



Linear Integrated Systems

LS310-LS313 Series Ordering and Part Marking Information

6/3/09

SUBJECT: LS310-LS313 Series Ordering and Part Marking Information

The LS310-LS313 Series Monolithic Dual NPN Transistor are offered in a TO-71, 6 lead package and includes the following part numbers: **LS310, LS311, LS312, LS313**

The LS310-LS313 Series Monolithic Dual NPN Transistor are offered in a TO-78, 6 lead package and includes the following part numbers: **LS310, LS311, LS312, LS313**

The LS310-LS313 Series Monolithic Dual NPN Transistor are offered a PDIP, 8 lead package and includes the following part numbers: **LS310, LS311, LS312, LS313**

The LS310-LS313 Series Monolithic Dual NPN Transistor are offered a SOIC, 8 lead package and includes the following part numbers: **LS310, LS311, LS312, LS313**

The LS310-LS313 Series Monolithic Dual NPN Transistor are offered a SOT23, 6 lead package and includes the following part numbers: **LS310, LS311, LS312, LS313**

Ordering Information:

Parts are available with ROHS Compliant/Leadfree package versions as well as package versions that contain lead.

Parts are available tested to the Standard Datasheet limits and conditions, as well and Special limits and conditions provided by the customer. When ordering your part please be aware of the 4 options you have:

LS310 TO-71 6L ROHS-----Electrically tested to Standard Datasheet Limits/Conditions, Leadfree/ROHS Compliant package requested.

LS310 TO-71 6L-ROHS-Select-Electrically tested to Special Customer Limits/Conditions, Leadfree/ROHS Compliant package requested.

LS310 TO-78 6L ROHS-----Electrically tested to Standard Datasheet Limits/Conditions, Leadfree/ROHS Compliant package requested.

LS310 TO-78 6L-ROHS-Select-Electrically tested to Special Customer Limits/Conditions, Leadfree/ROHS Compliant package requested.

- LS310 PDIP 8L**-----Electrically tested to Standard Datasheet Limits/Conditions, Lead or Leadfree /ROHS compliant package not specified.
- LS310 PDIP 8L -Select**-----Electrically tested to Special Customer Limits/Conditions, Lead or Leadfree /ROHS Compliant package not specified.
- LS310 PDIP 8L ROHS**-----Electrically tested to Standard Datasheet Limits/Conditions, Leadfree/ROHS Compliant package requested, marked with the letter “F”
- LS310 PDIP 8L-ROHS-Select**--Electrically tested to Special Customer Limits/Conditions, Leadfree/ROHS Compliant package requested., marked with the letter “F”
- LS310 SOIC 8L**-----Electrically tested to Standard Datasheet Limits/Conditions, Lead or Leadfree /ROHS compliant package not specified.
- LS310 SOIC 8L -Select**-----Electrically tested to Special Customer Limits/Conditions, Lead or Leadfree /ROHS Compliant package not specified.
- LS310 SOIC 8L ROHS**-----Electrically tested to Standard Datasheet Limits/Conditions, Leadfree/ROHS Compliant package requested, marked with the letter “F”
- LS310 SOIC 8L-ROHS-Select**--Electrically tested to Special Customer Limits/Conditions, Leadfree/ROHS Compliant package requested., marked with the letter “F”
- LS310 SOT23 6L**-----Electrically tested to Standard Datasheet Limits/Conditions, Lead or Leadfree /ROHS compliant package not specified.
- LS310 SOT23 6L -Select**-----Electrically tested to Special Customer Limits/Conditions, Lead or Leadfree /ROHS Compliant package not specified.
- LS310 SOT23 6L ROHS**-----Electrically tested to Standard Datasheet Limits/Conditions, Leadfree/ROHS Compliant package requested, marked with the letter “F”
- LS310 SOT23 6L-ROHS-Select**--Electrically tested to Special Customer Limits/Conditions, Leadfree/ROHS Compliant package requested., marked with the letter “F”

Important Part Marking Information:

In the event you are ordering multiple versions of the LS310-LS313 series it is very important that you **keep both groups of parts separate from each other and do not mix.** Each container/reel/bag of parts is labeled with the complete part number you have ordered. **The parts are NOT marked with the complete part number. The parts are marked with the SAME part number, and can be easily mixed with the wrong part number in the event proper inventory control procedures are not followed at customer level.** As a result of our manufacturing flow, the entire wafer may contain more than one part number per wafer. The entire wafer is tested to the all of the LS310-LS313 limits. The wafer is sent out for assembly where the parts are marked prior to test. At test, the parts are separated into the individual part numbers then labeled and placed into inventory. Due to the space restrictions on the number of digits we can print on the two different package types, and our inability to remark the part after test limit our ability mark individual or complete part numbers.

