

Allegro Part Numbering Guide

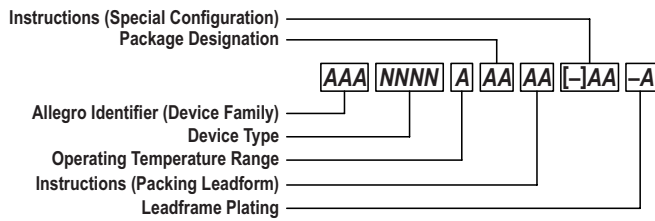
This document provides a guide to the part numbering codes used by Allegro™ MicroSystems for general sales customer orders. Current individual datasheets for specific parts should be consulted before ordering. This guide should be used for reference only and is not intended to be a complete source and may be superseded by subsequent procedures. Individual part numbers may deviate from the specifications in this document. All possible combinations of device type, operating temperature range, and package style are not necessarily available.

Table of Contents

Complete Part Numbers	2
Operating Temperature Ranges	4
Package Designators	5
Instructions (Finishing)	6

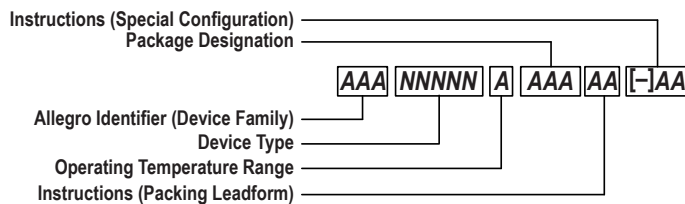
Complete Part Numbers

Complete Part Number Format ("A" initial character style, general product lines)



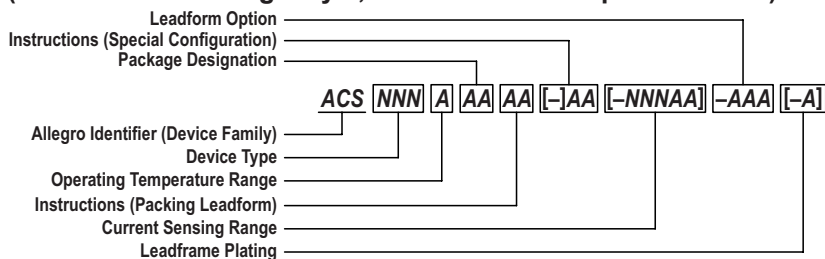
Allegro Identifier	[A, and optional 1 to 2 letters]
Device Type	[3 to 4 numbers] functional type
Operating Temperature Range	[1 letter] ambient temperature range
Package Designation	[1 or 2 letters] body configuration
Instructions (Finishing)	Leadform/packing option, etc. Blank indicates default configuration
Leadframe Plating	["-" and 1 letter] nonlead (Pb-free) option

Complete Part Number Format ("A" initial character style, for all part numbers with 5-digit device type)



Allegro Identifier	[A, and optional 1 to 2 letters]
Device Type	[5 numbers] functional type
Operating Temperature Range	[1 letter] ambient temperature range
Package Designation	[3 letters] body configuration
Instructions (Finishing)	Leadform/packing option, etc. Blank indicates default configuration

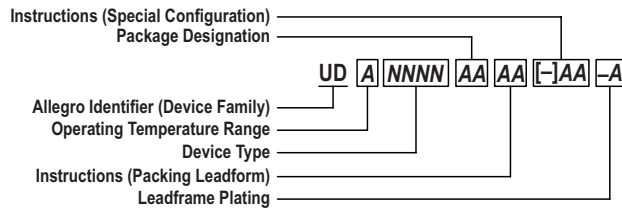
Complete Part Number Format (Sensed current range style, current sensor IC product lines)



Allegro Identifier	ACS
Device Type	[3 numbers] functional type
Operating Temperature Range	[1 letter] ambient temperature range
Package Designation	[1 or 2 letters] body configuration
Instructions (Finishing)	Leadform/packing option, etc. Blank indicates default configuration
Current Sensing Range	[3 numbers] optimal sensing amperage range [1 letter] measurable sensing range multiplier. A: 1 × optimal, B: 2 × optimal, C: 3 × optimal [1 letter] current direction measurable. B: bidirectional, U: unidirectional
Leadform (75x series)	[3 letters] PFF: formed signal leads, formed current terminals, PSF: formed signal leads, straight current terminals, PSS: straight signal leads, straight current terminals
Leadframe Plating	["-" and 1 letter] nonlead (Pb-free) option

