



Suffix & Date Code Risk Guide

Why small suffix, package, revision and date-code differences can materially affect component compatibility, reliability and sourcing risk.

ENGINEERING RESOURCE - MPN / LOT / TRACEABILITY

Prepared for design engineers, sustaining engineers, quality teams, component engineers and buyers who approve alternatives under shortage or EOL pressure.

EXECUTIVE SUMMARY

Small markings can create large product consequences

A component suffix or date code may look like a minor purchasing detail. In practice it can represent package type, temperature grade, speed class, lead finish, tape orientation, automotive qualification, firmware revision, die change or storage age.

MPN

IDENTITY

DC

AGING SIGNAL

LOT

TRACEABILITY

REV

CHANGE RISK

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Core principle

Never remove suffixes to broaden a search unless engineering has approved which suffix fields are flexible. A shortened MPN may produce quotes that look relevant but are functionally wrong.

ERSA perspective

ERSA helps customers review suffix and date-code requirements during sourcing, especially when parts are obsolete, shortage-constrained or needed for validation samples.

A suffix is often a specification, not decoration

Manufacturers encode different information in suffixes. The meaning is not universal. A letter that means temperature grade for one manufacturer may indicate package, reel size or lead finish for another.



Package code

SOIC, QFN, BGA, TSSOP, reel orientation, pin count and package thickness.



Temperature grade

Commercial, industrial, extended, automotive or military temperature range.



Speed or performance

Memory speed bin, logic family, tolerance, voltage option or frequency grade.



Lead finish

RoHS, tin-lead, matte tin, gold flash and other plating differences.



Packing method

Tube, tray, tape and reel, cut tape, dry pack or moisture-sensitive packaging.



Revision or die

Silicon revision, firmware version, qualification status or internal change.

Practical recommendation: Ersa recommendation: include the full MPN exactly as printed on the BOM and part label when submitting an RFQ. If a suffix may be flexible, state that explicitly with engineering approval.

REAL LABEL READING EXAMPLES

How to Read Real Labels: MPN, Suffix, Date Code & Traceability

Real stock labels often contain the critical fields needed to judge compatibility and sourcing risk. Key fields include MPN, suffix, quantity, lot code, date code, moisture sensitivity level (MSL), RoHS/HF status, and country of origin.

1 Original manufacturer label

Full MPN: DRX8XY1.51
 Suffix: FAB 6 P
 Moisture-sensitive mark: Caution Moisture-Sensitive
 Qty: 2000
 Date Code: (9D) 202450
 RoHS / HF: MC 446748

2 Reel / moisture-barrier label

Part No.: W25Q256JV1WH
 Lot No.: (1T) LOT NO : 65228T500ZY
 Qty: (Q) QTY : 4000
 RoHS / HF: RoHS HF
 Date Code: (16D) DATE : 20250915
 MSL 3: LEVEL 3

3 Date code & handling label

MSL 3: Moisture Level: 3
 Package seal date: Package Seal Date: Nov 24 2024
 Qty: QUANTITY: 2000
 Date Code: DATE: 202448

4 Supplier / factory label

Part No.: GD25LR256EYIGR
 Lot No.: C003665
 Date Code: PJ2145
 Qty: 3000
 RoHS / HF: RoHS HF
 COO / Origin: Origin: CHINA

Why it matters

- The exact MPN and suffix determine package, grade, revision or packing differences.
- Date code, lot code and MSL status affect storage, handling and validation risk.
- Label evidence helps ERSA judge whether quoted inventory is truly suitable.

Practical recommendation: Request clear photos of labels, packaging and handling status before approving stock with suffix or date-code differences.

Date code is not automatically good or bad - it is context

Old date code does not always mean unusable stock, and new date code does not always mean correct stock. Date code becomes meaningful when combined with component type, storage condition, packaging, MSL, traceability and application risk.

Acceptance criteria

Define acceptable date code before sourcing. For example: date code within 36 months, same lot preferred, older stock acceptable only with sealed packaging and validation sample approval.

Traceability caution

A date code without source history is incomplete evidence. The source channel and storage conditions should also be reviewed.

Consideration	Why it matters	Suggested rule
MSL and dry pack	Moisture-sensitive devices may require controlled storage or baking before reflow.	Check MSL label and package condition.
Electrolytic capacitors	Long storage may affect leakage current and reforming requirements.	Review shelf-life and manufacturer guidance.
Battery-backed or programmed parts	Stored energy, programmed data or firmware may age differently.	Validate sample function and revision.
Memory products	Retention and endurance may depend on technology and workload.	Assess application role and test accordingly.
Industrial repair	Older date code may be required to match legacy system behavior.	Document compatibility reason and source evidence.

