-Q100/101/200</b> 2. Information regarding soldering conditions, ESD, MSL, FIT- <b>and</b> ppm - rates
3. Production locations	listing of all production sites which deliver these components to Panasonic, including certification of each production site (e.g. IATF16949; ISO9001; ISO14001) For semiconductor devices specify <b>all</b> locations for: a) wafer processing (FEOL <b>and</b> BEOL) b) wafer testing c) assembly (backend) d) final testing
4. Packaging specification	packing style (e.g. drawing, quantity per unit, delivery as bulk)
5. Data Sheet / Specification	latest revision for the component or component series

#### III. Additionally required documents for critical / safety indicated products

Document	Explanation
1. Certification / classification marks	on the product itself (e.g. VDE, UL)
2. Certification / Listing No. / Certificates	certification documents (e.g. VDE-approval, TÜV, UL-certification)
3. Product safety representative / officer	Person in the supplier's organization responsible for the safety of the specific product, for automotive products: Product-safety representative according to VDA/VW guidelines

#### IV. Approval samples

Document/Samples	Explanation
1. Samples out of mass production process	10 pcs. out of mass production (final tooling)
2. Inspection report	inspection report for min. 1 pc. out of each cavity based on drawing/specification (e.g. dimensional check / initial sample inspection report according to VDA Volume 2)