Complete Part Numbers (continued)

Complete Part Number Format ("U" initial character style, general product lines)



Allegro Identifier	UD
Operating Temperature Range	[1 letter] ambient temperature range
Device Type	[3 to 4 numbers] functional type
Package Designation	[1 or 2 letters] body configuration
Instructions (Finishing)	Leadform/packing option, etc. Blank indicates default configuration
Leadframe Plating	["-" and 1 letter] nonlead (Pb-free) option

Operating Temperature Ranges

Complete Part Number Format ("A" initial character style, general product lines)

Part Number Token	Descriptor	Operating Ambient Temperature Range
A	Commercial A	-10°C to 60°C
B	Extended Commercial B	-25°C to 75°C
C	Commercial C	0°C to 70°C
D	Commercial D	0°C to 50°C
E	Extended Automotive/Industrial E	-40°C to 85°C
F	Extended Automotive/Industrial F	-40°C to 95°C
G	Extended Industrial	-40°C to 105°C
K	Extended Industrial	-40°C to 125°C -40°C to 135°C -40°C to 150°C, when $T_J(\text{max}) \leq 150^\circ\text{C}$
L	Automotive	-40°C to 150°C
M	Extended Commercial M	-20°C to 105°C
P	Extended Automotive/Commercial P	-40°C to 160°C
S	Standard	-20°C to 85°C
X	Custom	Refer to datasheet for custom temperature range

Complete Part Number Format ("U" initial character style, general product lines)

Part Number Token	Descriptor	Operating Ambient Temperature Range
K	Extended Automotive/Industrial	-40°C to 125°C (typical)
N	Commercial/Industrial	-20°C to 85°C (typical)
Q	Automotive/Industrial	-40°C to 85°C (typical)

Package Designators

A – Dual in-line (MS-001, MS-010, MS-011)
B – Dual in-line with heat-sink semi-tabs (MS-001, MS-010)
CA – Current sensor device
CB – Current sensor device
CG – Chip scale device
CW – Unscribed wafer
EC – Square leadless (exposed pad) 0.40 mm contact pitch, quad very-very-thin chip carrier (MO-220)
EE – Square leadless (exposed pad) 0.50 mm contact pitch, dual ultra-thin chip carrier (MO-229)
EG – Rectangular leadless (exposed pad) 0.50 mm pitch, quad very-very-thin chip carrier (MO 220)
EH – Rectangular leadless (exposed pad) 0.50 mm pitch, dual very-very-thin chip carrier (MO 229)
EJ – Square leadless (exposed pad) 0.50 mm pitch, dual very-very-thin chip carrier (MO-229)
EK – Square leadless (exposed pad) 0.95 mm pitch, dual very-very-thin chip carrier (MO-229)
ES – Square leadless (exposed pad) 0.50 mm contact pitch, quad very-very-thin chip carrier (MO-220)
ET – Square leadless (exposed pad) 0.50 mm contact pitch, quad very-thin chip carrier (MO-220)
EU – Square leadless (exposed pad) 0.65 mm contact pitch, quad very-very-thin chip carrier (MO-220)
EV – Square leadless (exposed pad) 0.50 mm contact pitch, quad very-thin chip carrier (MO-220)
EW – Rect. leadless (exposed pad) 0.50 mm contact pitch, dual super-thin chip carrier (MO-229)
EX – Square leadless (exposed current loop) 0.50 mm contact pitch, quad very-very-thin chip carrier (MO-220)
JP – Low-profile QFP (exposed pad) (MS-026)
JS – Thin-profile QFP (exposed pad) (MS-026)
K – Mini-SIP, four leads
KA – Mini-SIP, five leads
KB – Mini-SIP, three leads
KC – Mini-SIP, three leads
KE – Mini-SIP, four leads
KN – Mini-SIP, four leads
KT – Mini-SIP, four leads
L – Narrow-body SOIC (MS-012)
LA – Wide-body SOIC with internal sensed current path (MS-013)
LB – Wide-body SOIC with heat-sink semi-tabs (MS-013)
LC – Current sensor, narrow-body SOIC (MS-012)
LD – TSSOP, 0.50 mm pitch (MO-153)
LE – TSSOP, 0.65 mm pitch (MO-153)
LF – QSOP 0.635 mm pitch
LG – TSSOP with heat-sink semitabs, 0.50 mm pitch
LH – Low-profile, three- or five-terminal surface mount (SOT23W)
LJ – Eight-lead narrow-body SOIC with exposed pad (MS-012)
LK – Narrow-body SOIC with 1 mm pin pitch
LL – SOT, three leads (SOT89/TO-243AA) prior to trimming
LN – Narrow-body SSOP with 1 mm pin pitch
LP – TSSOP (exposed pad), 0.65 mm pitch (MO-153)
LQ – QSOP, 0.80 mm pitch
LR – Current sensor device
LS – Current sensor device
LT – SOT, three leads (SOT89/TO-243AA)
LU – TSSOP, 0.65 mm pitch (MO-153AA), 8 leads
LV – TSSOP (exposed pad), 0.50 mm pitch, 38 leads
LW – Wide-body SOIC (MS-013)
LY – Narrow-body TSSOP (exposed pad), 0.50 mm pitch
MA – Wide-body SOIC with internal sensed current path (MS-013)
OL – SOIC, 1.27 mm pitch, 8 leads
SE – SIP, 4 leads, sensor Hall device combined in overmolded case
SG – SIP, 4 leads, sensor Hall device combined in overmolded case
SH – SIP, 4 leads, sensor Hall device combined in overmolded case
SJ – SIP, 4 leads, sensor Hall device combined in overmolded case
SL – SIP, 4 leads, sensor Hall device combined in overmolded case
SM – SIP, 3 leads, sensor Hall device combined in overmolded case
SN – SIP, 2 leads, sensor Hall device combined in overmolded case
SP – SIP, 3 leads, sensor Hall device combined in overmolded case
UA – Three-lead, thin mini-SIP
UB – Two-lead, thin mini-SIP
UC – Three-lead, thin mini-SIP
UD – Sensor Hall device with 1 passive component
UE – Two-lead, thin mini-SIP, sensor Hall device with recessed tie bar burr area at top of package
WB – Wafer with Wafer Backside Coating, sawn or unsawn