LOT AND REVISION

Lot, revision and marking differences can expose hidden change

A component may keep the same base MPN while the manufacturer changes die, assembly site, test flow, marking format or firmware. For many applications this is acceptable. For legacy or highly validated systems, it may require review.

Signal	Possible meaning	Risk response
Different logo style	Manufacturer marking update or relabeled stock.	Compare with known-good samples and request evidence.
Different country of origin	Assembly site change or alternate manufacturing flow.	Check datasheet and customer qualification needs.
Different lot format	Normal date/lot coding change or mixed-source inventory.	Request package photos and lot segregation.
Different suffix	Package, temperature, packing or qualification difference.	Do not approve without suffix decoding.
Same base MPN, different revision	Silicon, firmware, mask or errata change.	Review PCN, errata and validation impact.

Practical recommendation: For shortage projects, Ersa can help collect supplier photos, label information and date-code details before you decide whether samples are worth validating.

How to decide whether a suffix difference is acceptable

The goal is to avoid two extremes: rejecting every difference and delaying the project, or accepting every difference and creating uncontrolled risk.

Flexible fields

Packing quantity, reel size or packaging format may be flexible if production handling accepts it. But even these fields can matter for automated assembly.

Non-flexible fields

Temperature grade, package footprint, voltage option, speed grade, automotive qualification and programmed firmware are usually not flexible without engineering approval.

01

Decode suffix

Identify what the suffix controls using datasheet, ordering guide or manufacturer notes.

02

Classify impact

Separate mechanical, electrical, firmware, reliability, compliance and logistics effects.

03

Check application

Determine whether the product is prototype, production, repair, safety-related or field-critical.

04

Validate sample

Use samples when the difference affects fit, function, timing or reliability.

05

Document rule

Record approved suffixes, rejected suffixes and evidence for future reorders.

RISK MATRIX

Suffix and date-code acceptance matrix

Use this matrix to guide approval conversations between procurement, engineering and quality. It is not a substitute for datasheet review; it is a practical triage tool.

Procurement rule

Never ask suppliers to quote 'same or equivalent' without defining which suffix fields can change. This creates uncontrolled quote variance.

Engineering rule

If a suffix affects functional performance, qualify it like a replacement, not like a purchasing alternative.

Scenario	Typical risk	Recommended action
Same full MPN, same package, acceptable date code, known source	Low	Proceed with normal incoming checks.
Same base MPN, different packing suffix only	Low to medium	Confirm assembly handling and packaging needs.
Different temperature or speed suffix	High	Engineering approval and sample validation required.
Old date code with sealed traceable packaging	Medium	Review storage, MSL and application sensitivity.
Old date code from unclear source	High	Escalate for inspection or reject source.
Same MPN but inconsistent marking or lot information	High	Request evidence and inspection before purchase.

CHECKLIST

Before approving suffix or date-code differences

This checklist is designed for shortage, EOL and urgent validation projects where teams may be tempted to accept partial matches.

- ✓ Full original MPN and candidate MPN are compared character by character.
 - ✓ The meaning of every changed suffix field is known or escalated.
 - ✓ Package drawing, pin count, footprint and height are checked.
 - ✓ Temperature grade, speed grade, voltage and tolerance are compared.
 - ✓ Packing method and production handling requirements are reviewed.
- ✓ Date code acceptance rule is defined before supplier selection.
 - ✓ Lot code, label photo and package condition are requested when risk is material.
 - ✓ Engineering owner approves any electrical, firmware or reliability-impacting delta.
 - ✓ Sample validation is performed or formally waived.
 - ✓ Approved suffix/date-code rule is recorded for future buys.

Practical recommendation: If your team is under time pressure, use ERSAs RFQ workflow to separate must-match fields from negotiable fields. This saves time and prevents irrelevant offers.

How ERSA helps control suffix and date-code risk

ERSA supports customers who need fast sourcing without losing technical control. We can help gather supplier evidence, review sourcing feasibility, propose candidate alternatives and support sample validation.

01 Full-MPN sourcing

Search using exact MPN and suffix requirements rather than broad keyword matches.

02 Date-code review

Request and review available date-code, lot-code and packaging information.

03 Cross-reference support

Identify potential alternates and highlight deltas for engineering review.

04 Sample and quality support

Coordinate samples, source screening and documentation for higher-risk projects.

Recommended next step

Submit your exact MPN and acceptable suffix/date-code rules at <https://www.ersaelectronics.com/rfq>. For sample support, use <https://www.ersaelectronics.com/prototpye-validation-samples>.

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