Device Marking Prior to Date Code 0900:

Prior to date code 0900, there were different devices marking which may have been used. We now are standardizing our part marking avoid confusion at the customer level. All of the part marking that is listed in this document represents how the devices will be marked in the future. Any different marking represents old/past part marking which has been replace with the part marking as listed below.

LIS Part Number	Package	LIS Part Number	Part Marking
LS310	TO-71 6L	LS310 TO-71 6L RoHS	LS 310
		LS310 TO-71 6L RoHS SELECT	LS 310
LS311	TO-71 6L	LS311 TO-71 6L RoHS	LS 311
		LS311 TO-71 6L RoHS SELECT	LS 311
LS312	TO-71 6L	LS312 TO-71 6L RoHS	LS 312
		LS312 TO-71 6L RoHS SELECT	LS 312
LS313	TO-71 6L	LS313 TO-71 6L RoHS	LS 313
		LS313 TO-71 6L RoHS SELECT	LS 313
LS310	TO-78 6L	LS310 TO-78 6L RoHS	LS 310
		LS310 TO-78 6L RoHS SELECT	LS 310
LS311	TO-78 6L	LS311 TO-78 6L RoHS	LS 311
		LS311 TO-78 6L RoHS SELECT	LS 311
LS312	TO-78 6L	LS312 TO-78 6L RoHS	LS 312
		LS312 TO-78 6L RoHS SELECT	LS 312
LS313	TO-78 6L	LS313 TO-78 6L RoHS	LS 313
		LS313 TO-78 6L RoHS SELECT	LS 313
LS310	PDIP 8L	LS310 PDIP 8L	LS 31 or LS 31F
		LS310 PDIP 8L SELECT	LS 31 or LS 31F
		LS310 PDIP 8L RoHS	LS 31F
		LS310 PDIP 8L RoHS SELECT	LS 31F
LS311	PDIP 8L	LS311 PDIP 8L	LS 31 or LS 31F
		LS311 PDIP 8L SELECT	LS 31 or LS 31F
		LS311 PDIP 8L RoHS	LS 31F
		LS311 PDIP 8L RoHS SELECT	LS 31F
LS312	PDIP 8L	LS312 PDIP 8L	LS 31 or LS 31F
		LS312 PDIP 8L SELECT	LS 31 or LS 31F
		LS312 PDIP 8L RoHS	LS 31F
		LS312 PDIP 8L RoHS SELECT	LS 31F
LS313	PDIP 8L	LS313 PDIP 8L	LS 31 or LS 31F
		LS313 PDIP 8L SELECT	LS 31 or LS 31F
		LS313 PDIP 8L RoHS	LS 31F
		LS313 PDIP 8L RoHS SELECT	LS 31F
LS310	SOIC 8L	LS310 SOIC 8L	LS 31 or LS 31F

		LS310 SOIC 8L SELECT LS310 SOIC 8L RoHS LS310 SOIC 8L RoHS SELECT	LS 31 or LS 31F LS 31F LS 31F
LS311	SOIC 8L	LS311 SOIC 8L LS311 SOIC 8L SELECT LS311 SOIC 8L RoHS LS311 SOIC 8L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS312	SOIC 8L	LS312 SOIC 8L LS312 SOIC 8L SELECT LS312 SOIC 8L RoHS LS312 SOIC 8L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS313	SOIC 8L	LS313 SOIC 8L LS313 SOIC 8L SELECT LS313 SOIC 8L RoHS LS313 SOIC 8L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS310	SOT23 6L	LS310 SOT23 6L LS310 SOT23 6L SELECT LS310 SOT23 6L RoHS LS310 SOT23 6L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS311	SOT23 6L	LS311 SOT23 6L LS311 SOT23 6L SELECT LS311 SOT23 6L RoHS LS311 SOT23 6L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS312	SOT23 6L	LS312 SOT23 6L LS312 SOT23 6L SELECT LS312 SOT23 6L RoHS LS312 SOT23 6L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F
LS313	SOT23 6L	LS313 SOT23 6L LS313 SOT23 6L SELECT LS313 SOT23 6L RoHS LS313 SOT23 6L RoHS SELECT	LS 31 or LS 31F LS 31 or LS 31F LS 31F LS 31F