Note: Two character package designators shown; some part numbering variations use three character package designations (not shown).

Instructions (Finishing)

Package/Leadform

LC – Spread leadform
LF – Lead form per customer drawing
LT – Tape and reel
LX – Tape and reel
PFF – Plated, formed power leads, formed signal leads
PSF – Plated, straight power leads, formed signal leads
PSS – Plated, straight power leads, straight signal leads
SR – 13" Tape and reel
TA – Tape and reel
TI – Tape and reel, straight leadform
TK – Tape and reel
TL – Horizontal-mount leadform, bulk
TN – Tape and reel
TR – Tape and reel
TS – Horizontal-mount leadform, tape and reel

Special Configuration

-I1, -I2, -I3 – Two-wire current level
-LN – Low on tooth
-LT – Low on tooth/TPOS
-R – Internal pull-up resistor

Note: Special configurations shown represent a sample of available special configurations.

Leadframe Plating

-B – Tin-Bismuth
-J – Wettable flank
-P – Nickel Palladium-Gold
-R – Sidewall plating
-T – Matte tin

Revision History

Number	Date	Description
1	April 30, 2014	Added UB package
2	August 20, 2014	Added -R and -B designators to Leadframe Plating
3	November 20, 2014	Updated Package Designators list
4	January 21, 2015	Added MA package to Package Designators list
5	February 22, 2016	Updated Complete Part Numbers format
6	August 29, 2016	Added SR package/leadform, -J leadframe plating, and LR package
7	February 8, 2017	Added notes to Package Designators and Special Configuration
8	July 20, 2017	Added LS, SL, SM, SN, and UC packages to Package Designators list
9	September 12, 2018	Added CW, LL, SP, UD, UE, WB; removed ED, EF, M
10	September 19, 2019	Removed EL package designator; other minor editorial updates

Copyright 2019, Allegro MicroSystems.

The information contained in this document does not constitute any representation, warranty, assurance, guaranty, or inducement by Allegro to the customer with respect to the subject matter of this document. The information being provided does not guarantee that a process based on this information will be reliable, or that Allegro has explored all of the possible failure modes. It is the customer's responsibility to do sufficient qualification testing of the final product to ensure that it is reliable and meets all design requirements.

For the latest version of this document, visit our website:

www.allegromicro.com